ENVIRONMENTAL ASSESSMENT

MAINTENANCE DREDGING
US COAST GUARD STATION
EMERALD ISLE

October 2023

UNITED STATES COAST GUARD (COAST GUARD)
FINDING OF NO SIGNIFICANT IMPACT FOR DREDGING AT USCG STATION EMERALD ISLE
EMERALD ISLE, NORTH CAROLINA

The Coast Guard proposes maintenance dredging of an additional navigation route to the southwest, providing access to the U.S. Army Corps of Engineers (USACE) federally maintained navigation channel at Bogue Inlet. This southwest route has been previously dredged as part of the USACE federally maintained navigation channel. This alternative would include a new approximately 300 linear-foot "shortcut" channel to connect the southwest route to the current USCG channel that runs north to the federally maintained channel.

Summary of the Results of the Environmental Impact Evaluation: Based on the EA prepared for this project, USACE and USCG have determined that this action does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, the action does not require the preparation of a detailed statement under Section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.). This determination was made considering the following factors discussed in the EA to which this document is attached:

a. The proposed action may affect the American alligator, leatherback, loggerhead, hawksbill, Kemp's ridley, and green sea turtles under NMFS purview (swimming) and under USFWS purview (nesting); red knot; piping plover; roseate tern; eastern black rail; West Indian manatee; pondberry; seabeach amaranth; north Atlantic right whale; shortnose sturgeon; Atlantic sturgeon; and giant manta ray. The USCG is relying upon the findings of the USFWS 2017 North Carolina Coastal Beach Sand Placement, statewide programmatic Biological Opinion and the 2020 SARBO to meet its responsibilities under Section 7(a)(2) of the ESA and minimize the potential effects to endangered species such that activities will not adversely affect any species at the population level.
b. No significant cumulative or secondary impacts would result from implementation of this action.
c. The proposed action would not significantly impact cultural resources.
d. The proposed action would result in no significant impacts to air or water quality.
e. The proposed action would result in no significant adverse impact to fish and wildlife resources.
f. The proposed action will not cause any environmental health risks or safety risks that may disproportionately affect children and complies with Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks."
g. The proposed action will not cause any disproportionately high and adverse human health or environmental effects on minority populations and low-income populations and complies with Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations."

Mitigation Commitments (Including Monitoring), if any, that will be Implemented to Reduce Otherwise Significant Impacts: Only beach quality sand would be sidecast, placed on the beach, or deposited in the nearshore placement area. All dredging and placement work would be completed between November 16 and March 31 unless coordinated with resource agencies in advance. The Proposed Action will be in compliance with all environmental laws and executive orders, and environmental impacts to protected resources will be minimized to the maximum extent practicable.

This Finding of No Significant Impact (FONSI) is based on the attached Final Environmental Assessment, which has been independently evaluated by the Coast Guard and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project and provides

sufficient evidence and analysis for determining that an environmental impact statement is not required. The Coast Guard takes full responsibility for the accuracy, scope, and content of the attached USACE-prepared Final Environmental Assessment.

I reviewed the Final Environmental Assessment, which is the basis for this FONSI, and submitted my written comments to the Proponent.

10/19/23	*Charles F. Maricic*	Environmental Protection Spec	Level I
Date	Charles F. Maricic Environmental Reviewer	Title/Position	

I reviewed the Final Environmental Assessment, which is the basis for this FONSI, and submitted my written comments to the Proponent.

10/20/23		Chief, Environmental Compliance Civil Engineering Unit Cleveland	Level II
Date	Gregory C. Carpenter, P.G. Senior Environmental Professional	Title/Position	

In reaching my decision/recommendation on the Coast Guard's Proposed Action, I considered the information contained in this Final Environmental Assessment and FONSI and considered and acknowledge the written comments submitted to me from the Environmental Reviewer(s). Based on the information in the Final Environmental Assessment and this FONSI document, I agree that the proposed action as described above, and in the Final Environmental Assessment, will have no significant impact on the environment.

10/20/23		Commanding Officer, Civil Engineering Unit Cleveland	
Date	CDR Colleen A. Symansky, P.E. Proponent	Title/Position	

ENVIRONMENTAL ASSESSMENT

MAINTENANCE DREDGING US COAST GUARD STATION EMERALD ISLE

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October 2023

1.00 INTRODUCTION.

The United States Coast Guard (USCG) Station Emerald Isle is located near the mouth of Bogue Inlet, on the western end of Emerald Isle, Carteret County, North Carolina (Figures 1 and 2). Bogue Inlet is the confluence of the White Oak River and the Atlantic Ocean.

The USCG's presence was established at Emerald Isle in 1904. In the early 1940's the old station building was replaced with the existing building and renamed to Coast Guard Station Swansboro. In 1996 budget cuts reduced Station staffing from 22 to 10 active-duty members. In April 2003, with public pressure and the need to meet the growing demands of the public's use of the local inlets and waterways, additional staffing was required. The USCG decided to re-staff the Station, increasing the active-duty members to 20. In June 2004 the process was complete, and the official name changed to 'United States Coast Guard Station Emerald Isle'.

Presently, the Station has three search and rescue platforms: two 24' Shallow special purpose craft and one 45 Response Boat Medium.

Recently, the station has the following operational history:

- FY 2018 - 32 Search and Rescue (SAR) cases and 185 Law Enforcement boardings
- FY 2019 - 20 SAR cases and 372 Law Enforcement boardings
- FY 2020 - 20 SAR cases and 195 Law Enforcement boardings
- FY 2021 - 22 SAR cases and 766 Law Enforcement boardings

The USCG Station Emerald Isle has many missions, including the safeguarding of navigational interests (government, commercial, and private), protecting North Carolina's coastline from pollution and marine accidents, and enforcement of federal laws and responsibilities under the Homeland Security Act. The Station's area of responsibility covers approximately 50 nautical miles of the Atlantic Intracoastal Waterway (AIWW) (from Bogue Inlet to Surf City) and to 30 nautical miles offshore.

The USCG Station Emerald Isle's facilities include a basin and a navigation channel (Figure 2). The navigation channel is 6 feet deep mean lower low water (MLLW), with 2 feet of allowable overdepth (defined below), by 90 feet wide. It extends approximately 4,000 to 5,000 feet to the north of the basin, connecting to the existing federal navigation channel between Bogue Inlet and the AIWW. Due to the dynamic nature of the area, the Station's navigation channel follows naturally occurring deep water.

The report titled "*Environmental Assessment, Maintenance Dredging for US Coast Guard Station at Emerald Isle, September 2008* (2008 EA)" evaluated dredging methods that included hydraulic pipeline dredge, mechanical (clamshell) dredge, government-owned sidecast dredge, and government-owned special purpose (hopper) dredge. Dredging was evaluated to occur any time of the year. The 2008 EA also evaluated placement methods that included side casting, nearshore and beach placement within existing placement areas on the western end of Emerald Isle and confined upland Placement Areas (PA) 60 and 61. Placement on the beach was allowed to occur during the time of low biological activity and included the existing environmental window for beach placement (November 16 to March 31) unless specific state and federal resource agency coordination was conducted to allow beach placement at some other time. The maintenance dredging involves the removal of accumulated sediments to reestablish the project depth (-6 feet MLLW with 2 feet allowable overdepth). Although the 2 feet of overdepth is not always dredged, including the overdepth in the proposed dredging template ensures that the necessary project depth is attained. The navigation channel is maintained in naturally deep water to the maximum extent practicable to minimize dredging requirements.

In 2008 the Army Corps of Engineers Regulatory Division in Wilmington granted a permit to maintenance dredge the subject USCG channel within Bogue Inlet and the AIWW. This permit expires on December 9, 2024. The 2008 EA incorporated by reference to support the permit decision. This permit authorized the dredging and placement methods listed above but included an environmental window of November 16 to March 31 for all dredging and placement methods. The authorization allowed for sidecast dredging in emergency situations after the necessary coordination with resource agencies.

In 2019 the Army Corps of Engineers Regulatory Division in Wilmington granted a Permit Extension to the 2008 Regulatory Permit. It included the same conditions as the original permit.

The USCG Emerald Isle basin has been dredged six times since 2006. Two of the events were conducted outside of the environmental window. An average of 7,318 cubic yards were removed from the events that occurred outside the window and an average of 16,506 cubic yards were removed from the events that occurred within the window.

2.00 PURPOSE AND NEED.

The USCG Emerald Isle's ability to access the Atlantic Intracoastal Waterway (AIWW) and Bogue Inlet federal channels safely and efficiently is critical to their success in accomplishing the missions described above. Because the federal channel follows naturally deep water, the location may vary widely, as shown on Figures 1 and 2. Currently, the federal channel is located in the naturally deep water along the western edge of the area outlined in orange on Figure 2. The USCG channel also follows naturally deep water and currently connects to the federal channel by exiting the station to the north. This limits the USCG to only one option for connecting to the federal channel. The purpose of this project is to provide the USCG with a second option, which

is a route to the southwest. Adding a second option for the USCG to navigate to the federal channel, would give the USCG two routes to exit the Station and connect to the federal channel, providing more flexibility in accessing the federal channel and providing a direct route to Bogue Inlet, following natural deep water.

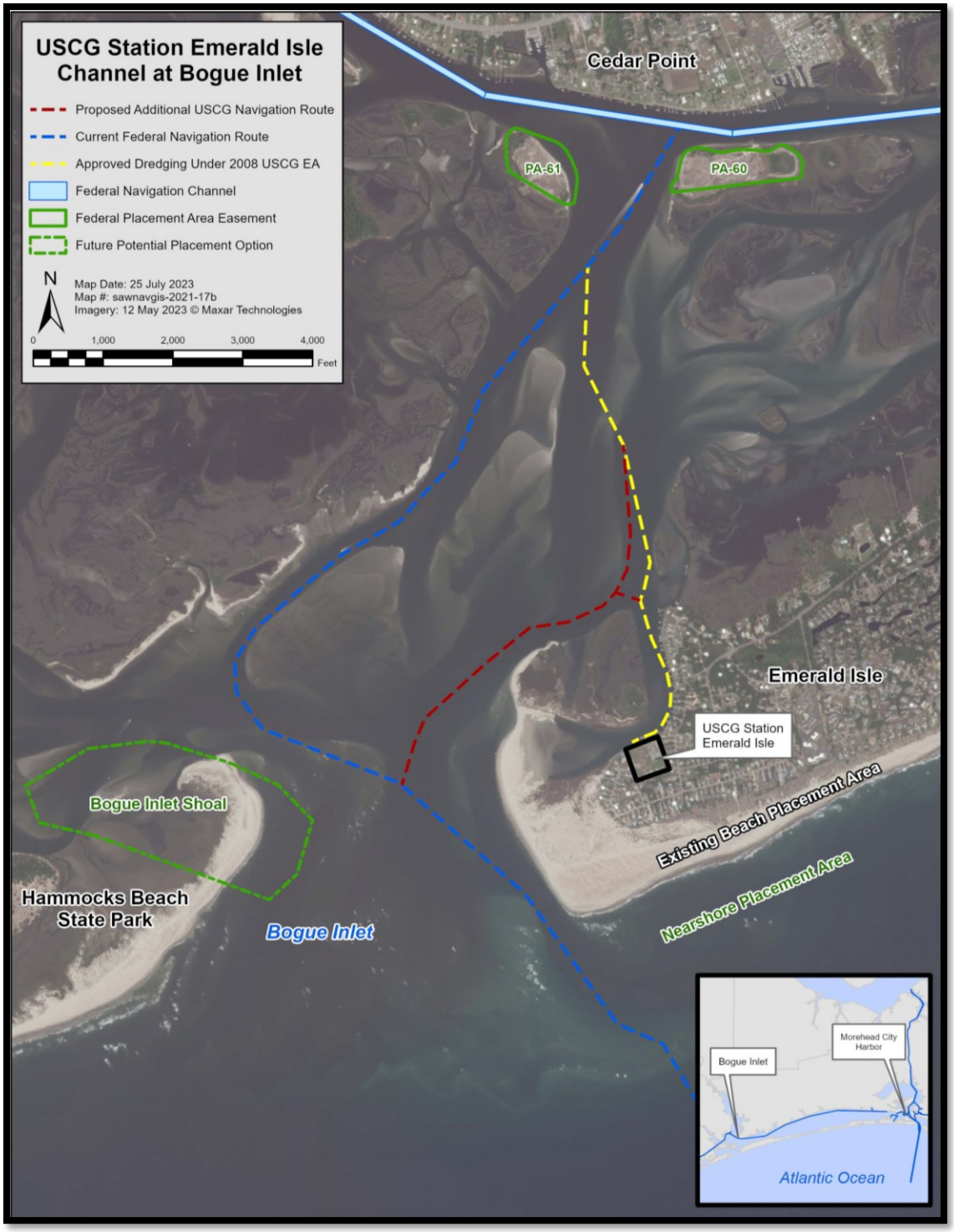

Figure 1. Currently approved USCG route from 2008 EA (yellow outline)

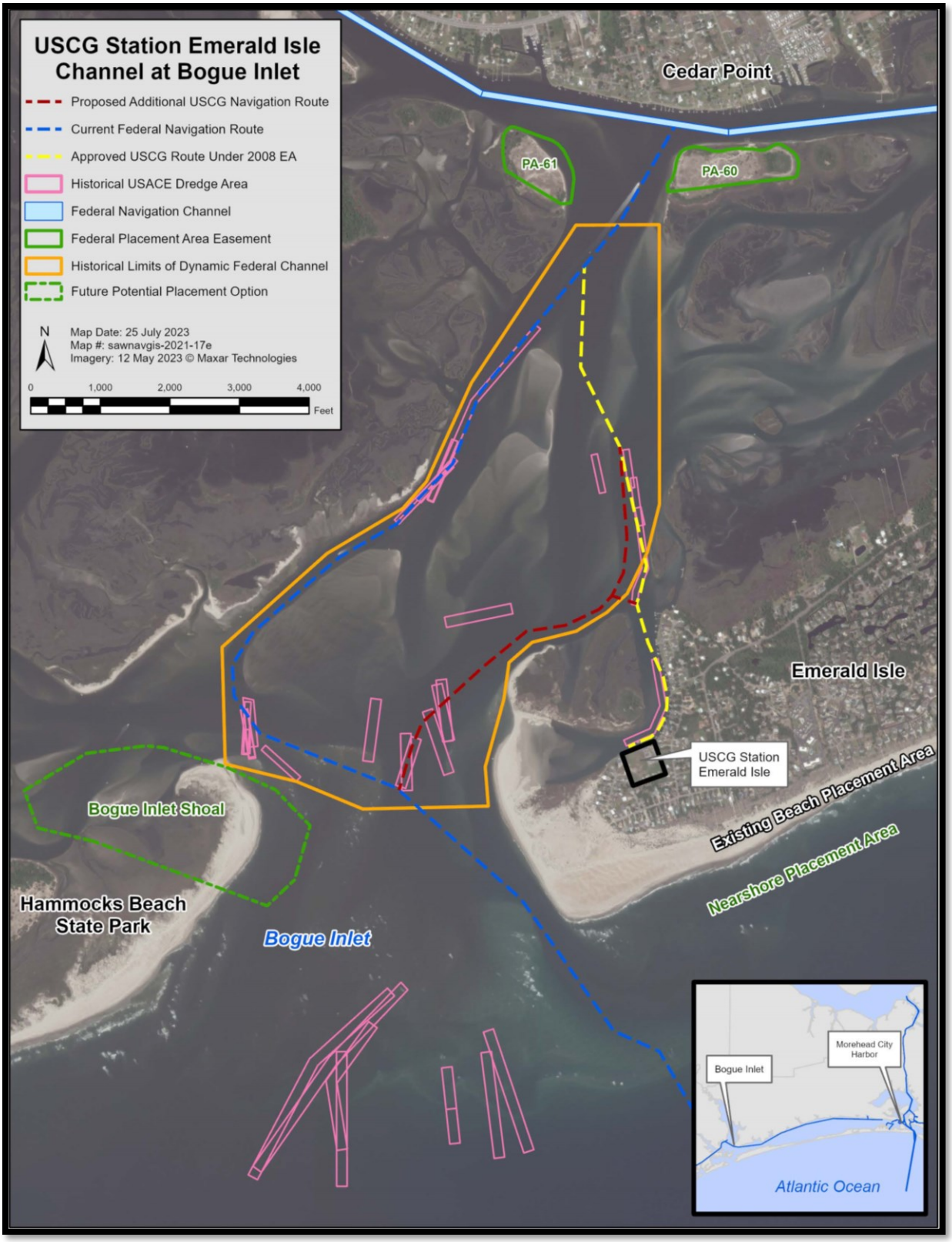

Figure 2. Past (post-2010) and Proposed Dredging Locations

3.00 INCORPORATION BY REFERENCE.

U.S. Army Corps of Engineers. *Environmental Assessment (EA), Maintenance Dredging for US Coast Guard Station at Emerald Isle. September 2008*. The 2008 EA evaluated maintenance dredging of the USCG navigation channel on an as-needed basis to ensure access to the United States Army Corps of Engineers (USACE) federally maintained navigation channel.

U.S. Army Corps of Engineers, Regulatory Permit SAW-2007-03344, Issued to the U.S. Coast Guard on December 31, 2008. This permit authorized the USCG to conduct the activities evaluated in the 2008 EA but included an environmental window of November 16 to March 31 for all dredging and placement methods. The authorization allowed for sidecast dredging outside the window only in emergency situations after the necessary coordination with resource agencies. The permit expired on December 31, 2018.

U.S. Army Corps of Engineers, Regulatory Permit Extension SAW-2007-03344, Issued to the U.S. Coast Guard on December 9, 2019. This permit extension reauthorized the same dredging and placement methods as the 2008 permit above. This permit extension expires on December 9, 2024.

4.00 ENVIRONMENTAL REVIEW PROCESS.

This EA addresses potential environmental impacts associated with the proposed maintenance dredging of an additional channel to the southwest to access the USACE federally maintained navigation channel. The EA has been prepared in compliance with Section 102 of the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4231 et seq.), as amended, the Council on Environmental Quality Regulations for Implementing NEPA (40 CFR Parts 1500-1508), and the Coast Guard's procedures and policies are published as a Commandant Manual Instruction entitled, "National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts," (COMDTINST M16475.1 series).

An EA is a concise public document addressing an action for which a federal agency is responsible. The document briefly provides sufficient evidence and analysis for that agency to determine whether it is necessary to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). The United States Coast Guard is the lead agency for the proposed action.

5.00 ALTERNATIVES.

The following sections present and briefly discuss feasible alternatives for USCG maintenance of the Station Emerald Isle entrance channel and boat basin. The analysis of alternatives is based on meeting the purpose and need for the action, in addition to minimizing adverse environmental consequences.

5.01 Dredge Types and Placement Options

Various dredge types may be used to maintain the USCG channels, depending on dredge availability and channel conditions like shoaling locations and controlling water

depths. Dredge type and placement options are described immediately below and would be applicable to any of the three alternatives.

The work currently authorized in the above referenced permit (SAW-2007-03344) includes an environmental window of November 16 to March 31 for all dredging and placement methods. This window is proposed to remain as part of the preferred plan. All efforts will be made to accomplish maintenance dredging within the window, however, should dredging outside the window be required, the USCG would coordinate with agencies prior to dredging.

5.01.01 Pipeline Dredge.
Material containing less than 10% fine-grained material ("fine-grained" is defined as being less than 0.0625 mm in size) is considered acceptable for beach placement. In May 2007 and October 2022, sediments within the proposed project area were sampled. Locations of the borings and results of the testing are in Figure 3 and attached (Attachment A). Additional sampling would be conducted periodically to update knowledge of the sediment grain sizes in the areas to be dredged and to determine appropriate placement locations.

There is a beach placement area for beach quality sand on the western end of Emerald Isle that was used by the USACE during maintenance dredging of Bogue Inlet and the AIWW. This placement area begins 1,500 feet east of the centerline of Bogue Inlet and extends approximately one mile east. The distance from the Inlet was established, among other reasons, to prevent placed material from rapidly returning to the Inlet's navigation channel. An additional future potential placement option has been identified within Hammocks Beach State Park on the western side of Bogue Inlet. The area is known as Bogue Inlet Shoal (Figures 1 and 2) and returning beach quality material to the active inlet shoal system would aid in restoration of habitat for waterbirds. Future placement at Bogue Inlet Shoal would require the State Park or other entity to obtain applicable permits and approvals. Additionally, any placement of dredged material on Bogue Inlet Shoal would be required to comply with any existing wildlife management plans applicable to that area.

Dredging of the USCG basin and access channel, and the resultant beach placement, would occur only when deemed necessary for the maintenance of safe navigation. The final location within the beach placement area for material dredged from the USCG Station Emerald Isle may be determined upon consultation with the Town of Emerald Isle and the Carteret County Shore Protection Office. If a need for protection of structures within the existing placement area is identified by local or state officials, material could be placed there. Should this placement result in increased cost as compared to placement in another portion of the placement area, the Town and Carteret County Shore Protection Office would coordinate funding to make up the additional cost. For material to be placed on a portion of beach outside the previously used area (whether by private property owner, local government, or state or federal environmental resource agency), the requesting party would have to obtain the necessary

authorizations and conduct coordination with others desiring the sand. Any additional cost associated with this alternate placement would be borne by the requesting party.

Any manipulation of sand, beyond the practices described above, conducted by the Town of Emerald Isle, Carteret County, local property owners, or other entities would require separate and specific permit and authorization actions initiated by the responsible entities.

5.01.02 Sidecast Dredge.

Sidecast placement would be used only when the shoal(s) to be dredged is/are composed of beach quality sand, in order to minimize duration of suspended sediments and other environmental impacts resulting from fine-grained sediments discharged into estuarine waters. Additionally, a sidecast dredge would only be used in areas where submerged aquatic vegetation (SAV) is not present within the dredging or placement area. Dredged material would not be discharged into vegetated marsh.

The Wilmington District presently has one sidecast dredge, the “Merritt.” The Merritt is capable of dredging in a minimum depth of 5 feet of water, has two adjustable dragarms with dragheads, has a 12-inch discharge pipe that is 80 feet long, and has an available 10-foot pipe extension. The suction pump horsepower is 110 HP. The Merritt casts material approximately 80-100 feet from the centerline of the vessel into adjacent open waters where the predominant currents carry the sediments away from the channel. As with the special purpose hopper, the sidecaster operates only during daylight hours (12 hours/day).

Due to its shallow draft capability, the sidecast dredge is often the only method of dredging available for shoal removal. The Merritt is often used for digging pilot channels for the special purpose dredges or contract dredge to deepen to project depth. Sidecast dredging takes less time than special purpose dredging since transit time for dredged material placement is not required. When maintenance dredging is required and other dredge types are not available, USCG proposes to sidecast dredge.

5.01.03 Special Purpose Hopper Dredge.

Off the western end of Emerald Isle in approximately 6-10 feet of water (Figure 2), there is a nearshore placement area available for the placement of beach quality sand. This placement option could be used by a government owned special purpose dredge, a commercial hopper dredge, or material dredged by a mechanical dredge and placed on barges or scows.

The project area is too shallow to be dredged by a conventional hopper dredge. In addition, commercial dredges presently available on the East Coast draw too much draft to utilize this nearshore placement area. However, material dredged by a government-owned special purpose dredge could be placed in this area.

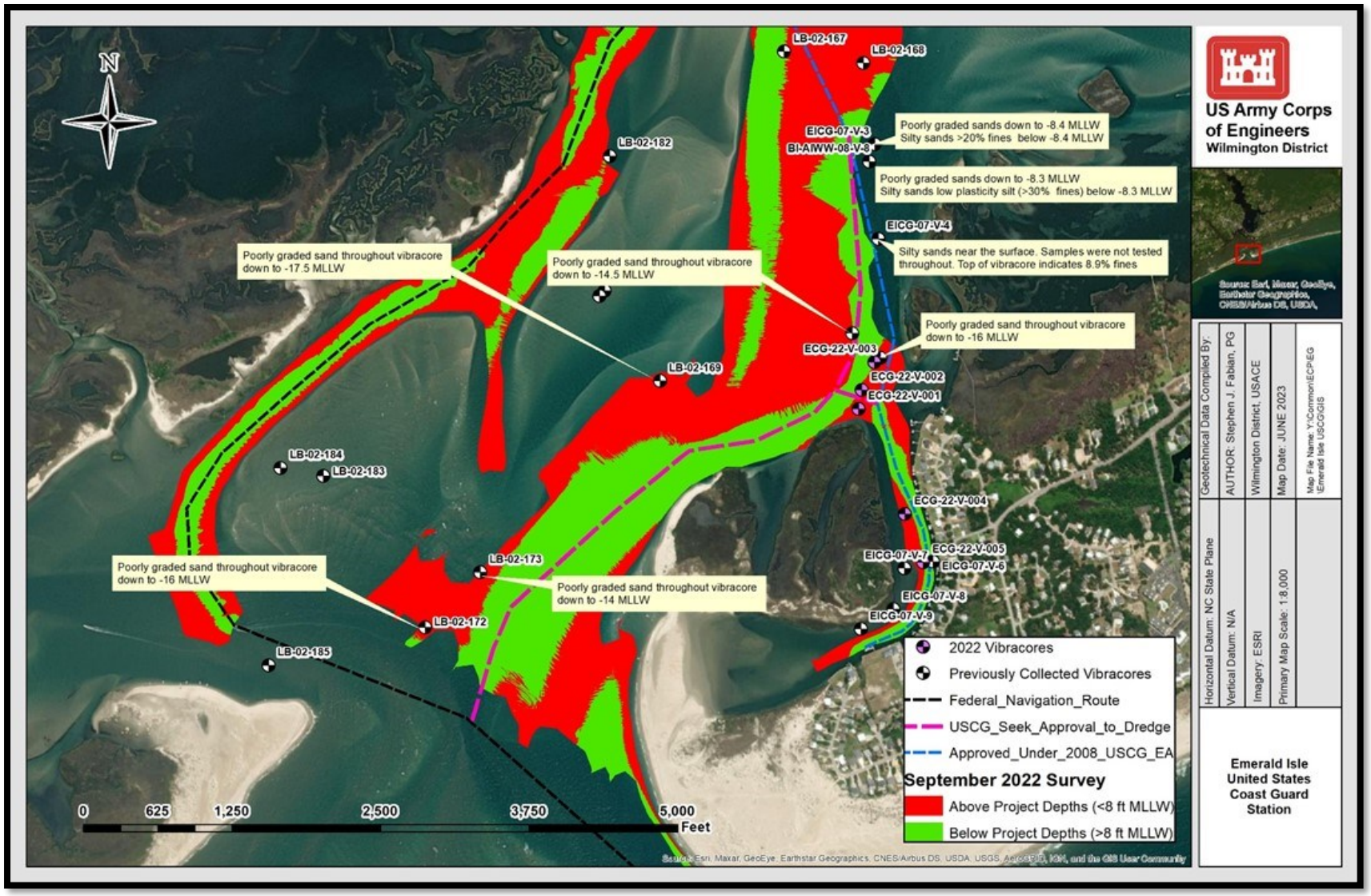

Figure 3 Overview of project area. Pink dashed line is the navigation route USCG at Emerald Isle is seeking approval to dredge.

Presently, the USACE has two special purpose dredges, the “Currituck” and the “Murden”, both of which are seagoing, split-hull, shallow-draft hopper-like dredges. A hopper dredge lowers dragheads to the channel bottom and hydraulically suctions, like a vacuum cleaner, the dredged material into the vessel’s hoppers. When full, the hopper dredge transits to an open water placement site where the load is dumped through the bottom dump hoppers. The “Currituck” is capable of dredging approximately 300 cubic yards of material in thirty minutes and requires a minimum depth of 5 feet to maneuver. The “Murden” is capable of dredging approximately 500 cubic yards of material in thirty minutes and requires a minimum depth of 5 feet to maneuver. The larger the load of material in the hopper, the more depth required.

Should any instance of sediment sampling reveal material composed of greater than 10% fine-grained sediment, it could not be placed on a beach or nearshore placement area or discharged into adjacent waters by sidecast dredge; rather it would have to be placed in a confined upland placement site. At this time, no placement sites have been identified for placement of fine-grained material. The quantity of fine-grained material to be dredged during any specific event may be a factor in the selection of an appropriate placement site. The most likely location of placement islands would be at the confluence of Bogue Inlet and the Atlantic Intracoastal Waterway. The USACE Placement Areas (PA) 60 and 61 are located approximately 1.5 miles from the USCG basins. Although the areas within the dike used for placement are approximately 19 acres and 12 acres, respectively, no determination as to existing capacity on either PA has been made at this time.

There is limited area for a placement site within USCG Station Emerald Isle property. While a small amount of material could be placed temporarily within the Station, it is more likely that an alternate site would be found. All necessary coordination and authorizations for use of an upland placement site other than PA 60 or 61 would be completed prior to their use for dredged material placement. All work would be completed outside the April 1 – August 31 waterbird breeding season unless coordinated with the appropriate resource agencies in advance.

Material placed in a confined upland facility would be dredged by either hydraulic pipeline dredge or mechanical dredge. Hydraulic pipeline dredge would pump the material via dredge pipe, while a mechanical dredging operation would entail the barge or scow being moved to an appropriate point at the PA, where a front-end loader, back-hoe, or bucket would offload the material to the placement facility.

5.01.04 Mechanical (clamshell) Dredge.
A mechanical (clamshell) dredge would place material on a barge or scow. When full, the vessel could be moved to the beach, where material would be removed and placed on the beach by front-end loader, back-hoe, or bucket operation. Subsequent relocation of the material would be necessary in order to conform to the generally accepted beach placement practices described above.

Should a mechanical (clamshell) dredge be used for nearshore placement, material would be placed on a barge or scow, then transported to the placement area. Offloading would be accomplished by use of a front-end loader, back-hoe, or bucket operation.

5.02 Alternative 1 – No Action – Maintaining the North Route Only.

The “No Action” alternative involves maintaining the status quo. The USCG would not have the additional flexibility to take a more direct route to Bogue Inlet. The shoaled conditions that presently exist within the project area in the area of the potential Southwest route would remain, and these shoals would be expected to expand, preventing any possibility of a more direct route to Bogue Inlet and the Atlantic Ocean, thereby creating increasingly more difficult navigation and longer delays in response time for USCG vessels and teams. The “No Action” alternative does not meet the purpose and need of maintenance of Station Emerald Isle in a condition that enables optimal performance of the USCG missions. Current dredge volumes for the northern route (currently approved route) are 2,600 cubic yards (CY) to -6 feet (project depth) and 6,200 CY to overdepth. Dredging would typically take place over a 7–14-day period. Placement of dredged material depends upon the method of dredging used and the quality of the material dredged. Only beach quality sand is sidecast, placed on the beach, or relocated to the nearshore placement area. All dredging and placement work is completed between November 16 and March 31.

5.03 Alternative 2 – Proposed Action – Maintaining the North Route and Adding a New Southwest Route (with dredging window).

This alternative includes maintenance dredging of a navigation route to the southwest as an alternate access to the USACE federally maintained navigation channel at Bogue Inlet (Figure 1). Prior to the federal channel following deep water to its current location, the proposed southwest route was previously dredged as a part of the USACE federally maintained navigation channel. This alternative would also include a new approximately 300 linear foot “shortcut” channel to connect the southwest route to the current USCG channel. The southwest route could be maintained at the same time as the current USGC channel that runs north to the federally maintained channel. However, only one route may be maintained at a time due to funding limitations. The proposed southwest route and “shortcut” channel are currently at the authorized project depths. It’s expected that maintaining both the north and southwest routes would require dredging one of the routes each year. Dredging one route would take place over a 7–14-day period. Dredging both routes during one dredging event would take 10-18 days.

As described in Section 5.01, there are several methods of dredging available for accomplishing the work. These methods are: pipeline dredge, mechanical (clamshell) dredge, government-owned sidecast dredge, and government-owned special purpose (hopper) dredge. The result of dredging would be the removal of shoaled sediments lying above the plane of -6 feet MLLW, plus 2 feet allowable overdepth in the Station’s access channel in naturally occurring deep water.

Placement of dredged material would be dependent upon the method of dredging used and the quality of the material to be dredged. Only beach quality sand would be

sidecast, placed on the beach or in the nearshore placement area. All dredging and placement work would be completed between November 16 and March 31.

USCG anticipates scheduling necessary dredging to coincide with contracts, overseen by the Wilmington District, U.S. Army Corps of Engineers (USACE), for maintenance dredging in nearby federally maintained channels. This would allow the USCG to avoid the expense of initial dredge plant mobilization and demobilization, often exceeding $500,000. However, USCG would incur the expense associated with relocating the dredge to its basin and installing the pipeline for placement.

5.04 Alternative 3 – Maintaining the North Route and Adding a New Southwest Route (no dredging window).

This alternative would be the same as alternative 2, but dredging and placement would be accomplished at any time of the year, considering the risk assessments that would be required under the 2020 South Atlantic Regional Biological Opinion (SARBO). Eliminating the environmental windows for the project provides the maximum flexibility relative to dredge availability. This option would allow dredging of the route in a proactive manner by monitoring shoals through routine survey efforts and planning for scheduled maintenance events.

6.00 Affected Environment and Environmental Consequences.

The environmental effects from the placement of dredged material from a cutterhead suction/hydraulic pipeline dredge will not be analyzed in this EA as these impacts have been addressed in past NEPA documents. All material proposed for dredging consists of beach quality sand (≥90% sand) and placement on beaches will be done in accordance with the designated windows for the protection of nesting birds and sea turtles (16 November – 31 March). Should any instance of sediment sampling reveal material composed of greater than 10% fine-grained sediment, it could not be placed on a beach, inlet shoal, or nearshore placement area or discharged into adjacent waters by sidecast dredge; rather it would be placed in a confined upland placement site (PA 61 first, then [if needed] the eastern end of PA 60 to protect the quality of avian habitat to the greatest extent practicable). Additionally, placement will abide by the conservation recommendations described in the 2017 U.S. Fish and Wildlife Service (USFWS) Statewide Programmatic Biological Opinion.

Hydraulic pipeline dredging within the proposed corridor will be assessed for environmental effects since this is considered a new area of dredging; however, pipeline dredging will be limited to the cold weather months (16 November – 31 March) based on placement restrictions protecting sea turtle and bird nesting areas.

Dredging and placement with government-owned special purpose hopper and sidecast dredges are the activities analyzed in this EA that will be predominantly utilized. Special purpose hopper dredging suctions bottom material into the hopper and transits to an approved nearshore area for placement. Sidecast dredging suctions bottom material and redistributes it into adjacent waters, atop existing sandy sediments. Material is cast

approximately 80-100 feet from the port or starboard side of the vessel into waters flowing away from the channel being dredged.

The impacts of these activities will be addressed for the three alternatives, described above as 1) No Action; 2) Maintaining the North Route and Adding a New Southwest Route (with environmental window); and 3) Maintaining the North Route and Adding a New Southwest Route (no dredging window).

6.01 Geology and Sediments.

The United States Coast Guard Station (USCGS) at Emerald Isle is just north of the main ebb channel of Bogue Inlet. Sediments in the vicinity of the USCGS at Emerald Isle generally consist of unconsolidated sands and silts and are continually subject to movement facilitated by strong currents from tidal exchange within Bogue Inlet and adjacent flood-tidal channels. Redistribution of sediments is, therefore, a natural and continuous phenomenon. These sediments overlie carbonate rocks having different degrees of cementation and hardness. Rock formations of this area include the Yorktown and Castle Hayne Limestone. The Castle Hayne Limestone formation is one of the regional groundwater sources for southeastern North Carolina.

Any dredging would remove recently shoaled sediments in present (black/blue dashed line) and proposed (pink dashed line) navigation channels, likely from movement of sand shoals into neighboring flood-tidal channels (Figure 3). Shoals within the flood-tidal delta were sampled in 2002 and indicated poorly graded sands continuously down to vibracore termination depth (>-14 feet MLLW). Future migration of these shoals into neighboring flood-tidal channels will likely yield poorly graded sands within the newly proposed navigation channel (pink dashed line). Therefore, dredged sediments would consist of beach quality sand (≥90% sand). However, north of the USCGS at Emerald Isle data from 2007 and 2008 indicated low plasticity silts and silty sands existing just below project depth. Vibracores EICG-07-V-4, BI-AIWW-08-V-8, AND EICG-07-V-3 (Figure 3) indicate these sediments at -8.3 feet MLLW and -8.4 feet MLLW. If shoaled sediments occupy this area any dredging that should occur should be no deeper than -7 feet MLLW if material will be sidecast or placed on the beach, Bogue Inlet Shoal, or in the nearshore. Subsurface information gathered in 2022 within the USCG channel indicated beach quality material, ≥90% sand within authorized project depths.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in status quo. Dredged material would be removed from the existing channel location on a periodic basis and volumes would remain comparable to volumes removed historically.

Alternative 2 - Dredging will take place in a new area approximately 300 linear feet in length and in a southwestern route to Bogue Inlet that has been previously dredged. The dredged material may be sidecast into adjacent waters, placed in the nearshore areas by hopper dredge, placed on adjacent beaches, placed at Bogue Inlet Shoal (if appropriate permits are obtained from the State Park and/or others), or on an approved

upland confined site. Most of the material to be dredged is continually being redistributed by normal tidal processes and storm events. Once the new navigation alignment has been established, periodic maintenance dredging would remove future shoaled sediments, which is not expected to adversely impact the project area's geology or sediments.

No dangerous debris, including unexploded ordnances, is anticipated to be encountered during any phase of the project. However, should such debris be found, appropriate procedures would be followed for disposal and avoid injury to the dredge crew and public or damage to property and the environment.

Alternative 3 – Dredging of the new area with elimination of the environmental window for dredging and placement would have the same effects on sediments as alternative 2. Therefore, this alternative is not expected to adversely impact the project area's geology or sediments, regardless of the time of year dredging occurs.

No dangerous debris, including unexploded ordnance, is anticipated to be encountered during any phase of the project. However, should such debris be found, appropriate procedures would be followed to dispose of the debris appropriately to avoid injury to the dredge crew and the public, as well as damage to property or the environment.

6.02 Water Resources.

6.02.01 Hydrology.

Tides in the project area are semidiurnal and the mean tidal range is about 2.2 feet. Regular reversals of flow occur with each tidal cycle. The salinity of the area varies due to many factors including freshwater inflow, tidal action, and wind. However, salinity is usually high (near seawater, 35 ppt) due to the proximity to the inlet and the ocean. Hydrology changes caused by maintenance dredging and placement would be very small (if any) in comparison and are, therefore, considered to be insignificant.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in status quo. Dredged material would be removed from the existing channel location on a periodic basis and volumes would remain comparable to volumes removed historically. Dredging-related impacts on hydrology (changes to salinity, tides, etc.) within the inlet would be minor and localized to the current route. Due to the dynamic nature of the inlet, these changes are not expected to be detectable.

Alternative 2 - The proposed action, which will attempt to take advantage of natural deep water. Where shoaling is apparent, dredging will result in increases to water depths within the channel, possibly having minor effects on salinity and flow; however, in comparison to the size of the inlet complex, impacts within the minimal area of impact would be minor, temporary, and not affect the overall hydrology of the area.

Alternative 3 - Elimination of the environmental window for dredging and placement activities would have the same effects on hydrology as alternative 2. Therefore, this alternative is not expected to result in changes to hydrology or salinity, regardless of the time of year dredging occurs.

6.02.02 Water Quality.

The waters of Bogue Sound from the eastern mouth of the Inlet to Gales Creek are classified by the North Carolina Division of Water Quality (NCDWQ) as SA and ORW. The White Oak River is classified as SA and HQW. Class SA waters are defined as suitable for shellfishing for market purposes and any other usage specified by the “SB” and “SC” classification. Best usage of class SB waters includes swimming, primary recreation, and all Class SC uses including fishing, secondary recreation, fish and wildlife propagation, and other uses requiring lower water quality. The ORW designation indicates Outstanding Resource Waters, which are unique and special waters of exceptional state or national recreational or ecological significance which require special protection to maintain existing uses. The HQW designation indicates High Quality Waters, which are waters which are rated as excellent based on biological and physical/chemical characteristics (NCDEQ 2023).

The potential water quality impacts of dredging include minor and short-term suspended sediment plumes and the release of soluble trace constituents from the sediment. During dredging, turbidity increases outside the immediate dredging area should be less than 25 NTUs (Nephelometric Turbidity Units) and are, therefore, considered insignificant.

In the case of overflowing government owned hopper dredges to obtain economic loading, sediment that is ≥90% sand is not likely to produce significant turbidity or other water quality impacts since material is expected to dissipate from the water column relatively rapidly. (USACE 1997).

North Carolina Division of Water Resources (NCDWR) Section 401 Water Quality Certification (WQC) under the Clean Water Act of 1977 (PL 95-217) are issued for projects that result in a regulated discharge of material.

The project will not require a North Carolina Division of Water Resources (NC DWR) 401 Water Quality Certification (WQC) for the dredging portion of the project, since there is no regulated discharge, pursuant to the Clean Water Act. Placement onto PA 60 and 61 are covered under WQC #4248 and placement within the preauthorized beachfront and nearshore areas is covered under WQC #4500. A WQC will be obtained for the sidecasting or Bogue Inlet Shoal options.

By memorandum dated April 14, 2004, NCDWQ stated that their general water quality certification #3369 (reissued on December 1, 2017, as General Water Quality Certification #4153) authorizes the Corps of Engineers’ use of government owned dredge plant to sidecast dredge material in open water adjacent to the dredged channel or along ocean beaches. USCG will request NCDWQ verification that General Water

Quality Certification #4153 authorizes use of government dredge plant in their basin and access channel, provided the Wilmington District Corps of Engineers is performing the work. If NCDWQ does not concur with the use of this general certification, USCG will request individual water quality certification for this aspect of the proposed project.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in the status quo. Dredged material would be removed from the existing channel location on a periodic basis, 7-10 days per year. Activities may cause impacts to water quality in the form of transient and minor increases in turbidity during maintenance dredging and dredged material placement. Turbidity is expected to stay within the 25 NTU criteria since the material is ≥90% sand and sediments would settle out completely every night. These impacts are anticipated to be minor and temporary, not causing a long-term negative impact on the local water quality.

Alternative 2 - The proposed action will result in additional disturbance within the system due to the dredging of the approximately 300 linear feet of new channel and maintenance dredging of the southwest route in addition to continued maintenance dredging of the north route (Alternative 1). If the current and new route require dredging the same year it would take 10-18 days. Implementation of Alternative 2 will result in additional minor and short-term impacts on water quality. Sediments in the vicinity of the north and southwest routes, as well as the new 300-foot area, have been sampled and tested and all material to be dredged has less than 10% fines (≥90% sand) and therefore is not likely to produce significant turbidity.

Alternative 3 - Dredging and placement activities any time of year would have the same effects on water quality as dredging with windows (Alternative 2); dredged material stirred up during dredging and placement would settle out quickly and be localized to the immediate area. However, these minor and short-term impacts could occur any time of year, including spring and summer when sensitive stages of ecologically and commercially important species are present and dependent on good water quality. The most impact would occur where these species are abundant and cannot avoid the disturbance of the dredge (i.e., sidecasting in areas of eggs, larvae, SAVs). Sidecasting material into the direction of an ebb tide is most efficient, and it also helps to carry the material away from shallower areas where most eggs and larvae may be. Therefore, minimal impacts to those eggs and larvae may be expected.

6.02.03 Groundwater.

In the coastal plain, freshwater aquifers include two main groups: the deep-lying Cretaceous Aquifers and the Upper Aquifers, including the Castle Hayne, which supplies most of Carteret County's water. Most domestic water wells are set in these formations. Near the coast, well water is usually salty, but there are freshwater layers at lower depths.

Maintenance dredging would not adversely affect groundwater of the area. The Castle Hayne Limestone formation below the channel bottom is already exposed to salt water. The potential for saltwater intrusion into groundwater does not exist unless a reversal of hydrologic gradient occurs due to excessive groundwater pumping. Water supplies of nearby communities would not be affected with implementation of any alternative.

None of the alternatives would result in impacts to groundwater.

6.03 Air Quality.

The Wilmington Regional Office of the North Carolina Department of Environmental Quality (NCDEQ) has air quality jurisdiction for the project area. The ambient air quality for Carteret County has been determined to be in compliance with the National Ambient Air Quality Standards and is designated an attainment area for Ozone (O3), Particulates (PM2.5), Carbon Monoxide (CO), and Sulfur Dioxide (SO2) (NCDEQ, 2022); therefore, a conformity determination is not required.

The proposed action would have a negligible effect to the local and global climate. Creating a more direct route to exit the inlet may slightly reduce emissions from boating traffic, however that effect would be considered negligible. Small amounts of greenhouse gases will be released by construction equipment and as part of the construction specifications, air quality controls, unnecessary idling restrictions, and monitoring will be implemented. Though these emissions will be localized and temporary in nature and not expected to significantly contribute to climate change, efforts to minimize emissions to the greatest extent practicable should be enacted.

The project is in compliance with Section 176 (c) of the Clean Air Act, as amended. The direct and indirect emissions from the project are de minimis l; therefore, none of the alternatives are anticipated to create any adverse effect on the air quality of the project areas.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in status quo. Although dredging equipment would follow Section 176 (c) of the CAA, as amended, emissions may increase slightly above de minimis levels if dredging occurred 7-10 days a year indefinitely.

Alternative 2 - The proposed action will result in minor additional dredging activities in the area of new dredging and dredging of the southwest route; therefore, resulting in slight increases in air emissions as compared to Alternative 1. However, these impacts would be minor and of short duration. No long-term adverse air quality impacts would occur.

Alternative 3 - Dredging and placement activities any time of year would have the same effects on air quality as alternative 2. Therefore, impacts would be minor and temporary and no long-term air quality impacts would occur.

6.04 Noise.
Noise levels below the water surface within the project area vary throughout the year and often include state, commercial and recreational boat traffic, in particular daily passenger ferry and vehicle barge transport between the months of May - August.

Dredging operations generally produce low levels of low-frequency sound energy that, although audible over considerable distances from the source, are of short duration (Michel 2013). Sound from a dredge is generated from the drag arm sliding along the bottom, the pumps moving the material, and operation of the ship engine/propeller. The significance of the noise generated by the equipment dissipates with increasing distance from the noise source. The effects of noise from dredging have been determined to have no lethal or injurious effects and minimal behavioral effects.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in status quo. Dredged material would be removed from the existing channel location on a periodic basis, 7-10 days per year. Noise levels from sidecast and special purpose hopper dredges would only occur during daylight hours but would be long-term, which may disturb feeding, mating, spawning, and other behaviors within sea turtles, porpoises, and blue crabs; but noise would not be significant since these species are expected to avoid the disturbance. Affects would only occur within a very localized area around the dredge. Same would be true for pipeline dredging, which would occur less frequently than government plant dredging, but would operate 24 hours per day for several weeks at a time.

Likewise, the impacts of underwater sound on fish populations are expected to be minor and temporary because duration of exposure to dredging noise is short-term and species can easily flee from the area. Migrating and spawning fish species are expected to pass the dredge unharmed, as had occurred in the James River, Virginia during a pipeline dredge event while Atlantic sturgeon were migrating.

Sound from dredging within the Bogue Inlet area is not expected to impact marine mammals in the area, the critically endangered North Atlantic Right Whale that migrates offshore during the winter months.

Alternative 2 – The proposed action will result in minor additional dredging activities in the area of new dredging and additional maintenance dredging of the southwest route. If the current and new route require dredging the same year it would take 10-18 days. These impacts would be like those impacts occurring during routine maintenance dredging of the existing channel described in alternative 1. Accordingly, the long-term noise disturbance conditions would be similar to the existing conditions.

Alternative 3 - Dredging and placement activities any time of year would are expected to result in levels of dredging-related noise to be the same as Alternative 2 (maintenance of the USCG route with a window). Under this alternative, dredging may occur during

warmer months when species are more abundant, however, additional noise resulting from dredging would be negligible as compared to the continuous noise derived from vessel traffic. During summer months, at the height of tourist season, commercial and recreational fishing boats, private pleasure cruises, and other recreational boats are in constant motion within the corridor. Added noise related to dredging in the summer months, is not expected to adversely affect marine species physically or behaviorally.

6.05 Marine and Estuarine Resources.

6.05.01 Nekton.

Nekton collectively refers to aquatic organisms capable of controlling their location through active movement rather than depending upon water currents or gravity for passive movement. Nekton of the nearshore Atlantic Ocean along Bogue Banks, North Carolina can be grouped into three categories: estuarine dependent species; permanent resident species; and seasonal migrant species. The most abundant nekton of these waters are the estuarine dependent species which inhabit the estuary as larvae and the ocean as juveniles or adults. This group includes species which spawn offshore, such as the Atlantic croaker (*Micropogon undulatus*), spot (*Leiostomus xanthurus*), Atlantic menhaden (*Brevoortia tyrannus*), star drum (*Stellifer lanceolatus*), southern kingfish (*Menticirrhus americanus*), flounders (*Paralichthys* spp.), mullets (*Mugil* spp.), anchovies (*Anchoa* spp.), blue crab (*Callinectes sapidus*), and penaeid shrimp (*Penaeus* spp.), as well as species which spawn in the estuary, such as red drum (*Sciaenops ocellatus*) and weakfish (*Cynoscion regalis*). Species which are permanent residents of the nearshore marine waters include the black sea bass (*Centropristis striata*), longspine porgy (*Stenotomus caprinus*), Atlantic bumper (*Chloroscombrus chrysurus*), inshore lizardfish (*Synodus foetens*), and searobins (*Prionotus* spp.). Common warm water migrant species include the bluefish (*Pomatomus saltatrix*), Spanish mackerel (*Scomberomorus maculatus*), king mackerel (*Scomberomorus cavalla*), cobia (*Rachycentron canadum*), Florida pompano (*Trachinotus carolinus*), and spiny dogfish (*Squalus acanthias*).

Bogue Inlet passes over 125,000,000 m^3 of water on spring tides. Thus, Bogue Inlet is an important passageway for the larvae of many species of commercially or ecologically important fish. Spawning grounds for many marine fishes are believed to occur on the continental shelf with immigration to estuaries during the juvenile stage. The shelter provided by the marsh and creek systems within the sound serves as nursery habitat where young fish undergo rapid growth before returning to the offshore environment.

Transport from offshore shelves to estuarine nursery habitats occurs in three stages: offshore spawning grounds to nearshore, nearshore to the locality of an inlet or estuary mouth, and from the mouth into the estuary (Boehlert and Mundy, 1988). Hettler et al. (1997) documented, through analysis of larvae otoliths, that a large number of young *B. tyrannus* larvae averaging 55 days post hatch arrived in mid-March on the date of maximum observed daily concentration (160 larvae per 100 m^3). For all species recorded in this study, abundance varied as much as an order of magnitude from night to night. The methods these larvae use to traverse large distances over the open ocean

and find inlets are uncertain. Various studies have hypothesized such mechanisms as passive wind and depth-varying current dispersal and active horizontal swimming transport. However, little is known regarding larval distribution in the nearshore area. During the winters of 1992-1993 and 1993-1994, Hettler and Hare (1998) conducted an experiment at Beaufort Inlet, North Carolina (approximately 25 miles to the east northeast) to further understand the estuarine ingress of offshore spawning species. A complex lateral structure in estuarine circulation, independent of the inlet opening size, was found in regard to larval concentration with significant interactions among inlet side, distance offshore, and date of ichthyoplankton tows. Length of species caught varied by cruise, inlet side, and distance offshore. The differences in larval concentration offshore and inshore and the species differences in length suggest species-specific rates controlling the net number of larvae entering the nearshore from offshore, the net number of larvae entering the inlet mouth from nearshore, and the larval mortality in the nearshore zone. Results from this study suggest two bottlenecks for offshore-spawning fishes with estuarine juveniles: the transport of larvae into the nearshore zone and the transport of larvae into the estuary from the nearshore zone (Hettler and Hare, 1998).

Egg and larval transport from offshore spawning grounds to the inshore environment of Beaufort Inlet has been studied by Hettler and Hare (1998) in seven estuarine dependent species, including Atlantic menhaden (*Brevoortia tyrannus*), spot (*Leiostomus xanthurus*), Atlantic croaker (*Micropogonias undulatus*), pinfish (*Lagodon rhomboides*), summer flounder (*Paralichthys dentatus*), southern flounder (*P. lethostigma*) and Gulf flounder *(P. albigutta*). Research conducted by the National Marine Fisheries Service (NMFS) Beaufort Laboratory through June 2002, collected a total of 120 species of larval fish fauna off the Beaufort Inlet and adjacent waters. According to Hettler and Hare (1998), average weekly concentration (number per 100 m^3) for all the above estuarine dependent species, with the exception of Gulf flounder, was calculated during the October 1994 to April 1995 immigration season. Concentrations were 22.9, 4.8, 25.7, 12.4, 0.3, and 0.8 larvae/100m^3 respectively (Hettler, 1998). According to the spring tide flow calculated by Jarret (1976) and calculated daily larval concentration, approximately 32.5, 6.8, 36.5, 17.6, 0.43, and 1.1 million larvae pass through the inlet during a single spring tide for each respective species. Concentrations for all species combined entering the inlet during a single tidal prism range from 0.5 to 5 larvae m^{-3}. Therefore, daily calculated larval concentration for all species within the tidal prism ranges between 66 to 710 million (Personal Communication, Larry Settle, Fishery Biologist, NMFS, 27 June 2002).

The NC Division of Marine Fisheries oversees 3 artificial reefs within 10 miles of the project area. The artificial reef site nearest to the project area is AR 381, located 1.4 miles north of the of the project area. None of the dredging or placement alternatives would impact NCARP reefs.

The State of North Carolina defines Primary Nursery Areas (PNAs) as tidal saltwaters, which provide essential habitat for the early development of commercially important fish and shellfish. It is in these estuarine areas that many fish species undergo initial post-larval development. PNAs are designated by the North Carolina Marine Fisheries

Commission. Neither the proposed dredging sites nor the potential placement areas are located within a designated PNA (15 NCAC 3B .1405).

Marine mammals also occur in North Carolina's coastal waters. A number of whale and dolphin species normally inhabit deeper waters offshore, while the bottlenose dolphin (*Tursiops truncatus*) and the harbor porpoise (*Phocoena phocoena*) utilize nearshore waters. The bottlenose dolphin is common in the project area.

Most free-swimming animals, including fish, shellfish, marine mammals, sea turtles, and cephalopod mollusks, are not expected to experience any significant direct effects from the proposed action as the proposed dredging would occur in a routinely navigated channel subject to frequent boat traffic. Although the mature fish species present in these areas are highly mobile and would be able to avoid the dredges that would be utilized, some fish mortality would be expected. Mortality rates resulting from dredging would be low and not adversely detrimental to any species.

- **Dredging Impacts.** Mechanical dredges are not anticipated to affect free-swimming animals since physical contact by the dredging equipment is unlikely, and no suction is employed. Hydraulic (including government-owned sidecast and special purpose dredges) pipeline dredging does not pose a significant threat to most nekton because their mobility can enable them to avoid or escape from a dredge's suction-velocity field, which extends over only a small area in the vicinity of the operating cutterhead.

- **Entrainment Impacts.** Larvae and early juvenile stages of many species pose a greater concern that adults because their powers of mobility are either absent or poorly developed, leaving them subject to transport by tides and currents. This physical limitation makes them potentially more susceptible to entrainment by an operating hydraulic dredge. Organisms close to the dredge cutterhead, draghead, or pump may be captured by the effects of its suction and may be entrained in the flow of dredged sediment and water. Larval organisms present near the channel bottom would be closer to the dredge cutterhead, draghead, or pump and, therefore, subject to higher risk of entrainment. Assessment of the significance of entrainment is difficult, but most studies indicate that the significance of impact is low. Reasons for low levels of impact include: (1) the very small volumes of water pumped by dredges relative to the total amount of water in the vicinity, thereby impacting only a small proportion of organisms, (2) the extremely large numbers of larvae produced by most estuarine-dependent species, and (3) the extremely high natural mortality rate for early life stages of many fish species.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in status quo. The periodic dredging required to maintain the historic route may result in negative effects on marine species by disturbing feeding, mating, spawning, and other behaviors, however this would only occur within the localized area of the dredging and dredged material placement when sidecasting or placing dredged material in the nearshore. The surrounding habitat of the Bogue Inlet area would remain unaffected and is expected to provide sufficient shelter, feeding areas, and spawning grounds for species to thrive.

Alternative 2 - The proposed action will result in minor additional dredging activities in the area of new dredging and the additional maintenance dredging of the southwest route. Disturbances would be minor within a very localized area around the dredging and placement areas, of which nekton can avoid. Therefore, these disturbance events are not expected to adversely impact fish, marine mammals, or marine reptiles in the area.

Alternative 3 - Dredging and placement activities any time of year would have similar effects on nekton as alternative 2. Eliminating the window would allow impacts to occur when water temperatures are warmer and biological activity is higher. Sensitive life stages of economically and ecologically important fisheries will be more abundant within the project area during warmer months, however the minor effects on water quality, noise, and species' behaviors are not anticipated to adversely affect populations. Smaller life stages could become entrained if they are on the seafloor within the path of the draghead, however it is possible they may survive entrainment and relocation with the placed material. This alternative may have minor impacts on nekton like the aforementioned but would not result in significant effects on any species.

6.05.02 Benthos.

Aquatic organisms that live in close association with the bottom, or substrate, of a body of water, are collectively called the benthos. Given the susceptibility of the USCG Station Emerald Isle project area to currents and water movement, the sandy sediments would not be expected to include significant numbers of organisms within benthic communities. Common benthic organisms in these sediments would likely include polychaetes, amphipods, decapods, and mollusks.

Shellfish beds are present in Bogue Sound and are likely present in shallow water away from the navigation channel. Due to the dynamic conditions present within Bogue Inlet and the USCG Station Emerald Isle access channel, significant numbers of shellfish would not be expected within these channels. The dominant species are the American oyster (*Crassostrea virginica*) and the clam (*Mercenaria*). In the Bogue Sound area, both species are harvested for sale and personal consumption.

The entire southwest channel and new "connector" channel encompasses approximately 15 acres of estuarine bottom. Maintenance dredging during any event would affect only a portion of this previously dredged bottom and would entail the

removal of recently shoaled material. Dredging would result in mortality of nearly all sedentary or slow-moving benthic organisms that have moved into the area, along with removal of the sediments down to the specific depth of the area to be dredged. Removal of benthos and benthic habitat by channel maintenance dredging represents a temporary resource loss since the channel bottom would become a new area of benthic habitat and would be recolonized by benthic organisms. The benthic community which develops should be similar to that removed by dredging. The ecological significance of temporary benthic losses is considered minor since the affected area is very small relative to the amount of benthic habitat present on the estuarine bottom and the time span of loss is likely short. Benthic populations in the vicinity are in a state of flux due to the continual sedimentation and shoaling which creates the need for maintenance dredging.

Mature and extensive populations of benthic resources in the project area are limited as a result of its dynamic nature, continual movement and accumulation of sediments, and the small size of the basin. Within the USCG basin, varied numbers of colonizing species are likely present, specific numbers being dependent upon the occurrence of the last dredging event and the subsequent sedimentation rate. Essentially, a total loss of estuarine benthos within the dredged area would occur, but recovery would begin immediately and would be expected to return to nearly pre-project conditions over a period of months. Therefore, impacts to benthos as a result of dredging are anticipated to be minimal and short-lived due to the nature of the area and the ability of impacted species to recolonize.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in status quo. The periodic dredging and placement activities required to maintain the historic north route may result in negative effects to benthos, however this would only occur within the localized area of the dredging and material placement. The affected area would be very small relative to the amount of benthic habitat present on the seafloor; therefore, the ecological significance of temporary benthic losses would be considered minor.

Alternative 2 - The proposed action will result in additional disturbance within the system due to the dredging of the approximately 300 linear feet of new channel and maintenance dredging of the southwest route in addition to continued maintenance dredging of the north route (Alternative 1). If the current and new route required dredging the same year, it would take 10-18 days to complete. Effluent from sidecast dredges would result in temporary elevation of turbidity. Because of the sandy nature of the material and the locations in which placement would occur, elevations of turbidity would be expected to be temporary, minimal, and quickly dissipated. Regular maintenance dredging would have an impact on the benthic organisms of the channel during each dredging event; however, this impact is expected to be temporary and minor, not resulting in long-term significant impacts. It is expected that the dredged area would recover somewhat between maintenance dredging events.

Alternative 3 - Dredging and placement activities any time of year would have similar effects on benthos as alternative 2. Dredging and placement would disturb the same areas as those disturbed by alternative 2; no additional dredging or beach placement would occur. This alternative would allow dredging and placement to occur when water temperatures are warmer and biological activity is higher, but the area would be expected to recover between dredging and placement cycles. Therefore, this alternative will result in minor impacts to benthic invertebrates but would not result in significant impacts to benthos.

6.06 Essential Fish Habitat.

The 1996 Congressional amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (PL 94-265) set forth new requirements for NMFS, regional fishery management councils (FMC), and other federal agencies to identify and protect important marine and anadromous fish habitat. These amendments established procedures for the identification of Essential Fish Habitat (EFH) and a requirement for interagency coordination to further the conservation of federally managed fisheries. Table 1 lists, by life stages, 77 fish species which may occur in the vicinity of Bogue Inlet, and which are managed under MSFCMA. Table 2 shows the categories of EFH and Habitat Areas of Particular Concern (HAPC) for managed species which were identified in the Fishery Management Plan Amendments of the South Atlantic Fishery Management Council, and which may occur in southeastern states. These fish species and habitats require special consideration to promote their viability and sustainability. The potential impacts of the new proposed actions on these fish and habitats are discussed in Section 6.06.10 of this assessment. The EFH assessment is included in the body of this EA and will be coordinated with NMFS Habitat Conservation Division (HCD) upon its circulation.

No primary or secondary nursery areas designated by the N.C. Division of Marine Fisheries are present within the project area. Primary Nursery areas are defined by the State of North Carolina as tidal saltwaters, which provide essential habitat for the early development of commercially important fish and shellfish (15 NC Administrative Code 3B .1405). The closest primary nursery area is White Oak River to the north of Bogue Inlet, which is well outside of the project area.

The Fishery Management Amendments of the South Atlantic Fishery Management Council identify a number of categories of EFH and HAPC, which are listed in Table 2. Many of the habitat categories are not present in the vicinity of Bogue Sound and USCG Station Emerald Isle. These include:

- Estuarine shrub/scrub mangroves – require tropical habitats
- Hoyt Hills – located in the Blake Plateau in water 450-600 meters deep
- Big Rock and Ten Fathom Ledge – both located about 30 miles east of proposed project
- The Point – located off Cape Hatteras
- Cape Fear Sandy Shoals – shoals approximately 75 miles southwest of Bogue Inlet
- New River – located approximately 15 miles southwest of Bogue Inlet
- Council–designated Artificial Reef Management Zone
- Seagrass beds

Table 1. Essential Fish Habitat (EFH) Species of Bogue Inlet, North Carolina

Source: National Marine Fisheries Service, Beaufort, North Carolina, October 1999.

Fish Species	Water Bodies		Fish Species	Water Bodies	
	Bogue Sound	Atlantic Ocean South of Cape Hatteras		Bogue Sound	Atlantic Ocean South of Cape Hatteras
Red drum	E L J A	A	Gray triggerfish	N/A	E L J A
Bluefish	E L J A	J A	Yellow jack	N/A	E L J A
Summer flounder	L J A	E L J A	Blue runner	N/A	E L J A
Gag grouper	J	E L J A	Crevalle jack	N/A	E L J A
Gray snapper	J	E L J A	Bar jack	N/A	E L J A
Dolphin	N/A	E L J A	Greater amberjack	N/A	E L J A
Cobia	E L J A	J A	Almaco jack	N/A	E L J A
King mackerel	J A	E L J A	Banded rudderfish	N/A	E L J A
Spanish mackerel	J A	E L J A	Spade fish	N/A	E L J A
Black sea bass	L J A	E L J A	White grunt	N/A	E L J A
Spiny dogfish	J A	E L J A	Hogfish	N/A	E L J A
Brown shrimp	E L J A	E L J A	Puddingwife	N/A	E L J A
Pink shrimp	E L J A	E L J A	Blackfin snapper	N/A	E L J A
White shrimp	E L J A	E L J A	Red snapper	N/A	E L J A
Atlantic bigeye tuna	N/A	E L J A	Cubera snapper	N/A	E L J A
Atlantic bluefin tuna	N/A	E L J A	Silk snapper	N/A	E L J A
Skipjack tuna	N/A	E L J A	Vermillion snapper	N/A	E L J A
Longbill spearfish	N/A	E L J A	Blueline tilefish	N/A	E L J A
Shortfin mako shark	N/A	J A	Sand tilefish	N/A	E L J A
Blue shark	N/A	J A	Bank sea bass	N/A	E L J A
Spinner shark	N/A	E L J A	Rock sea bass	N/A	E L J A
Swordfish	N/A	E L J A	Graysby	N/A	E L J A
Yellowfin tuna	N/A	E L J A	Speckled hind	N/A	E L J A
Blue marlin	N/A	E L J A	Yellowedge grouper	N/A	E L J A
White marlin	N/A	E L J A	Coney	N/A	E L J A
Sailfish	N/A	E L J A	Red hind	N/A	E L J A
Calico scallop	N/A	E L J A	Jewfish	N/A	E L J A
Scalloped hammerhead shark	J A	J A	Red grouper	N/A	E L J A
Big nose shark	J A	J A	Misty grouper	N/A	E L J A
Black tip shark	J A	J A	Warsaw grouper	N/A	E L J A
Dusky shark	J A	J A	Snowy grouper	N/A	E L J A
Night shark	J A	J A	Yellowmouth grouper	N/A	E L J A
Sandbar shark	J A	J A	Scamp	N/A	E L J A
Silky shark	J A	J A	Sheepshead	N/A	E L J A
Tiger shark	J A	J A	Red porgy	N/A	E L J A
Atlantic sharpnose shark	J A	J A	Longspine porgy	N/A	E L J A
Longfin mako shark	J A	J A	Scup	N/A	E L J A
Whitetip shark	J A	J A	Little tunny	N/A	E L J A
Thresher shark	J A	J A			
LIFE STAGES:	E = Eggs; L = Larval; J = Juvenile; A = Adult; N/A = Not Found				

Table 2. Categories of Essential Fish Habitat and Habitat Areas of Particular Concern in Southeast States.

ESSENTIAL FISH HABITAT	GEOGRAPHICALLY DEFINED HABITAT AREAS OF PARTICULAR CONCERN
Estuarine Areas	Area - Wide
Aquatic Beds	Council-designated Artificial Reef Special Management Zones
Estuarine Emergent Wetlands	Hermatypic (reef-forming) Coral Habitat & Reefs
	Hard Bottoms
Estuarine Water Column	Hoyt Hills
Intertidal Flats	Sargassum Habitat
Oyster Reefs & Shell Banks	State-designated Areas of Importance of Managed Species
Seagrass	Submerged Aquatic Vegetation
Marine Areas	North Carolina
Artificial / Manmade Reefs	Big Rock
Coral & Coral Reefs	Bogue Sound
Live / Hard Bottoms	Capes Fear, Lookout, & Hatteras (sandy shoals)
Sargassum	New River
Water Column	The Ten Fathom Ledge
	The Point

[1]Areas shown are identified in Fishery Management Plan Amendments of the South Atlantic Fishery Management Council and are included in Essential Fish Habitat: New Marine Fish Habitat Mandate for Federal Agencies. February 1999, (Tables 6 and 7).

Potential impacts to EFH and HAPC are discussed and summarized in the following paragraphs.

6.06.01 Aquatic Beds, Wetlands, SAV and Estuarine Water Column.

Aquatic beds (defined as assemblages of submerged rooted vascular vegetation found in tidal freshwater areas) are not found in the immediate project area due to the salinity of waters; therefore, no impacts from the project would occur. Estuarine emergent wetlands are present in Bogue Sound and the project area, sometimes extensively so, in fringing marshes. The expanse of shallow water in the Sound and adjacent to the project area contains extensive habitat suitable for submerged aquatic vegetation (SAV), which is abundant in certain areas. Maintenance dredging of the proposed southwest route would take place within the previously dredged channel limits of the federal channel. Accordingly, dredging impacts to emergent wetlands and SAV would be minimal.

There is little vegetated saltmarsh within the routinely used pipeline route to the existing beach placement area on Emerald Isle or PA 60 and 61. Pipeline from the hydraulic dredge to a diked placement facility would be floated or, if present, laid across vegetated marsh or shallow-water substrate vegetated with SAV. The pipeline would be temporary and impacts would be minimal, short-lived, and localized.

The nearshore placement site is located in the Atlantic Ocean; therefore, no impacts to emergent wetlands or SAV would occur. Sidecast dredging would only occur in areas where no SAV or emergent wetlands are present. Prior to any sidecast operation, close coordination with NC Division of Marine Fisheries and the National Marine Fisheries Service would be conducted to ensure that no more than a minimal level of impact to SAV would occur. Dredged material would be sandy material and would be expected to settle out quickly. Prior to and following each dredging event, SAVs will be identified using the latest aerial photography and GIS imagery and SAV information will be provided to agencies. A minimum of a 100-foot buffer will be placed around any SAVs identified, with the use of a 300-foot buffer to the greatest extent practicable to protect SAV from effects of turbidity and sedimentation. No dredging or placement, including sidecasting of dredged material, will occur within 100 feet of identified SAVs for any of the three alternatives analyzed. Any impacts to emergent wetlands or SAV resulting from this method of placement would be indirect, minimal, and short-lived.

Dredging may impact the estuarine water columns in the immediate vicinity of the project. The government sidecast dredge would only work during daylight hours so there would be no dredging or sidecasting at night. Therefore, sand and sediments would settle out completely every night. These impacts could include minor and short-term suspended sediment plumes and related turbidity, as well as the release of soluble trace constituents from the sediment. Outside the immediate dredging area, turbidity increases would be less than 25 NTU. Overall water quality impacts resulting from the dredging alternatives would be short-term and minor. Living estuarine and marine resources dependent upon good water quality would not experience more than minimal, temporary adverse impacts due to water quality changes. Dredging and sidecasting are not expected to significantly impact wetlands, SAV, or estuarine water column EFHs.

No significant impacts to estuarine water columns would occur as a result of placement operations in a diked placement facility. Material disposed in the nearshore placement site, within the existing beach placement area on Emerald Isle, at Bogue Inlet Shoal, or from sidecasting, would be sandy material and would be expected to settle quickly. Adverse impacts to the estuarine water column would be within the immediate vicinity of the placement operation and would be minimal and short-lived.

Neither dredging nor dredged material placement within the project area are expected to significantly impact wetlands, SAV, or estuarine water column EFHs.

6.06.02 Intertidal Flats, Oyster Reefs, and Shell Banks.

These habitat types are present in Bogue Sound and may occur within the vicinity of the project area. However, neither dredging nor sidecasting of material would affect these habitats.

6.06.03 Sargassum.

Sargassum is pelagic brown algae, which occurs in large floating mats on the continental shelf, in the Sargasso Sea, and in the Gulf Stream. It is a major source of productivity in a nutrient-poor part of the ocean. Masses of *Sargassum* provide

extremely valuable habitat for a diverse assemblage of animal life, including juvenile sea turtles, sea birds, and over 100 species of fish. While smaller clumps of this seaweed may float into waters adjacent to the existing beach placement site on Emerald Isle and the nearshore placement area, it typically occurs much further offshore. *Sargassum* would not be affected by the proposed dredging or placement options.

6.06.04 Reef-forming Corals.
Hermatypic, or reef-forming, corals consist of anemone-like polyps occurring in colonies united by calcium encrustations. Since these corals derive a very large percentage of their energy from symbiotic algae, they require strong sunlight and are, therefore, generally found in depths of less than 150 feet. They require warm water temperatures (68 to 82° F) and generally occur between 30°N and 30°S latitudes. Off the east coast of the United States, this northern limit roughly coincides with northern Florida. They are not present in the proposed dredging or sidecast areas so there would be no impacts to reef-forming corals.

6.06.05 Artificial Reefs.
The NC Division of Marine Fisheries oversees 3 artificial reefs within 10 miles of the project area. The artificial reef site nearest to the project area is AR 381, located 1.4 miles north of the of the project area. None of the alternatives considered would impact NCARP reefs.

6.06.06 Live or Hardbottoms.
Emergent sedimentary rock outcrops (hardbottoms) occur in the nearshore ocean waters off Bogue Banks. These areas support a highly diverse flora and fauna. Hardbottoms are often called live bottoms because of the rich diversity of invertebrates and fish that they support. Dredging would not affect any hardbottoms. None of the alternatives considered would affect hardbottoms.

6.06.07 State–designated Areas Important for Managed Species.
Primary Nursery Areas are designated by the NC Marine Fisheries Commission and are defined as tidal saltwaters that provide essential habitat for the early development of commercially important fish and shellfish. None of the dredging or placement options would occur in or affect designated PNAs.

6.06.08 Bogue Sound.
Bogue Sound is important estuarine habitat for marine life because it is a wide shallow body of water, approximately 25 miles long, fringed by well-developed salt marsh. There is extensive habitat suitable for submerged aquatic vegetation, and water circulation from Bogue Inlet to the west and Beaufort Inlet to the east provides a constant replenishment of nutrients.

Neither the proposed dredging nor the placement of dredged material options would result in more than minimal impacts to Bogue Sound.

6.06.09 Marine Water Column Including the Surf Zone.

The project area and the vicinity in which sidecast placement would occur are not located in the marine environment; therefore, they would not impact the marine water column.

6.06.10 Impact Summary for Essential Fish Habitat.

The area to be dredged is either abutting or within an established channel and is subject to frequent navigation; therefore, adverse impacts to EFH, HPAC, or EFH species from dredging would be minimal and short-lived. Similarly, adverse impacts to EFH, HPAC, or EFH species resulting from the placement options would also be minimal and short-lived on an individual and cumulative effects basis. As a result of these minimal impacts, mitigation to offset impacts would not be required. This assessment will be coordinated with the NMFS Southeast Region.

Environmental Impacts.

Alternative 1 – No Action: The no action plan will result in status quo. Dredged material would be removed from the existing channel location on a periodic basis, 7-10 days per year. Current dredge volume estimates for the northern route (currently approved route) are 2,600 CY to -6 feet (project depth) and 6,200 CY to overdepth. The periodic dredging and placement activities required to maintain the historic north route would have minor impacts on fisheries and localized impacts to fish habitat, limited to the dredged area within the channel and placement areas. The quality of bottom habitat in the channel and placement areas may decline due to periodic maintenance, but this would be very localized. This alternative is not expected to have a significant adverse impact on area fisheries, EFH or HAPC within the project area.

Alternative 2 – The proposed action will include continued maintenance of the north route and result in additional dredging and placement activities in the area of new dredging and the additional maintenance dredging of the southwest route. The proposed southwest route currently is at project depth and width, so no dredging is needed at this time. However, if the current and new route required dredging the same year it would take 10-18 days to complete. Prior to and following each dredging event, SAVs will be identified using the latest aerial photography and GIS imagery. A minimum of 100-foot buffer will be placed around any SAVs identified to protect them from effects of turbidity and sedimentation. No dredging or placement, including sidecasting of dredged material, will occur within 100 feet of identified SAVs, and a 300-foot buffer will be followed to the greatest extent practicable. Impacts to fisheries and fish habitat (like those above) during these coordinated events are anticipated to be minor, as they would be short-term and localized.

Alternative 3 – Dredging and placement activities any time of year would have similar effects on fisheries and fish habitat as alternative 2. This alternative would allow activities to occur when water temperatures are warmer and biological activity is higher, but the affected area would be expected to recover between placement cycles. During warmer months, smaller, sensitive life stages of some fisheries may become entrained

within the dredge (sidecast or special purpose hopper) or harmed by the placement of sidecast material (abrasion or burial), and survival is unknown. Overall, the quality of bottom habitat in the channel and sidecast placement areas may decline due repeated maintenance, but this would be very localized. Therefore, this alternative would result in minor impacts to fisheries and fish habitat (like those above) and would not result in any significant impacts.

6.07 Terrestrial Resources.

The alternatives considered involved dredging in a frequently navigated area located in open water; therefore, dredging would not impact terrestrial resources. Similarly, placement of the material from sidecast operations would not impact terrestrial resources.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in status quo. The periodic dredging of the historic route would not impact terrestrial resources since all work will be in the water.

Alternative 2 - Continued dredging of the north route, dredging of the southwest route and the new 300-foot connecting channel are not expected to impact any terrestrial vegetation or wildlife.

Alternative 3 - Dredging and placement activities any time of year would have the same effects to terrestrial resources as alternative 2. Therefore, this alternative is not expected to impact any terrestrial vegetation or wildlife.

6.08 Wetlands and Floodplains.

Coastal wetlands in the project vicinity include tidal salt marshes that occur along the shorelines and the island fringes in the area. These marshes are comprised mainly of smooth cordgrass (*Spartina alterniflora*) and are generally more extensive where they are more protected from wind and wave action. Intertidal wetlands of the area are very important ecologically due to their high primary productivity, their role as nursery areas for larvae and juveniles of many marine species, and their refuge/forage value to wildlife. In addition, they provide esthetically valuable natural areas.

Executive Order 11988 (Floodplain Management) states that federal agencies shall avoid, to the extent possible, the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative, federal agencies shall take action to reduce the risk of flood loss, and minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains.

Under Executive Order 11990 (Protection of Wetlands), Federal policy recognizes that wetlands have unique and significant public values and calls for the protections of

wetlands. Policy directives set forth in Executive Order 11990 are (a) avoid long and short-term adverse impacts associated with the destruction or modification of wetlands; (b) avoid direct or indirect support of new construction in wetlands; (c) minimize the destruction, loss, or degradation of wetlands; (d) preserve and enhance the natural and beneficial values served by wetlands; and (e) involve the public throughout the wetlands protection decision-making process.

Wetlands and floodplains are not found within the proposed areas to be dredged. Placement areas where wetlands may be present in the vicinity would be coordinated with resource agencies appropriately prior to dredged material placement. There may be fringing wetlands within the pipeline alignment from the dredge to the placement area, and any wetlands would be identified and avoided to the maximum extent practicable. Placement of beach quality sand within these areas would reduce risks to shorelines from erosion and sea level rise. Uplands created by sand placement would not be subject to development.

Due to the lack of wetlands or floodplains in the proposed dredging and placement areas, no alternatives considered would adversely affect wetlands or floodplains or alter their function; and work would be in full compliance with Executive Orders 11990 and 11988 following completion of the NEPA process. Likewise, no alternatives considered would result in placement of fill in wetlands or result in hydrologic or salinity changes affecting wetlands.

6.09 Endangered and Threatened Species.

The Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531–1543), provides a program for the conservation of threatened and endangered (T&E) plants and animals and the habitats in which they are found. In accordance with section 7 (a)(2) of the ESA, the USACE has been in consultation with the USFWS and NMFS to ensure that effects of the proposed project would not jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat of such species.

Federally listed endangered and threatened species (aquatic and terrestrial) with the potential to occur in the USCG Station Emerald Isle vicinity are listed in Table 3. This list includes endangered and threatened species that could be present in the area based upon their historical occurrence or potential geographic range. However, the actual occurrence of a species in the area depends upon the availability of suitable habitat, the season of the year relative to a species' temperature tolerance, migratory habits, and other factors. The likelihood of occurrence and potential project impacts regarding endangered and threatened species are summarized below.

Table 3. Federally listed Threatened & Endangered species (aquatic and terrestrial)

Species	**Status (T/E)**	**USFWS/NMFS**	**Present?**
American alligator (*Alligator mississippiensis*)	SAT	USFWS	Rare
Green sea turtle (*Chelonia mydas*)	T	Both	Yes
Loggerhead sea turtle (*Caretta caretta*)	T	Both	Yes
Leatherback sea turtle (*Dermochelys coriacea*)	E	Both	Rare
Hawksbill sea turtle (*Eretmochelys imbricate*)	E	NMFS	Rare
Kemp's ridley sea turtle (*Lepidochelys kempii*)	E	Both	Yes
Red knot (*Calidris canutus rufa*)	T	USFWS	Yes
Piping plover (*Charadrius melodus*)	T	USFWS	Yes
Roseate tern (*Sterna dougallii dougallii*)	E	USFWS	Rare
Eastern black rail (*Laterallus jamaicensis*)	T	USFWS	Rare
Red-cockaded woodpecker (*Picoides borealis*)	E	USFWS	No
West Indian manatee (*Trichechus manatus*)	E	USFWS	Rare
Northern long-eared bat (*Myotis septentrionalis*)	E	USFWS	No
Cooley's meadowrue (*Thalictrum cooleyi*)	E	USFWS	No
Pondberry (*Lindera melissifolia*)	E	USFWS	Rare
Rough-leaved loosestrife (*Lysimachia asperulaefolia*)	E	USFWS	No
Seabeach amaranth (*Amaranthus pumilus*)	T	USFWS	Yes
Sperm whale (*Physeter macrocephalus*)	E	NMFS	No
Sei whale (*Balaenoptera borealis*)	E	NMFS	No
Blue whale (*Balaenoptera musculus*)	E	NMFS	No
Fin whale (*Balaenoptera physalus*)	E	NMFS	No
North Atlantic right whale (*Eubalaena glacialis*)	E	NMFS	Rare
Shortnose sturgeon (*Acipenser brevirostrum*)	E	NMFS	Rare
Atlantic sturgeon (*Acipenser oxyrinchus*)	E	NMFS	Yes
Giant manta ray (*Manta birostris*)	T	NMFS	Yes

Critical Habitat

Loggerhead sea turtle

Piping Plover

Species under the purview of USFWS.

An updated list of T&E species for the project area within Carteret County, North Carolina was obtained from the USFWS Information, Planning and Conservation System (IPAC) website (http://ecos.fws.gov/ipac/) (Attachment B). The list of species is shown in Table 3, which includes T&E species that could be present in the area based on their historical occurrence or potential geographic range. The list also includes the bald eagle (*Haliaeetus leucocephalus*) which is protected under the Federal Bald and Gold Eagle Protection Act. Moreover, the actual occurrence of a species in the project area depends upon the availability of suitable habitat, the season of the year relative to a species' temperature tolerance, migratory habits, and other factors.

The species and critical habitats under the purview of the USFWS are:

American alligator (*Alligator mississippiensis*); sea turtles (green [*Chelonia mydas*], loggerhead [*Caretta caretta*], leatherback [*Dermochelys coriacea*], and Kemp's ridley [*Lepidochelys kempii*]); red knot (*Calidris canutus rufa*); piping plover (*Charadrius melodus*); roseate tern (*Sterna dougallii dougallii*); eastern black rail (*Laterallus jamaicensis*); red-cockaded woodpecker (*Picoides borealis*); northern long-eared bat (*Myotis septentrionalis*); West Indian manatee (*Trichechus manatus*); rough-leaved loosestrife(*Lysimachia asperulaefolia*); Cooley's meadowrue (*Thalictrum cooleyi*); pondberry (*Lindera melissifolia*); and seabeach amaranth (*Amaranthus pumilus*).

Designated critical habitat (CH) for wintering piping plover is present within the project area on both sides of Bogue Inlet. The NC-10 Bogue Inlet unit includes contiguous land south, west, and north of Bogue Court to MLLW line of Bogue Inlet on the western end of Bogue Banks. It includes the sandy shoals north and adjacent to Bogue Banks and the land on Atlantic Ocean side to MLLW.

Designated CH for the loggerhead sea turtle is present within the nearshore area off Emerald Island. The Recovery Unit LOGG-N-3 consists of nearshore area from Beaufort Inlet to Bear Inlet (crossing Bogue Inlet) from the MHW line seaward 1 mi (1.6 km).

Also, currently under USFWS consideration is the proposed CH for red knot, posted July 15, 2021. This includes Outer Banks Unit NC-14 and encompasses consists of approximately 2,030 ac of occupied habitat in Carteret County consisting of shoreline habitat that stretches about 23 mi (37 km) from the Beaufort Inlet channel and Fort Macon State Park west to the eastern side of the Bogue Inlet channel.

Sea turtle nesting may occur on the beachfront of Emerald Island where beach quality dredged material may be placed, however placement will occur during 16 November to 31 March to avoid nesting season. All conditions and conservation recommendations of the USFWS 2017 North Carolina Coastal Beach Sand Placement, Statewide Programmatic Biological Opinion will be met, therefore any potential adverse impacts to T&E species, including Seabeach Amaranth, will be minimized with implementation of the USFWS conservation measures. The American alligator, leatherback sea turtle,

roseate tern, eastern black rail, red cockaded woodpecker, northern long-eared bat, Cooley's meadowrue, pondberry, and rough-leaved loosestrife are not likely to occur within the project area. The West Indian manatee may be present, however, by adhering to the 2017 USFWS Guidelines for Avoiding Impacts to the West Indian Manatee, the three alternatives will avoid and minimize the potential for adverse impacts to the species.

Though the proposed dredging and placement activities may affect the above-listed species, the USCG will implement conservation measures in the USFWS 2017 North Carolina Coastal Beach Sand Placement to meet its responsibilities under Section 7(a)(2) of the ESA; therefore, formal consultation with USFWS for this project is not required.

Species under the purview of NMFS.
Regarding T&E species under the purview of NMFS, the proposed project activities are covered by the SARBO issued by the NMFS on March 27, 2020 and revised July 30, 2020 (NMFS 2020). The 2020 SARBO can be located at https://media.fisheries.noaa.gov/dam-migration/sarbo_acoustic_revision_6-2020-opinion_final.pdf.

The species and critical habitats under the purview of the NMFS are:

Sea turtles (green [*Chelonia mydas*], loggerhead [*Caretta caretta*], leatherback [*Dermochelys coriacea*], hawksbill [*Eretmochelys imbricate*], and Kemp's ridley [*Lepidochelys kempii*]); blue whale (*Balaenoptera musculus*); Sei whale (*Balaenoptera borealis*); sperm whale (*Physeter macrocephalus*); fin whale (*Balaenoptera physalus*); North Atlantic right whale (*Eubalaena glacialis*); shortnose sturgeon (*Acipenser brevirostrum*); Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*); and giant manta ray (*Manta birostris*).

The project will comply with all relevant SARBO project design criteria (PDC) requirements. PDC requirements include training and education of on-site personnel (vessel captain, crew, etc.) of project requirements, and completing work in a manner that will minimize effects to species. All work, including equipment, staging areas, and placement of materials, will be done in a manner that does not block access of ESA listed species from moving around or past construction. Equipment will be staged, placed, and moved in areas and ways that minimize effects to species and resources in the area, to the maximum extent practicable. All work that may generate turbidity will be completed in a way that minimizes the risk of turbidity and sedimentation to the maximum extent practicable. Beach placement will be conducted in a manner that minimizes turbidity in nearshore waters by using methods that promote settlement before water returns to the water body (i.e., shore parallel dikes). Turbidity and marine sedimentation will be further controlled using land-based erosion and sediment control measures to the maximum extent practicable. Land-based erosion and sediment control measures will (1) be inspected regularly to remove excess material that could be an entanglement risk, (2) be removed promptly upon project completion, (3) and will not

block entry to or exit from designated critical habitat for ESA-listed species. Lighting associated with beach placement activities will be minimized through reduction, shielding, lowering, and/or use of turtle friendly lights, to the extent practicable without compromising safety, to reduce potential disorientation effects on female sea turtles approaching the nesting beaches and sea turtle hatchlings making their way seaward from their natal beaches. The conservation measures will be reevaluated annually and project changes, including time and/or equipment, may be altered, based on new information and experience.

The focus of this EA is the dredging of the identified southwest route and the new 300-foot connecting channel to include sidecasting and routes taken to transport dredged material (either by the moving dredge or pipeline route). The USCG acknowledges the presence of sea turtles within adjacent waters of the Atlantic Ocean year-round. Atlantic sturgeon may also be present throughout the year, feeding offshore along nearshore areas and migrating through Bogue Inlet during spawning migrations. Whale species are not expected to be within the project area, as water depths would be too shallow. However, crew of the special purpose hopper dredges will be required to watch for possible whale sightings during transit to the nearshore during migration months of November – March. Since the proposed project activities are covered by the 2020 SARBO, USCG does not anticipate the need for formal consultation with NMFS for this project.

With regard to T&E species under the purview of NMFS, for all three alternatives evaluated, the project activities are covered by the SARBO issued by the NMFS on March 20, 2020 (NMFS 2020). The SARBO covers dredging activities within navigation channels in the Southeastern United States from the North Carolina (NC)/Virginia (VA) border south to the Florida Keys and the islands of Puerto Rico and the US Virgin Islands.

Neither the proposed dredging nor the sidecasting of dredged material adjacent to the southwest channel and connecting channel are expected to result in adverse effects to any federally listed Threatened or Endangered species.

Since the proposed project activities are covered by the 2020 SARBO, USCG does not anticipate the need for formal consultation with NMFS for this project.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in status quo. Although risk of entrainment with the pipeline, special purpose and sidecast dredges are very low, constant noise and turbidity over long periods of time may disturb foraging, mating, migrating and other behaviors. However, these species are expected to avoid disturbances without harm.

All dredging and placement activities for the No Action alternative would be conducted in accordance with the PDCs of the 2020 SARBO and the terms and conditions of the

USFWS Statewide Programmatic BO, thereby meeting USACE responsibilities under Section 7(a)(2) of the ESA. Adherence to those conditions will minimize impacts, but still may affect American alligators, sea turtles, red knots, piping plovers, roseate terns, eastern black rails, West Indian manatees, pondberry, seabeach amaranth, north Atlantic right whales, sturgeon, and giant manta rays.

Alternative 2 - The proposed action will result in additional dredging and placement activities in the area of new dredging and the additional maintenance dredging of the southwest route. Dredging is not expected to impact any terrestrial vegetation or wildlife.

Impacts relative to Alternative 2 would be the same as the No Action Alternative except this action will result in additional dredging and sidecasting of material in a new location. Regardless of time of year or type of dredge plant used, activities will adhere to all the relevant PDCs of the 2020 SARBO for all dredging and placement activities. Incidental takes are not anticipated, lethal or non-lethal, as risk of entrainment, ship strikes, etc. with pipeline and government plant dredges is very low. Dredging during winter months when the North Atlantic Right Whales (NARW) is migrating is not anticipated to negatively impact the NARW physically or behaviorally.

Consequently, the USCG is relying upon the findings of the 2020 SARBO and the terms and conditions of the USFWS Statewide Programmatic BO, to meet its responsibilities under Section 7(a)(2) of the ESA. Following with the PDCs of the 2020 SARBO and the terms and conditions of the USFWS Statewide Programmatic BO, Alternative 2 will minimize but still may affect American alligators, sea turtles, red knots, piping plovers, roseate terns, eastern black rails, West Indian manatees, pondberry, seabeach amaranth, north Atlantic right whales, sturgeon, and giant manta rays.

Alternative 3 - Dredging and placement would disturb the same areas as those disturbed by alternative 2; no additional dredging would occur. This alternative would allow dredging and placement to occur during any time of year. If placement on uplands is needed, PA 61 should be used first, then (if needed) the eastern end of PA 60 (to protect the quality of avian habitat to the greatest extent practicable).

Alternative 3 will minimize potential effects but still may affect American alligators, sea turtles, red knots, piping plovers, roseate terns, eastern black rails, West Indian manatees, pondberry, seabeach amaranth, north Atlantic right whales, sturgeon, and giant manta rays. This alternative will avoid and/or minimize the potential for any adverse impacts to federally listed Threatened or Endangered species through adherence to the PDCs and terms and conditions of the SARBO and Statewide Programmatic BO.

6.10 Cultural Resources.

When European settlers arrived in 1700, Coree and Waccamaw Indians inhabited the land where Carteret County presently exists. The County was formed in 1722 from a part of Craven County. Beaufort was the County’s first permanent settlement and is the third oldest town in North Carolina. The settlement of the mainland area inside Bogue

Inlet by English colonists began around 1730 at the mouth of White Oak River. Fishing and shipbuilding soon became important industries (USDA 1978).

During the Revolutionary War, a number of patriot privateers operated through the inlet. Following the war, Swansboro --on the mainland-- assumed such importance that in 1786 it was declared a separate customs district (City of Swansboro 2022).

The Civil War ended the relative prosperity enjoyed by the mainland communities behind Bogue Inlet. Later, with the decline in the trade of naval stores, the major industry became fishing.

Emerald Isle, which takes its name from the large maritime forests on the island, was mostly uninhabited until 15 families, mostly whalers, came here to settle in 1893 on the small section of the island that is now Emerald Isle. In the 1920's, a Philadelphian named Henry K. Fort bought the land that now makes up most of Emerald Isle with the idea of developing a large ocean resort. Mr. Fort eventually abandoned his ocean resort project and when he died, the land that became Emerald Isle became the property of his daughter, Anita Fort Maulick, until she sold it in the 1950's to a developer from Red Springs, North Carolina (Crystal Coast 2007).

The North Carolina State Historic Preservation Office's (SHPO) HPOWEB Map Service was queried to identify known cultural resources in and near the project area (North Carolina State Historic Preservation Office 2022). This service provides information for sites listed on the National Register of Historic Places, sites designated as Local Landmarks, and other data useful in considering potential impacts to cultural resources but typically does not include submerged resources. According to HPOWEB, the only extant terrestrial historic property in the project vicinity is the Bogue Inlet Coast Guard Station (Site ID CR1407), which is not listed or eligible for listing on the National Register of Historic Places. The original location of the Bogue Inlet Life Saving Station (Site ID CR0557) is also in the project area; however, the station is no longer standing.

Proposed dredging and associated dredged material placement should have no effect on historic properties (Attachments C and E). Due to past dredging and survey history in the project area it is unlikely, but possible, that during the course of the project sunken vessel remains or associated artifacts would be encountered. Therefore, plans and specifications associated with the project will state that in the event cultural resources including, but not limited to, sunken vessel remains or associated artifacts are discovered during dredging activities, the USACE shall be immediately notified and the resource(s) in question shall be protected from further disturbance until instructed otherwise. Should cultural resources be discovered, the USACE would consult with the North Carolina Office of State Archaeology and the North Carolina State Historic Preservation Office to determine appropriate action. Dredging work in the project area would only continue following consultation pursuant to the National Historic Preservation Act.

Executive Order 11593 states that the Federal Government shall provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the Nation. Federal agencies shall administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations, initiate measures necessary to direct their policies, plans and programs in such a way that federally owned sites, structures, and objects of historical, architectural or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the people, and, in consultation with the Advisory Council on Historic Preservation (16 U.S.C. 470i), institute procedures to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures and objects of historical, architectural or archaeological significance.

No alternatives considered would adversely affect cultural resources. All alternatives will be in full compliance with Executive Order 11593 following completion of the NEPA process.

6.11 Aesthetic and Recreational Resources.

A scenic setting is provided by the ocean and sound, coastal beaches, and the numerous vessels common to waters in the project vicinity, including commercial and recreational boats. The marine environment provides opportunities for boating and fishing, as well as an escape from the faster pace of land-based activities.

The proposed dredging and placement areas are located adjacent to areas frequented by boat traffic, fishermen, and beach goers. In most instances, dredging of the proposed project would be conducted as part of a large-scale maintenance dredging project. Aesthetics and public use of the areas would be disrupted only while actual dredging is occurring. Based on past experience with similar projects, such impacts are minimal and do not create hardships for the public. Following completion of the dredging, aesthetics and recreational opportunities would be unchanged from conditions existing prior to undertaking the project.

Environmental Impacts.

Alternative 1 - No Action: The no action plan will result in status quo. The periodic dredging and placement activities required to maintain the historic route would have minor impacts on recreation or the local view shed since the channel will continue to be maintained as currently authorized.

Alternative 2 - The proposed action will result in additional dredging and placement activities in the area of new dredging and the additional maintenance dredging of the southwest route. This would have short-term, temporary effects on the local view shed during the time the dredge plant would be present in the channel during the maintenance dredging operations. There would be no long-term significant adverse effects to recreation or aesthetics within the project area.

Alternative 3 - Dredging and placement activities any time of year would have similar effects from dredging as alternative 2. This alternative would allow beach placement to occur during the summer months, increasing the possibility of recreation, aesthetic, and fishing impacts due to work occurring during periods of time when more people may be present. Overall, short-term minor adverse and long-term beneficial effects would be expected on recreation, aesthetic, and fishing resources.

6.12 Socio-Economic Resources.

The Bogue Sound area in the vicinity of Station Emerald Isle provides important economic benefits to the Nation as a much-navigated thoroughfare for commerce. The AIWW is a major transportation corridor. The recreational activities on the waters of the area also provide significant socio-economic benefits. These socio-economic resources are expected to increase in the future.

Maintenance dredging in the project area would provide few if any types of employment but would not adversely affect area employment. Waterfront property values in the vicinity of the project are high with regard to waterfront property, but these properties and their values would not be impacted as a result of dredging other than benefits associated with improved and maintained safe navigability. The proposed dredging would not affect employment, taxes, or property values.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires the federal government to achieve environmental justice by identifying and addressing high, adverse, and disproportionate effects of its activities on minority and low-income populations.

Any impacts of the action would not be disproportionate towards any minority or low-income population. The activity does not (a) exclude persons from participation in, (b) deny persons the benefits of, or (c) subject persons to discrimination because of their race, color, or national origin. The activity would not impact "subsistence consumption of fish and wildlife." It requires the analysis of information such as the race, national origin, and income level for areas expected to be impacted by environmental actions. It also requires federal agencies to identify the need to ensure the protection of populations relying on subsistence consumption of fish and wildlife, through analysis of information on such consumption patterns, and the communication of associated risks to the public.

In 2021, Carteret County was racially composed of 90.1% White, 5.6% Black, 4.4% Hispanic, 0.6% American Indian, 1.3% Asian, and 0.2% Native Hawaiian or Pacific Islander, and about 2.1% of the population identify with two or more races (U.S. Census Quickfacts 2022).

According to the latest available U.S. Census data for Carteret County, the median household income in 2021 was $57,194 with an estimated 9.3% of the population living in poverty.

No alternatives considered would adversely affect minority populations or low-income populations. All alternatives will be in full compliance with Executive Order 12898 following completion of the NEPA process.

6.13 Hazardous, Toxic, and Radioactive Wastes (HTRW).

The United States Environmental Protection Agency's (EPA) Envirofacts website was queried to identify the presence of EPA -regulated facilities in the vicinity of project area (USEPA 2023). The Envirofacts website contains information collected from regulatory programs and other data relating to environmental activities with the potential to affect air, water, and land resources in surrounding areas. The only site that exists in the project area vicinity is the USCG station, which will affect or be affected by the proposed action or alternative 3.

Additionally, the United States Coast Guard's (USCG) National Response Center was queried to identify any spills of hazardous substances in the project area (USCG 2023). In 2023 to date, three incidents were reported in the Bogue Inlet area, of which none were in the immediate project area. In 2022, three incidents were reported. In 2021, three incidents were reported. In 2020, five incidents were reported. All reported incidents can be considered minor and did not contribute to sediment contamination in the proposed project area.

Based on an investigation of historic aerial photographs and current imagery, no evidence of improperly managed hazardous and/or toxic materials, or indicators of those materials were present in the proposed project area; therefore, neither the proposed action nor alternative 3 would affect HTRW since there are none present in the proposed project area, nor would either of these alternatives result in the production or creation of HTRW.

Likewise, based on an investigation of historic aerial photographs and current imagery, no evidence of improperly managed hazardous and/or toxic materials, or indicators of those materials were present in the proposed project area; therefore, the no action alternative would have no effect on HTRW since there are none present in the proposed project area, nor would the no action alternative result in the production or creation of HTRW.

6.14 Unavoidable Adverse Impacts of The Proposed Action.

The construction of the proposed access channel would disturb portions of an approximately 15-acre area of estuarine bottom habitat. The estuarine benthic communities associated with those habitats would be temporarily lost but would be re-colonized between maintenance dredging events. Impacts to this habitat during any specific event would be minimal and short-lived.

Minor short-term impacts to water quality as a result of the dredging and sidecasting would occur, but all work would comply with North Carolina Division of Water Resources requirements.

6.15 Irreversible and Irretrievable Commitment of Resources.

Dredging and dredged material placement would expend fuel, materials, and labor. The use of a confined upland facility would be a commitment of dredged material placement capacity. These commitments would be acceptable to affected parties and would be offset by enhanced ability of the USCG to execute their mission.

6.16 Environmental Impact Comparison of Alternatives.

Table 4 below provides a summary and comparison of impacts to the physical and natural environment for the alternatives considered.

Table 4. Comparison of Environmental Impacts

Project Area Resource	**Alternative 1 No Action Maintain Historic Route**	**Alternative 2 (Proposed Action) Add New Route w/ Window**	**Alternative 3 Add New Route w/o Window**
Geology & Sediments	Minor effects due to periodic dredging.	Minor effects due to movement of material.	Minor effects due to movement of material (same as Alt 2).
Hydrology	Minor and localized effects via channel deepening.	Temporary and minor effects via channel deepening.	Temporary and minor effects via channel deepening (same as Alt 2).
Water Quality	Minor effects via turbidity increases at dredging and placement locations.	Temporary and minor effects via turbidity increases at dredging and placement locations.	Minor and temporary increase in turbidity during times of high biological activity (April – July). No significant long-term negative effect.
Groundwater	No effects to groundwater.	No effects to groundwater.	No effects to groundwater (same as Alt 2).
Wetlands & Floodplains	No effects within the historic route.	No effects within the proposed corridor.	No effects within the proposed corridor.
Air Quality	Minor effects due to dredging.	Minor effects due to dredging.	Minor effects due to dredging (same as Alt 2).
Noise	Minor and localized effects due to dredging.	Minor and localized effects due to dredging.	Potential behavioral effects on species present during April – November expected to be minor and short-term.
Nekton	Minor and localized effects due to dredging.	Temporary and minor effects within the proposed corridor.	Minor and temporary increase in impacts when sensitive life stages of fisheries are abundant (April – July). No significant long-term negative effect.
Benthos	Minor and localized effects due to dredging.	Temporary and minor effects at dredging and placement locations.	Increased impacts to benthics between April – July. No significant long-term negative effects (same as Alt 2).

Project Area Resource	Alternative 1 No Action Maintain Historic Route	Alternative 2 (Proposed Action) Add New Route w/ Window	Alternative 3 Add New Route w/o Window
T&E Species	May affect species within the historic route.	May affect species via increase in turbidity and noise, removal of bottom habitat / benthos.	May affect determination for all species potentially impacted by expanded windows; no effect to Loggerhead or Piping Plover CH;
Cultural Resources	No effects within the historic route.	No effects within the proposed corridor.	No effects within the proposed corridor (same as Alt 2).
Socioeconomics	No adverse effect to minority or low-income populations.	No adverse effect to minority or low-income populations.	No adverse effect to minority or low-income populations (same as Alt 2).
Hazardous, Toxic, and Radioactive Wastes	No effect; not present	No effect; not present	No effect; not present
Fisheries & Fish Habitat	Minor effects due to dredging within the historic route.	Temporary and minor effects at dredging and placement locations in terms of turbidity increases and egg / larval entrainment/burial.	Minor effects from turbidity and entrainment during high biological activity (April – July). No significant long-term negative effects.

7.00 POINT OF CONTACT.

All comments or questions regarding this EA should be provided to:

Gregory O. Carpenter, Chief, Environmental Compliance, United States Coast Guard, via email: Gregory.O.Carpenter@uscg.mil

and

Ms. Jenny Owens, CESAW-ECP-PE, U.S. Army Engineer District, Wilmington, via email: Jennifer.L.Owens@usace.army.mil.

8.00 STATUS OF ENVIRONMENTAL COMPLIANCE.

8.01 National Environmental Policy Act.

This EA has been prepared in accordance with the NEPA, the Council on Environmental Quality regulations (40 Code of Federal Regulations (CFR) parts 1500-1508,1515-1518) recently updated in 2020, and Engineering Regulation (ER) 200-2-2. To ensure the EA included an assessment of impacts on all significant resources in the project area, the Wilmington District circulated a scoping letter by email dated December 2, 2021, to state and federal resource agencies and members of the public for a 30-day comment period. Concerns expressed by the resource agencies included increased dredging effects in the spring and summer months; disruption to migratory species; turbidity and entrainment effects on critical life stages of important fisheries; and the need for a thorough alternatives analysis of environmental impacts.

The Draft EA will be released for 30-day public review and comment. All comments received will be considered and addressed during the development of the Final EA.

Pursuant to NEPA, a new EA will be prepared if there are significant changes proposed to the project in the future or if new circumstances or information relevant to the environmental impacts of the proposed action are identified.

8.02 North Carolina Coastal Zone Management Act.

Pursuant to Section 307(c)(1) of the Federal Coastal Zone Management Act (CZMA) of 1972, as amended (P.L. 92-583), federal activities are required to be consistent to the maximum extent practicable with the federally approved coastal management program of the state.

The proposed action would take place in areas designated as areas of environmental concern (AECs) under the North Carolina Coastal Management Program. Activities would occur in Estuarine Shorelines, Estuarine Waters, and Public Trust Areas. The following determinations have been made regarding the consistency of the proposed action with the state's management objective for each of the areas affected:

- Coastal Wetlands – The proposed action is consistent with the highest priority use of coastal wetlands, preservation. The proposed dredged material disposal areas avoid wetlands. Return water pipelines from upland diked disposal areas would not impact wetlands. Pipelines from a hydraulic dredge to the existing beach disposal area on Emerald Isle would cross short portions of coastal wetlands. Impacts would be confined to the alignment and would be minimal and short-lived.

- Estuarine Waters – The waters of Bogue Sound are estuarine waters. Return water from upland diked disposal areas would be released to the waters of the AIWW. The function of the disposal area is to retain solids and release clarified water meeting State water quality standards. Use of a government-owned sidecast dredge would entail discharge of sandy dredged material into adjacent estuarine waters. The nature of the dredged material would result in minimal and short-lived impacts to these waters.

- Estuarine Shorelines – The proposed action may unavoidably involve movement of pipelines and equipment across estuarine shorelines, no adverse impacts are expected. The proposed action would not have adverse impacts to estuarine resources.

- Public Trust Areas - The proposed action would involve actions needed to deposit dredged materials in the existing beach disposal area on Emerald Isle, in a diked disposal facility, in adjacent waters as a result of a government-owned sidecast dredge operation, or in the established nearshore disposal area as a result of a government-owned special purpose dredge. Wetlands would not be affected. The action would not be detrimental to the physical and biological functions of the estuary and public trust areas. The proposed action would not violate state water quality standards.

The local land use plan is the 1996 Carteret County Plan (Carteret, 1996). The proposed project is consistent with this plan.

The USCG has determined that the dredging of the Emerald Isle USCG basin, with disposal in the existing beach placement area on Emerald Isle, in a diked placement facility, in adjacent waters as a result of a government-owned sidecast dredge operation, or in the nearshore placement area as a result of a government-owned special purpose dredge on an as-needed basis is consistent with the North Carolina Coastal Area Management Act. On July 26, 2023, NCDCM issued a Federal consistency concurrence for the project US Coast Guard Maintenance Dredging and Additional Navigation Route, Bogue Inlet (Attachment D).

The proposed action would not adversely impact estuarine waters, since dredging and placement will be temporary, and effects will be minor.

Ocean Hazard: The Ocean Hazard System is made up of oceanfront lands and the inlets that connect the ocean to the sounds. Bogue Inlet is within the designated Ocean Hazard System. The proposed action would not adversely affect oceanfront lands or inlets since the project will not negatively impact long-term erosion or encourage encroachment of permanent structures on public beach areas.

Public Trust Areas: These areas include waters of the Atlantic Ocean and the lands there under from the mean high-water mark to the 3-mile limit of state jurisdiction. The nearshore placement area located off Emerald Isle is within these Public Trust Areas. Acceptable uses include those that are consistent with protection of the public rights for navigation and recreation, as well as conservation and management to safeguard and perpetuate the biological, economic, and aesthetic value of these areas. The activities that comprise the proposed action are not intended to adversely impact public rights for navigation and recreation and are consistent with conservation of the biological, physical, and aesthetic values of public trust areas.

8.02.01 Other State Policies.
The following state policies found in the NC Coastal Management Program document are also applicable to the proposed action in terms of nearshore placement of sand.

Shoreline Erosion Response Policies: NC Administrative Code 7M - Section .0200 addresses beneficial use of dredged material as feasible alternatives to the loss or massive relocation of oceanfront development when public beaches and public or private properties are threatened by erosion; when beneficial use is determined to be socially and economically feasible and causes no significant adverse environmental impacts; and the project is consistent with state policies for shoreline erosion response and state use standards for Ocean Hazard and Public Trust Areas AECs.

Policies on Beneficial Use of Materials from the Excavation or Maintenance of Navigation Channels: NC Administrative Code 7M - Section .1101 states that it is the policy of the state that material resulting from the excavation or maintenance of navigation channels be used in a beneficial way wherever practicable. Policy statement .1102 (a) indicates that "clean, beach quality material dredged from navigation channels within the active nearshore, beach, or inlet shoal systems must not be removed

permanently from the active nearshore, beach, or inlet shoal system unless no practicable alternative exists. Preferably, this dredged material will be placed on the ocean beach or shallow active nearshore area where environmentally acceptable and compatible with other uses of the beach."

8.03 Clean Water Act.

The preferred action will be evaluated under the Section 404(b)(1) Guidelines (P.L. 95-217). Pursuant to Section 404 of the Clean Water Act (33 C.F.R. § 335.7), the impacts associated with the discharge of dredged or fill material into waters of the United States are discussed in the Section 404(b)(1) (P.L. 95-217) Final Guidelines Analysis. Discharges associated with dredging are considered incidental fallback and therefore, are not considered as a discharge addressed under the *Section 404(b)(1) Guidelines Analysis*. There are no practicable alternatives that would have a less adverse effect on the aquatic environment, therefore, the proposed action is the least environmentally damaging practicable alternative (LEDPA). Pursuant to Section 401 of the Clean Water Act of 1977 (P.L. 95- 217), as amended, a Water Quality Certification (WQC) is required for the preferred alternative for all dredged material placement activities associated with this project. A Department of the Army permit application was submitted to the USACE Regulatory Division, on behalf of USCG, for maintenance dredging of and material placement from existing channels and dredging of new channel portion. To date, this permit has not been issued; however, once issued, all conditions of the permit will be met.

The preferred alternative will comply with Sections 404 and 401 of the Clean Water Act prior to implementation of the proposed plan.

8.04 Endangered Species Act.

The Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531–1543), provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. In accordance with section 7 (a)(2) of the ESA, and under the purview of the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), USCG will ensure that effects of the proposed project would not jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat of such species. USACE dredging and placement will operate under the 2017 USFWS NC Statewide Programmatic Biological Opinion which lays out the terms and conditions and conservation recommendations for beach placement activities for the protection of sea turtles, manatee, piping plover, red knot and seabeach amaranth. This BO is expected to be updated to include red knot Critical Habitat in the near future.

The 2020 SARBO includes requirements for yearly reporting to NMFS for agency review and evaluation of all projects to make sure no threatened and endangered species are being negatively impacted. Also, monthly calls between agencies (USACE SAD/ BOEM/ NMFS) are ongoing to discuss the progress of existing projects, completed projects, new work, and risk to threatened and endangered species and the environment associated with all known dredging work covered by the 2020 SARBO.

The adaptable framework of the risk analysis includes regular coordination with various federal and state resource agencies and considers dredging risk to all species, including threatened and endangered. The risk analysis also allows for planning to consider threatened and endangered species that are considered critically endangered and how to avoid any negative impacts to these species that could occur within the project area, such as the NARW.

All work done for the proposed project will comply with the 2020 SARBO https://media.fisheries.noaa.gov/dam-migration/sarbo_acoustic_revision_6-2020-opinion_final.pdf.

8.05 Magnuson-Stevens Fishery Conservation and Management Act.

The 1996 Congressional amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (PL 94-265) set forth requirements for NMFS, regional fishery management councils (FMC), and other federal agencies to identify and protect important marine and anadromous fish habitat. These amendments established procedures for the identification of EFH and a requirement for interagency coordination to further the conservation of Federally managed fisheries.

USACE EFH consultation with NMFS HCD will be completed prior to finalization of the EA.

8.06 Public Laws and Executive Orders.

Table 5 lists the compliance status of all executive orders considered for the proposed Emerald Island channel addition. Further descriptions of proposed project compliance with executive orders are below.

Table 5. The Relationship of the Proposed Action to Federal Laws and Policies

Title of Public Law / Executive Orders	**US CODE**	***Compliance Status**
Abandoned Shipwreck Act of 1987	43 USC 2101	Full Compliance
Anadromous Fish Conservation Act of 1965, As Amended	16 USC 757 et seq.	Full Compliance
Antiquities Act of 1906, As Amended	16 USC 431	Full Compliance
Archeological and Historic Preservation Act of 1974, As Amended	16 USC 469	Full Compliance
Archeological Resources Protection Act of 1979, As Amended	16 USC 470	Full Compliance
Clean Air Act of 1972, As Amended	42 USC 7401 et seq.	Full Compliance
Clean Water Act of 1972, As Amended	33 USC 1251 et seq.	Full Compliance
Coastal Zone Management Act of 1972, As Amended	16 USC 1451 et seq.	Full Compliance
Endangered Species Act of 1973	16 USC 1531	Full Compliance
Estuary Program Act of 1968	16 USC 1221 et seq.	Full Compliance
Equal Opportunity	42 USC 2000d	Full Compliance
Farmland Protection Policy Act	7 USC 4201 et seq.	Full Compliance

Title of Public Law / Executive Orders	US CODE	*Compliance Status
Fish and Wildlife Coordination Act of 1958, As Amended	16 USC 661	Full Compliance
Historic and Archeological Data Preservation	16 USC 469	Full Compliance
Historic Sites Act of 1935	16 USC 461	Full Compliance
Magnuson Fishery Conservation and Management Act – Essential Fish Habitat	16 USC 1801	Full Compliance
National Environmental Policy Act of 1969, As Amended	42 USC 4321 et seq.	Full Compliance
National Historic Preservation Act of 1966, As Amended	16 USC 470	Full Compliance
National Historic Preservation Act Amendments of 1980	16 USC 469a	Full Compliance
Protection and Enhancement of Environmental Quality	11514/11991	Full Compliance
Protection and Enhancement of the Cultural Environment	11593	Full Compliance
Floodplain Management	11988	Full Compliance
Protection of Wetlands	11990	Full Compliance
Federal Actions to Address Environmental Justice and Minority and Low-Income Populations	12898	Full Compliance
Implementation of the North American Free Trade Agreement	12889	Full Compliance
Invasive Species	13112	Full Compliance
Native American Religious Freedom Act of 1978	42 USC 1996	Full Compliance

*Full compliance once the NEPA process is complete.

The proposed action will not adversely affect natural and cultural resources and will be in full compliance with Executive Orders stated above following completion of the NEPA process.

9.00 CONCLUSION.

Based on findings described in this EA, it is in the federal interest to implement the proposed alternative of maintaining both the southwest USCG at the same time as the north route. This option would include dredging a new approximately 300 linear foot “shortcut” channel. Although the southwest route and new area of dredging are currently at project depth, if both routes require dredging the same year, this alternative could increase the dredging duration from 7-10 days per year to 10-18 days per year. This option would give the USCG two options to exit the Station, providing more flexibility in accessing the federal channel and would provide a more direct route to Bogue Inlet,

following natural deep water. All dredging and placement work would be completed between November 16 and March 31.

Overall, the impacts associated with maintaining the USCG channels would be minor and volumes of material to be dredged would be limited to small areas of shoaling. Furthermore, dredged material is beach quality sand and falls out quickly, thus limiting turbidity within the water column. Dredging of the approximately 300 linear feet of new channel and maintenance dredging of the southwest route in addition to continued maintenance dredging of the north route may result in minor, short-term and localized impacts to water quality, noise, benthic organisms, important fisheries and protected marine species and critical habitat. Impacts to natural resources are expected to be minor and short-term.

The overall benefit of the proposed action is that it will allow the USCG two options to exit the Station, providing more flexibility in accessing the federal channel and would provide a more direct route to Bogue Inlet, following natural deep water. Dredging with government plant as needed will support the life-safety mission of the USCG.

10.00 REFERENCES.

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Attachment A

Location and Results of Borings

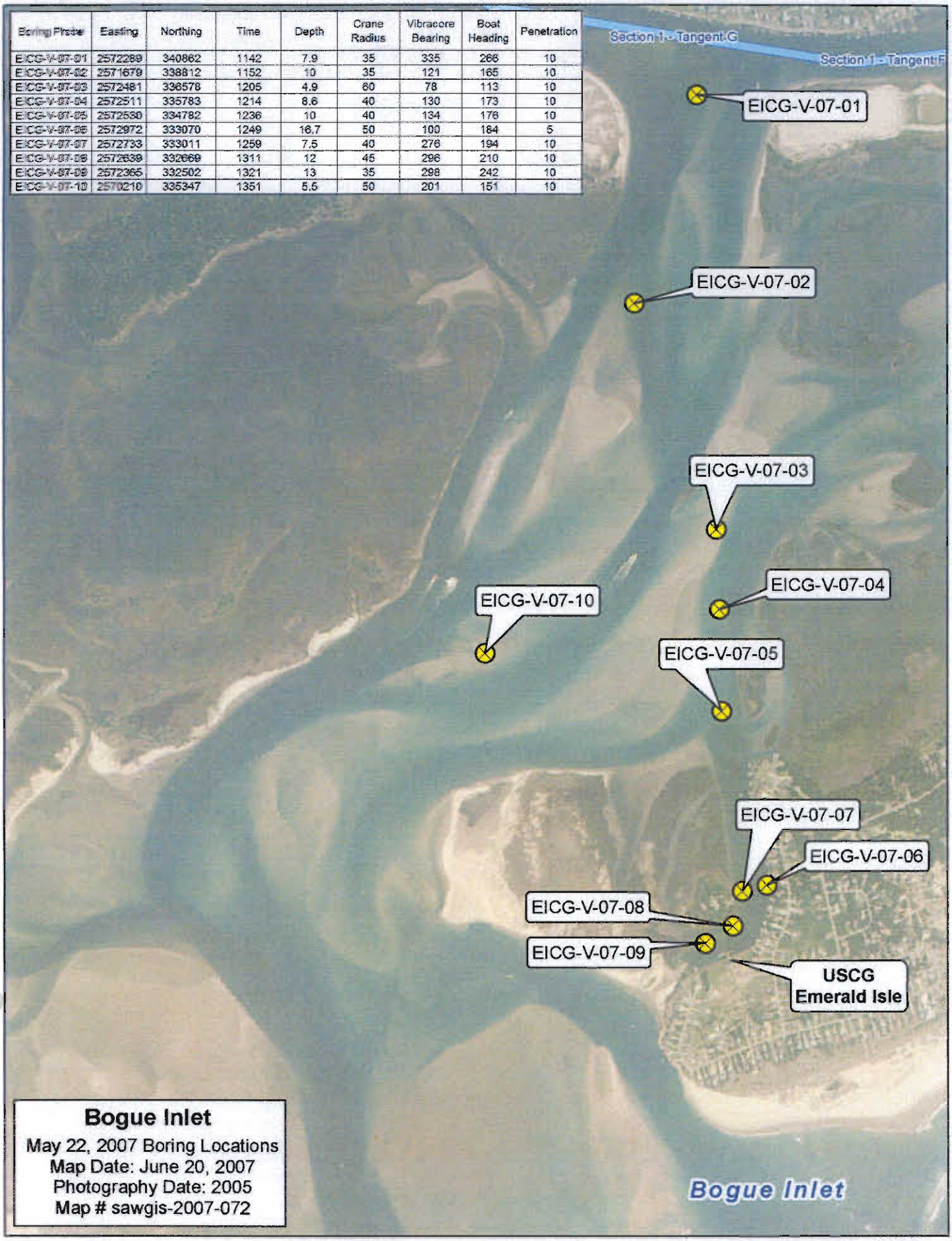
Environmental Assessment Maintenance Dredging
U.S. Coast Guard Station, Emerald Isle

Carteret County, North Carolina

October 2023

Prepared by:
Environmental Resources Section
U.S. Army Corps of Engineers, Wilmington District

Boring/ Probe	Easting	Northing	Time	Depth	Crane Radius	Vibracore Bearing	Boat Heading	Penetration
EICG-V-07-01	2572289	340862	1142	7.9	35	335	266	10
EICG-V-07-02	2571679	338812	1152	10	35	121	165	10
EICG-V-07-03	2572481	336578	1205	4.9	60	78	113	10
EICG-V-07-04	2572511	335783	1214	8.6	40	130	173	10
EICG-V-07-05	2572530	334782	1236	10	40	134	176	10
EICG-V-07-06	2572972	333070	1249	16.7	50	100	184	5
EICG-V-07-07	2572733	333011	1259	7.5	40	276	194	10
EICG-V-07-08	2572639	332669	1311	12	45	296	210	10
EICG-V-07-09	2572365	332502	1321	13	35	298	242	10
EICG-V-07-10	2570210	335347	1351	5.5	50	201	151	10



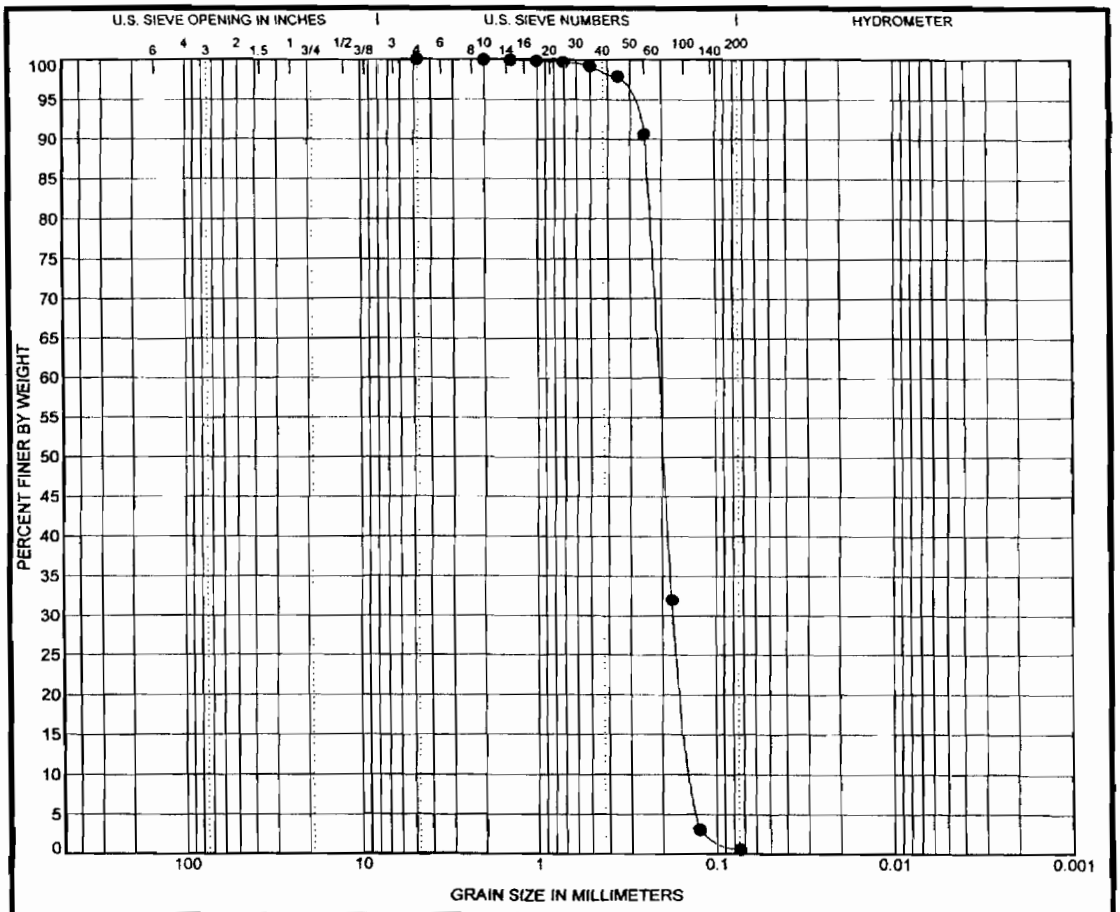
Bogue Inlet

May 22, 2007 Boring Locations
Map Date: June 20, 2007
Photography Date: 2005
Map # sawgis-2007-072

Hole No. EICG-07-V-1

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS
1. PROJECT EMERALD ISLE COAST GUARD STATION		10. SIZE AND TYPE OF BIT 4" Dia. Vibracore	
2. LOCATION (Coordinates or Station) N340862 E2572289 NCNAD 83		11. DATUM FOR ELEVATION SHOWN (BM or MSL) MLLW	
3. DRILLING AGENCY WILMINGTON DISTRICT		12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL	
4. HOLE NO (As shown on drawing title and file number)	EICG-07-V-1	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4	UNDISTURBED 0
5. NAME OF DRILLER LESTER GAUGHF (CRANE OPERATOR D/B SNELL)		14. TOTAL NUMBER CORE BOXES N/A	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN N/A (6.2' of Water)		16. DATE HOLE: STARTED 5/22/07	COMPLETED 5/22/07
8. DEPTH DRILLED INTO ROCK 0.0'		17. ELEVATION TOP OF HOLE 0.0' MLLW	
9. TOTAL DEPTH OF HOLE 16.2'		18. TOTAL CORE RECOVERY FOR BORING N/A %	
		19. SIGNATURE OF INSPECTOR LARRY BENJAMIN CIVIL ENGINEERING TECH.	

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc. If significant) (g)
0.0	0		0.0' TO 6.2' WATER			Time begin vibracoring: 1142 hrs Soils described by Larry Benjamin, Civ. Eng. Tech. NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
	6.0		CHANNEL BOTTOM @ 6.2'		6.2'	
-6.2	6.2		SP- Grayish Tan, coarse poorly graded sand		1 6.7'	
	8.0				8.0' 2 8.5'	VIBRACORE BORING From 0.0' to 10.0' Ran 10.0' Rec:7.0' Top of vibracore soil sample is logged as the ocean/channel bottom When the run is greater than the recovery, the difference is depicted Assumed Not Recovered
	10.0				10.0' 3 10.5'	
	12.0		12.2' Tan colored		12.0' 4 12.5'	NOTE: Commercial soils lab classified samples according to ASTM D2457
-13.2	13.2		13.2' ASSUMED NOT RECOVERED			LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SP 3 NOT TESTED 4 NOT TESTED
	14.0					
	16.0					
-16.2	16.2		BOTTOM OF HOLE AT 16.2' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			NOTE: HOLE TERMINATED AT PREDETERMINED DEPTH OF 10.0'



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-1-1	6.2	Olive gray poorly graded sand, SP				1.05	1.54
■		6.7	0.3% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-1-1	6.2	4.76	0.209	0.173	0.136	0.0	99.4	0.6	
■		6.7								
▲										
★										
⊙										

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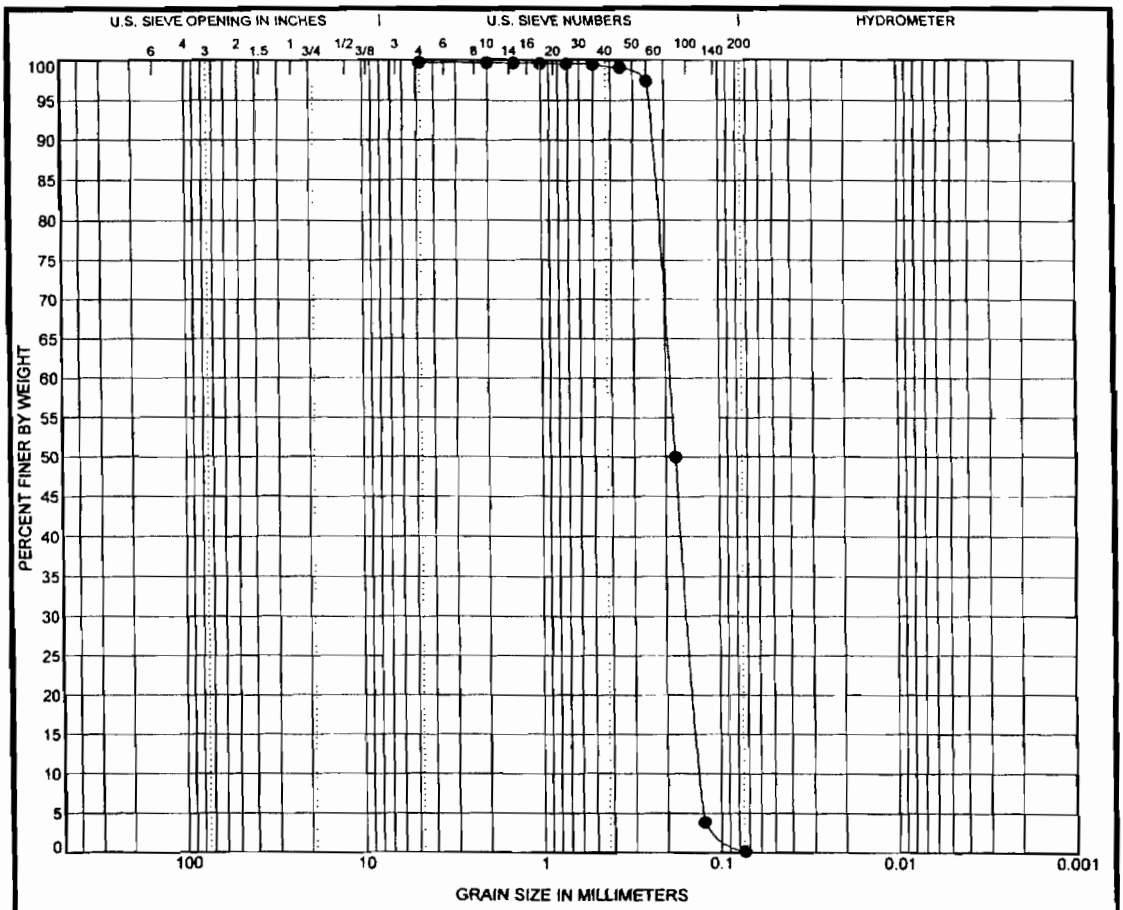
Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US_GRAIN_SIZE_SINGLE 202-062 EICG-GD-L CATLIN.GDT 7/13/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-1-2	8.0	Olive gray poorly graded sand, SP				0.93	1.45
■		8.5	0.4% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-1-2	8.0	4.76	0.19	0.152	0.131	0.0	99.4	0.3	
■		8.5								
▲										
★										
⊙										

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GEOTECHNICAL LABORATORIES
Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

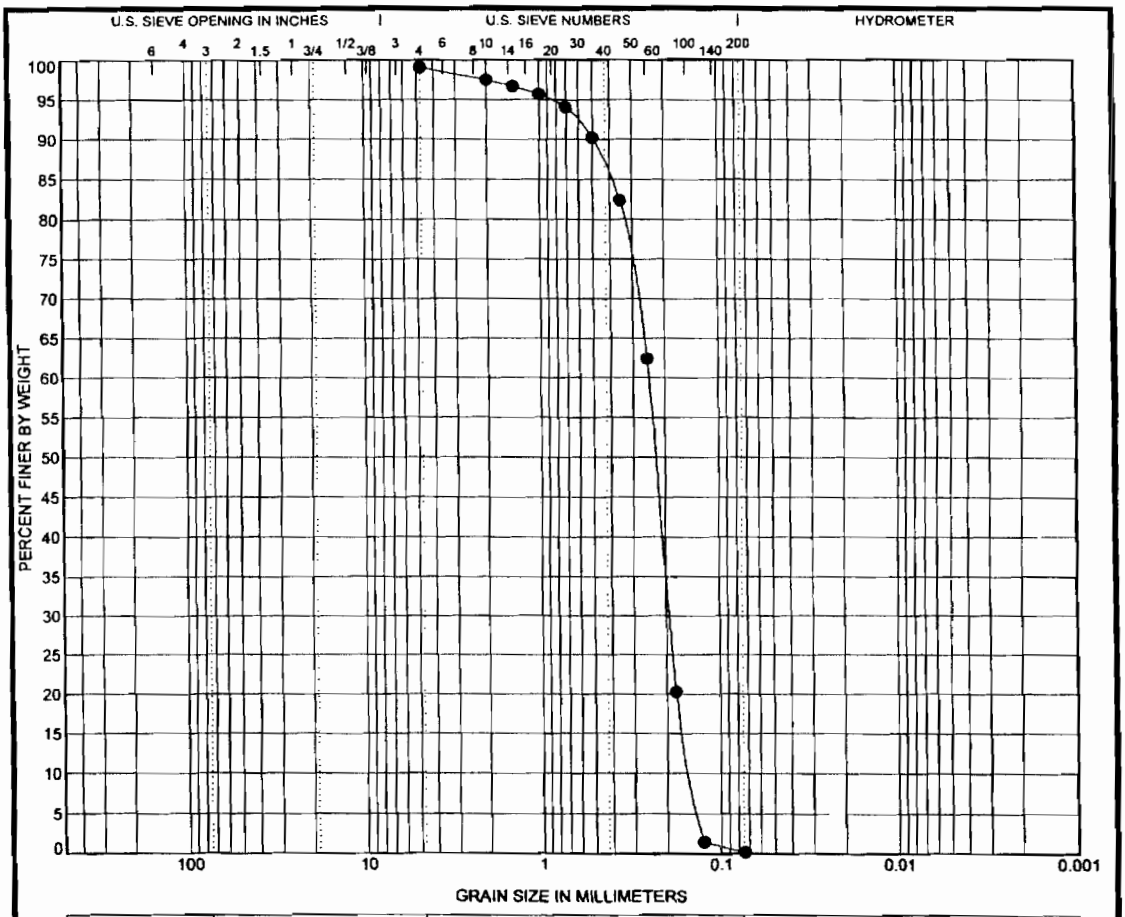
PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US GRAIN SIZE SINGLE 202-062 EICG GD-1 CATLIN.GDT 7/13/07

Hole No. EICG-07-V-2

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS
1. PROJECT EMERALD ISLE COAST GUARD STATION		10. SIZE AND TYPE OF BIT 4" Dia. Vibracore	
2. LOCATION (Coordinates or Station) N2571679 E338812 NCNAD83		11. DATUM FOR ELEVATION SHOWN (BM or MSL) MLLW	
3. DRILLING AGENCY WILMINGTON DISTRICT		12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL	
4. HOLE NO. (As shown on drawing title and file number) EICG-07 V-2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED: 4 UNDISTURBED: 0
5. NAME OF DRILLER LESTER GAUGHF (CRANE OPERATOR D/B SNELL)		14. TOTAL NUMBER CORE BOXES N/A	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN N/A (8.2' of Water)		16. DATE HOLE	STARTED: 5/22/07 COMPLETED: 5/22/07
8. DEPTH DRILLED INTO ROCK 0.0'		17. ELEVATION TOP OF HOLE 0.0' MLLW	
9. TOTAL DEPTH OF HOLE 18.2'		18. TOTAL CORE RECOVERY FOR BORING N/A %	
		19. SIGNATURE OF INSPECTOR LARRY BENJAMIN CIVIL ENGINEERING TECH.	

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
0.0	0		0.0' TO 8.2' WATER			Time begin vibracoring: 1152 hrs Soils described by Larry Benjamin, Civ. Eng. Tech. NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
	8.0		CHANNEL BOTTOM @ 8.2'		8.2'	
-8.2	8.2		SP- Tan, coarse, poorly-graded sand		1 8.7'	
	10.0				10.0' 2 10.5'	VIBRACORE BORING From 0.0' to 10.0' Ran 10.0' Rec:6.8' Top of vibracore soil sample is logged as the ocean/channel bottom When the run is greater than the recovery, the difference is depicted Assumed Not Recovered
	12.0				12.0' 3 12.5'	
	14.0				14.0' 4 14.5'	NOTE: Commercial soils lab classified samples according to ASTM D2487 LAB CLASSIFICATION Jar Number / Classification 1 SP 2 NOT TESTED 3 NOT TESTED 4 NOT TESTED
-15.0	15.0		15.0'			
	16.0		ASSUMED NOT RECOVERED			
-18.2	18.0 18.2		BOTTOM OF HOLE AT 18.2' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			NOTE: HOLE TERMINATED AT PREDETERMINED DEPTH OF 10.0'



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-2-1	8.2	Olive gray poorly graded sand, SP				1.02	1.68
⊠		8.7	5.9% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-2-1	8.2	4.76	0.245	0.192	0.146	0.0	98.8	0.2	
⊠		8.7								
▲										
★										
⊙										

CATLIN
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CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE

CITY: Emerald Isle Coast Guard

PREPARED FOR: USACOE

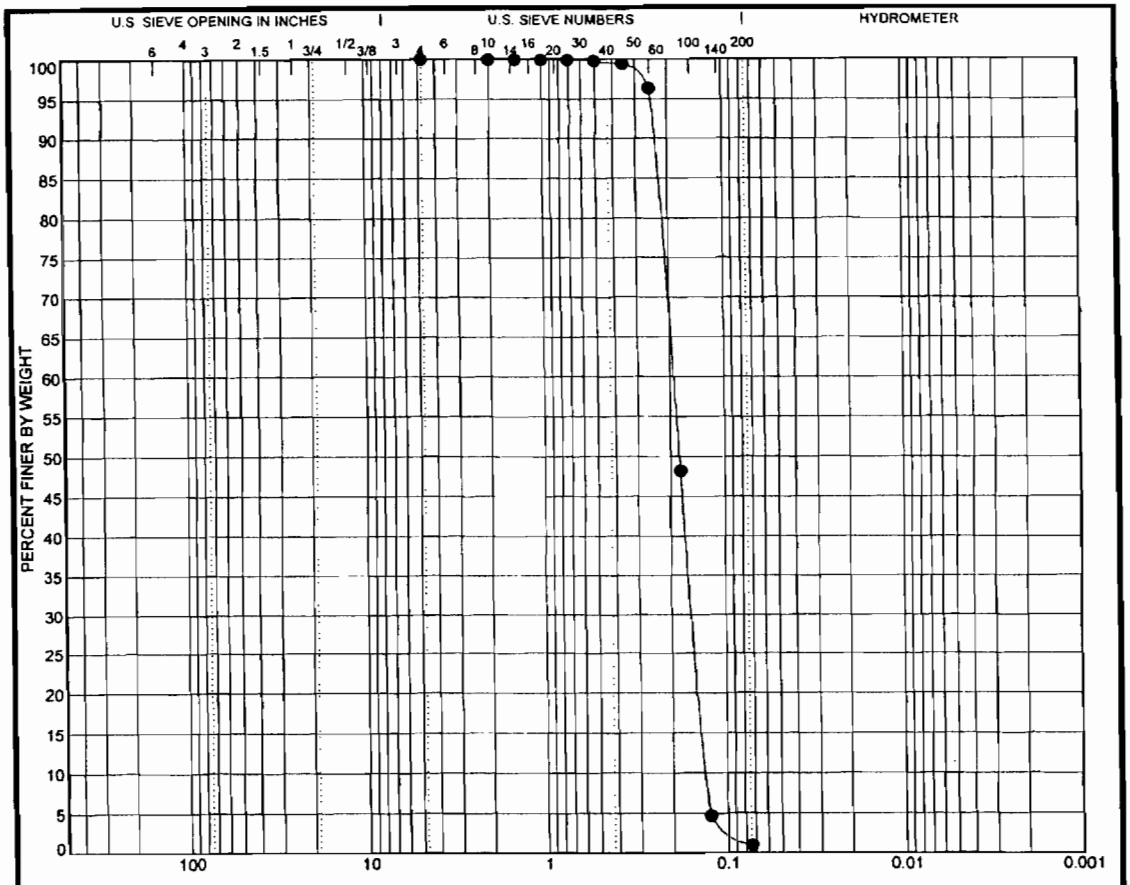
US GRAIN SIZE SINGLE 202-062.EICG.GPJ CATLIN.GDT 7/13/07

Hole No. EICG-07-V-3

DRILLING LOG	DIVISION: SOUTH ATLANTIC	INSTALLATION: WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS

1 PROJECT: EMERALD ISLE COAST GUARD STATION	10. SIZE AND TYPE OF BIT: 4" Dia. Vibracore
2 LOCATION (Coordinates or Station): E2572481 N226578 NCNAD83	11 DATUM FOR ELEVATION SHOWN (BM or MSL): MLLW
3. DRILLING AGENCY: WILMINGTON DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL: VIBRACORE D/B SNELL
4 HOLE NO. (As shown on drawing title and file number): EICG-07-V-3	13 TOTAL NO OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: 4 UNDISTURBED: 0
5. NAME OF DRILLER: LESTER GAUGHF (CRANE OPERATOR D/B SNELL)	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: N/A (3.0' of Water)	16. DATE HOLE: STARTED 5/22/07 COMPLETED 5/22/07
8. DEPTH DRILLED INTO ROCK: 0.0'	17 ELEVATION TOP OF HOLE: 0.0' MLLW
9. TOTAL DEPTH OF HOLE: 13.0'	18 TOTAL CORE RECOVERY FOR BORING: N/A %
	19 SIGNATURE OF INSPECTOR: LARRY BENJAMIN CIVIL ENGINEERING TECH.

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc. If significant) (g)
0.0	0		0.0' TO 3.0' WATER			Time begin vibracoring: 1205 hrs Soils described by Larry Benjamin, Civ. Eng. Tech.
			CHANNEL BOTTOM @ 3.0'		3.0'	
-3.0	3.0		SP--Tan, coarse, poorly-graded sand		1 3.5'	NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
	5.0				5.0' 2 5.5'	VIBRACORE BORING From 0.0' to 10.0' Ran 10.0' Rec: 7.8' Top of vibracore soil sample is logged as the ocean/channel bottom when the run is greater than the recovery, the difference is depicted Assumed Not Recovered
	7.0				7.0' 3 7.5'	
			8.4'		8.4'	
	9.0		SM- Dark gray, fine silty sand with shell fragments		4 8.9'	NOTE: Commercial soils lab classified samples according to ASTM D2457
			10.8'			LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SP 3 SP 4 NOT TESTED
-10.8	11.0		ASSUMED NOT RECOVERED			
-13.0	13.0		BOTTOM OF HOLE AT 13.0' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			NOTE: HOLE TERMINATED AT PREDETERMINED DEPTH OF 10.0'



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-3-1	3.0	Olive gray poorly graded sand, SP				0.93	1.48
⊠		3.5	0.1% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-3-1	3.0	4.76	0.193	0.153	0.13	0.0	98.9	1.1	
⊠		3.5								
▲										
★										
⊙										

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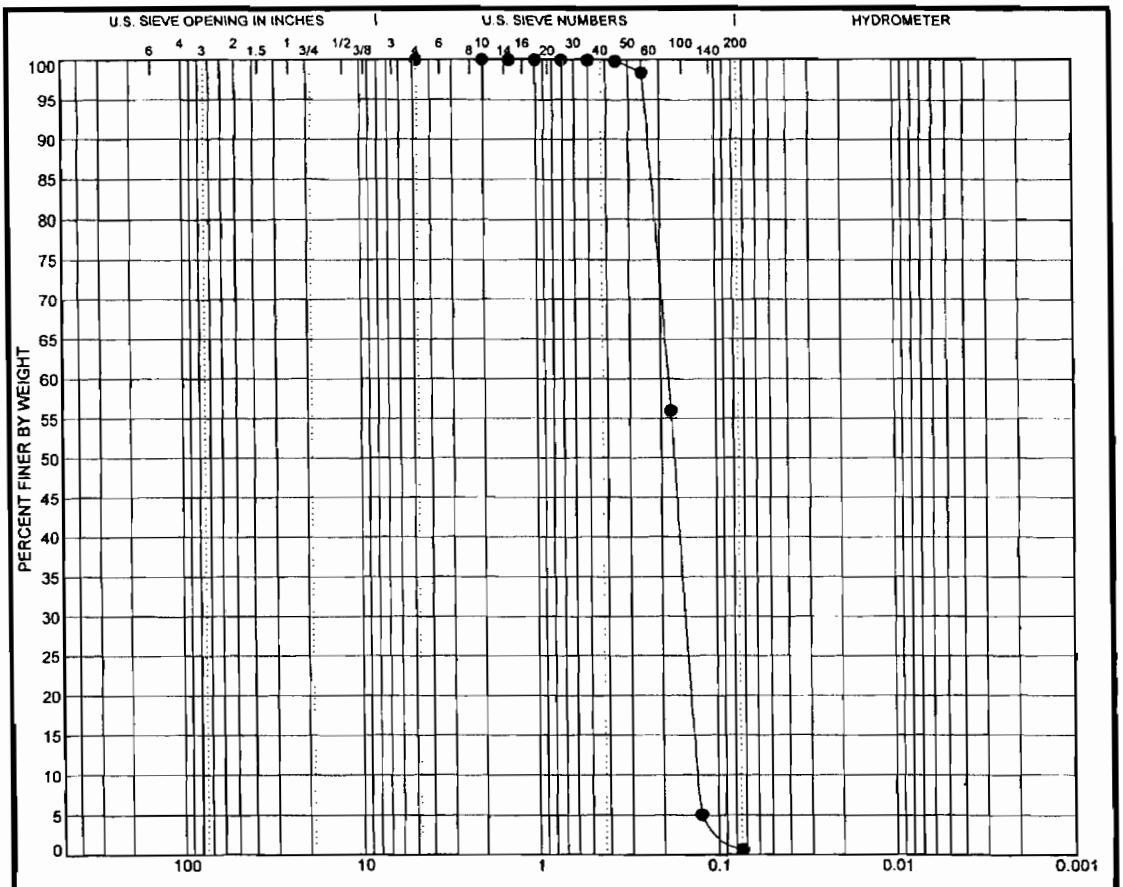
Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US_GRAIN_SIZE_SINGLE 202-062 EICG GEI CATLIN.GDT 7/13/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-3-2	5.0	Olive gray poorly graded sand, SP				0.93	1.41
■		5.5	0.0% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-3-2	5.0	4.76	0.183	0.148	0.129	0.0	99.2	0.8	
■		5.5								
▲										
★										
⊙										

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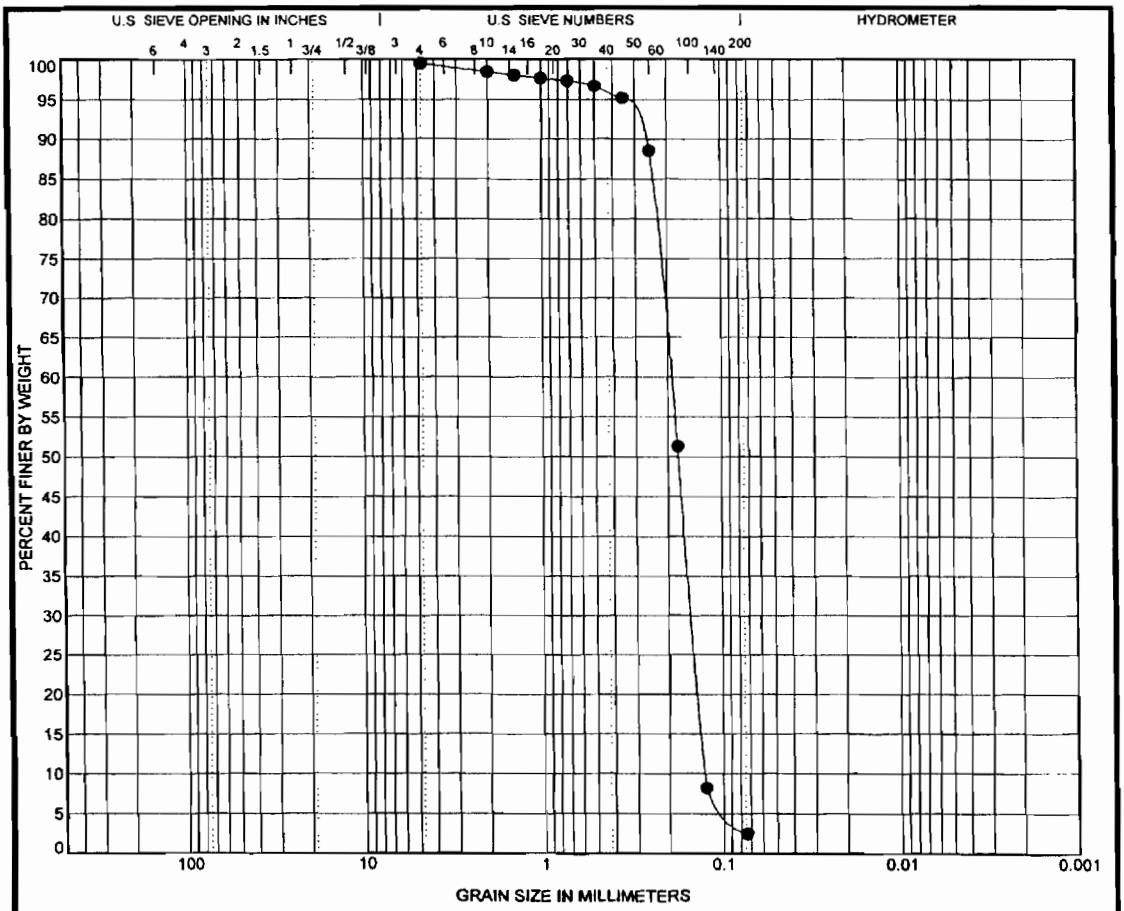
Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US_GRAIN_SIZE_SINGLE_202-062.EICG.GPJ_CATLIN.GDT_7/13/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-3-3	7.0	Olive gray poorly graded sand, SP				0.91	1.51
⊠		7.5	2.6% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-3-3	7.0	4.76	0.192	0.149	0.127	0.0	96.9	2.6	
⊠		7.5								
▲										
★										
⊙										

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CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

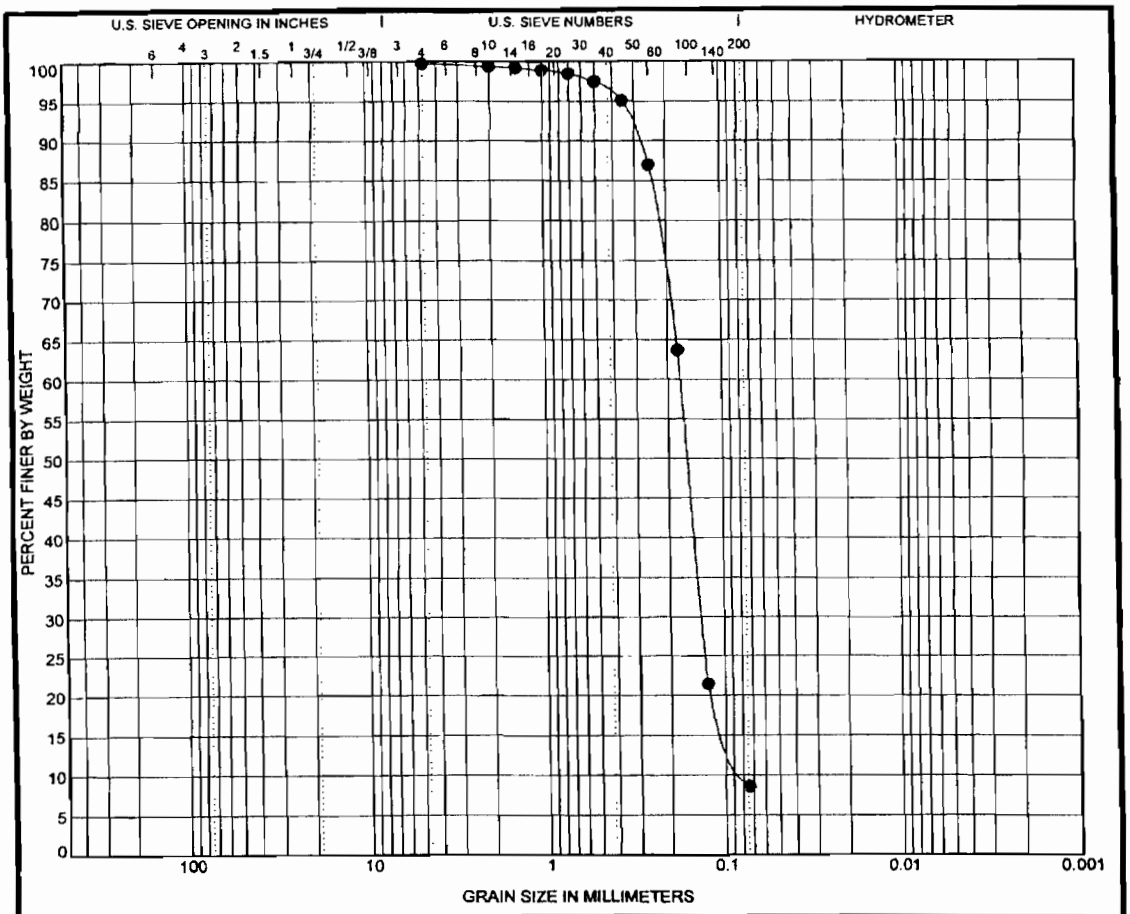
US_GRAIN_SIZE_SINGLE_202-062-EICG-GDI_CATLIN.GDT 7/13/07

Hole No. EICG-07-V-4

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT EMERALD ISLE COAST GUARD STATION	10. SIZE AND TYPE OF BIT 4" Dia. Vibracore
2. LOCATION (Coordinates or Station) E2572511 N335783 NCNAD83	11. DATUM FOR ELEVATION SHOWN (BM or MSL) MLLW
3. DRILLING AGENCY WILMINGTON DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL
4. HOLE NO. (As shown on drawing title and file number) EICG-07-V-4	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED 4 UNDISTURBED 0
5. NAME OF DRILLER LESTER GAUGHF (CRANE OPERATOR D/B SNELL)	14. TOTAL NUMBER CORE BOXES N/A
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER N/A
7. THICKNESS OF OVERBURDEN N/A (6.7' of Water)	16. DATE HOLE STARTED 5/22/07 COMPLETED 5/22/07
8 DEPTH DRILLED INTO ROCK 0.0'	17. ELEVATION TOP OF HOLE 0.0' MLLW
9 TOTAL DEPTH OF HOLE 16.7'	18. TOTAL CORE RECOVERY FOR BORING %
	19. SIGNATURE OF INSPECTOR LARRY BENJAMIN CIVIL ENGINEERING TECH.

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
0.0	0		0.0' TO 6.7' WATER			Time begin vibracoring: 1214 hrs Soils described by Larry Benjamin. Civ. Eng. Tech. NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
	6.0					
-6.7	6.7		CHANNEL BOTTOM @ 6.7'		6.7'	
			SP- Tan, coarse, poorly-graded sand		1	
					7.2'	VIBRACORE BORING From 0.0' to 10.0' Ran 10.0' Rec: 7.0' Top of vibracore soil sample is logged as the ocean/channel bottom When the run is greater than the recovery, the difference is depicted Assumed Not Recovered
	8.0				9.0'	
					2	
					9.5'	
	10.0				11.0'	
					3	NOTE: Commercial soils lab classified samples according to ASTM D2457
					11.5'	
	12.0				13.0'	LAB CLASSIFICATION Jar Number / Classification 1 SP-SM 2 NOT TESTED 3 NOT TESTED 4 NOT TESTED
			13.7'		4	
-13.7	13.7				13.5'	
	14.0		ASSUMED NOT RECOVERED			
	16.0					
-16.7	16.7		BOTTOM OF HOLE AT 16.7' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			NOTE: HOLE TERMINATED AT PREDETERMINED DEPTH OF 10.0'



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-4-1	6.7	Olive gray poorly graded sand with silt, SP-SM				1.34	2.19
⊠		7.2	1.5% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-4-1	6.7	4.76	0.172	0.134	0.078	0.0	90.8	8.9	
⊠		7.2								
▲										
★										
⊙										

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Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

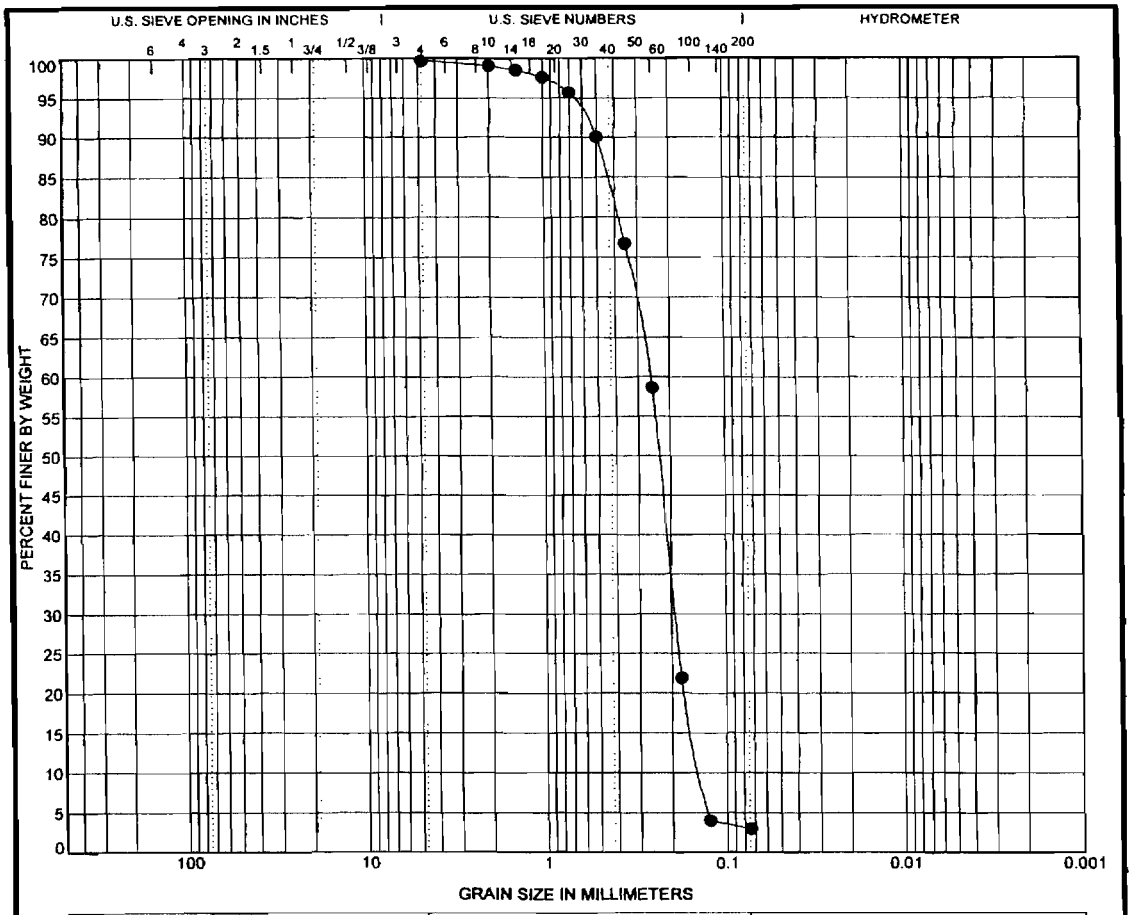
PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US_GRAIN_SIZE_SINGLE 202-062 EICG-07-V-4-1 CATLIN GDT 7/13/07

Hole No. EICG-07-V-5

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS
1. PROJECT EMERALD ISLE COAST GUARD STATION		10. SIZE AND TYPE OF BIT 4" Dia. Vibracore	
2. LOCATION (Coordinates or Station) E2572530 N334782 NCNAD83		11. DATUM FOR ELEVATION SHOWN (BM or MSL) MLLW	
3. DRILLING AGENCY WILMINGTON DISTRICT		12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL	
4. HOLE NO (As shown on drawing title and file number)	: EICG-07-V-5	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN : DISTURBED : 4	: UNDISTURBED : 0
5. NAME OF DRILLER LESTER GAUGHF (CRANE OPERATOR D/B SNELL)		14. TOTAL NUMBER CORE BOXES N/A	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN N/A (8.0' of Water)		16. DATE HOLE : STARTED 5/22/07	: COMPLETED 5/22/07
8 DEPTH DRILLED INTO ROCK 0.0'		17. ELEVATION TOP OF HOLE 0.0' MLLW	
9. TOTAL DEPTH OF HOLE 18.0'		18. TOTAL CORE RECOVERY FOR BORING	%
		19. SIGNATURE OF INSPECTOR LARRY BENJAMIN CIVIL ENGINEERING TECH.	

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc. if significant) (g)
0.0	0		0.0' TO 8.0' WATER			Time begin vibracoring: 1236 hrs Soils described by Larry Benjamin, Civ. Eng. Tech. NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
			CHANNEL BOTTOM @ 8.0'		8.0'	
-8.0	8.0		SP- Grayish-tan, coarse poorly-graded sand		1 8.5'	
	10.0				10.0' 2 10.5'	VIBRACORE BORING From 0.0' to 10.0' Ran 10.0' Rec: 8.0' Top of vibracore soil sample is logged as the ocean/channel bottom When the run is greater than the recovery, the difference is depicted Assumed Not Recovered
	12.0				12.0' 3 12.5'	
			14.0'		14.0'	NOTE: Commercial soils lab classified samples according to ASTM D2457
	14.0		with shell fragments		4 14.5'	LAB CLASSIFICATION Jar Number / Classification 1 SP 2 NOT TESTED 3 NOT TESTED 4 NOT TESTED
-16.0	16.0		16.0' ASSUMED NOT RECOVERED			
-18.0	18.0		BOTTOM OF HOLE AT 18.0' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			NOTE: HOLE TERMINATED AT PREDETERMINED DEPTH OF 10.0'



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-5-1	8.0	Olive gray poorly graded sand, SP				1.01	1.83
⊠		8.5	2.4% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-5-1	8.0	4.76	0.256	0.191	0.14	0.0	96.7	3.0	
⊠		8.5								
▲										
★										
⊙										

CATLIN
ENGINEERS and SCIENTISTS
GEOTECHNICAL LABORATORIES
Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US_GRAIN_SIZE_SINGLE_202-062-EICG-SD_CATLIN.GDT 7/13/07

Hole No. EICG-07-V-6

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS

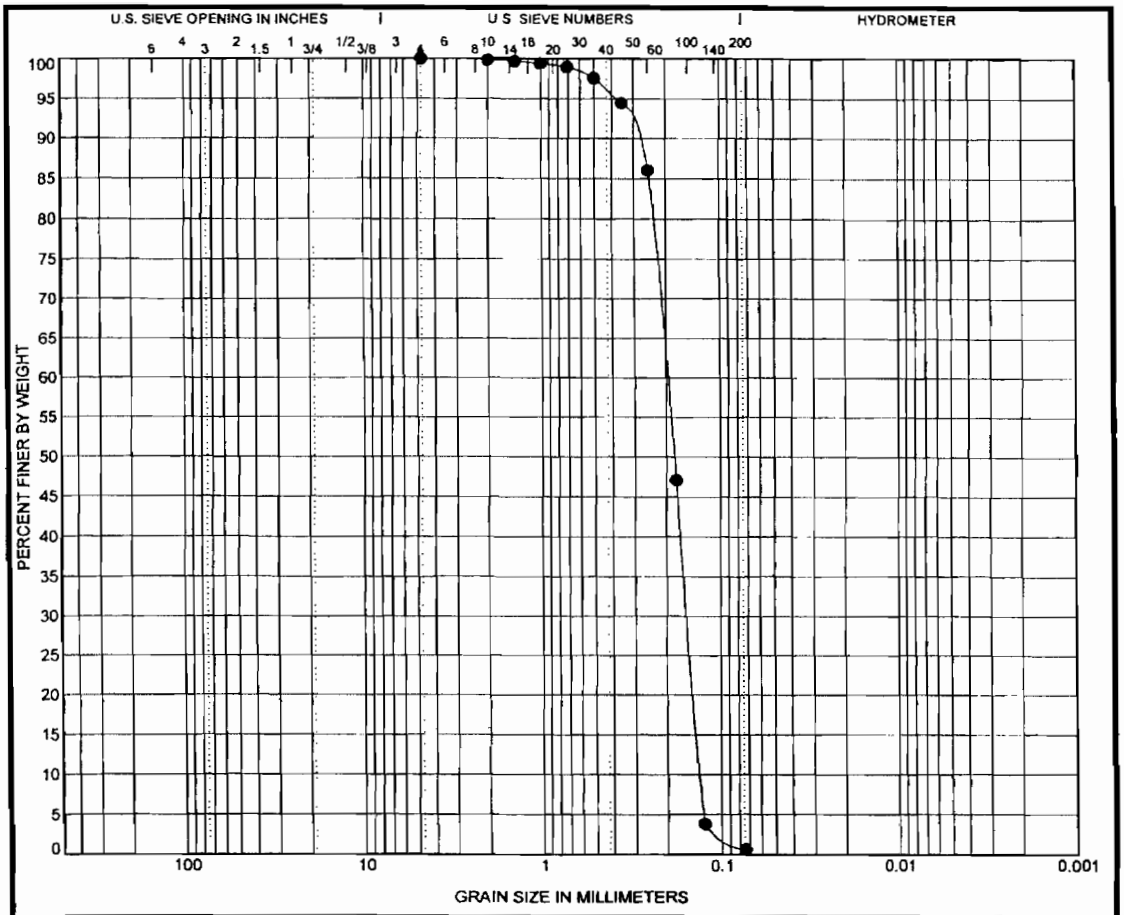
1. PROJECT EMERALD ISLE COAST GUARD STATION	10. SIZE AND TYPE OF BIT 4" Dia. Vibracore
2. LOCATION (Coordinates or Station) E2572972 N333070 NCNAD83	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLLW
3. DRILLING AGENCY WILMINGTON DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL
4. HOLE NO. (As shown on drawing title and file number) EICG-07-V-6	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED 2 UNDISTURBED 0
5. NAME OF DRILLER LESTER GAUGHT (CRANE OPERATOR D/B SNELL)	14. TOTAL NUMBER CORE BOXES N/A
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG FROM VERT.	15. ELEVATION GROUND WATER N/A
7. THICKNESS OF OVERBURDEN N/A (14.7' of Water)	16. DATE HOLE STARTED 5/22/07 COMPLETED 5/22/07
8. DEPTH DRILLED INTO ROCK 0.0'	17. ELEVATION TOP OF HOLE 0.0' MLLW
9. TOTAL DEPTH OF HOLE 19.7'	18. TOTAL CORE RECOVERY FOR BORING N/A %
	19. SIGNATURE OF INSPECTOR LARRY BENJAMIN CIVIL ENGINEERING TECH.

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
0.0			0.0' TO 14.7' WATER			Time begin vibracoring: 1249 hrs Soils described by Larry Benjamin, Civ. Eng. Tech. NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
	14.0					
-14.7	14.7		CHANNEL BOTTOM @ 14.7'		14.7'	
	15.0		SP-Tan, coarse, poorly-graded sand		1 15.2'	VIBRACORE BORING From 0.0' to 5.0' Ran 5.0' Rec: 3.8' Top of vibracore soil sample is logged as the ocean/channel bottom When the run is greater than the recovery, the difference is depicted Assumed Not Recovered
	16.0		16.0' Trace of shell fragments			
	17.0				17.0'	NOTE: Commercial soils lab classified samples according to ASTM D2457
					2 17.5'	LAB CLASSIFICATION Jar Number — Classification 1 — NOT TESTED 2 — NOT TESTED
	18.0		18.5'			
-18.5	18.5		ASSUMED NOT RECOVERED			
	19.0					
-19.7	19.7		BOTTOM OF HOLE AT 19.7'			NOTE: HOLE TERMINATED AT REFUSAL DEPTH OF 5.0'
	20.0		SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			

Hole No. EICG-07-V-7

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS
1. PROJECT EMERALD ISLE COAST GUARD STATION		10. SIZE AND TYPE OF BIT 4" Dia. Vibracore	
2. LOCATION (Coordinates or Station) E2572733 N333011 NCNAD83		11. DATUM FOR ELEVATION SHOWN (BM or MSL) MLLW	
3. DRILLING AGENCY WILMINGTON DISTRICT		12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL	
4. HOLE NO. (As shown on drawing title and file number)	EICG-07-V-7	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 4 / UNDISTURBED 0
5. NAME OF DRILLER LESTER GAUGHF (CRANE OPERATOR D/B SNELL)		14. TOTAL NUMBER CORE BOXES N/A	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN N/A (5.5' of Water)		16. DATE HOLE	STARTED 5/22/07 / COMPLETED 5/22/07
8. DEPTH DRILLED INTO ROCK 0.0'		17. ELEVATION TOP OF HOLE 0.0' MLLW	
9. TOTAL DEPTH OF HOLE 15.5'		18. TOTAL CORE RECOVERY FOR BORING N/A	
		19. SIGNATURE OF INSPECTOR LARRY BENJAMIN CIVIL ENGINEERING TECH.	

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
0.0	0		0.0' TO 5.5' WATER			Time begin vibracoring: 1259 hrs Soils described by Larry Benjamin, Civ. Eng. Tech. NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
	5.0					
-5.5	5.5		CHANNEL BOTTOM @ 5.5'		5.5'	
			SP-Tan, coarse, poorly graded sand		1 6.0'	
	7.0				7.5'	VIBRACORE BORING From 0.0' to 10.0' Ran 10.0' Rec: 7.5' Top of vibracore soil sample is logged as the ocean/channel bottom When the run is greater than the recovery, the difference is depicted Assumed Not Recovered
					2 8.0'	
	9.0				9.5'	
					3 10.0'	NOTE: Commercial soils lab classified samples according to ASTM D2457
	11.0				11.5'	LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SP 3 NOT TESTED 4 NOT TESTED
					4 12.0'	
			13.0'			
-13.0	13.0		ASSUMED NOT RECOVERED			
	15.0					
-15.5	15.5		BOTTOM OF HOLE AT 15.5' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			NOTE: HOLE TERMINATED AT PREDETERMINED DEPTH OF 10.0'



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-7-1	5.5	Olive gray poorly graded sand, SP				0.91	1.51
■		6.0	1.0% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-7-1	5.5	4.76	0.198	0.154	0.131	0.0	99.2	0.8	
■		6.0								
▲										
★										
⊙										

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CATLIN NAME: USACOE
CATLIN NUM.: 202-062

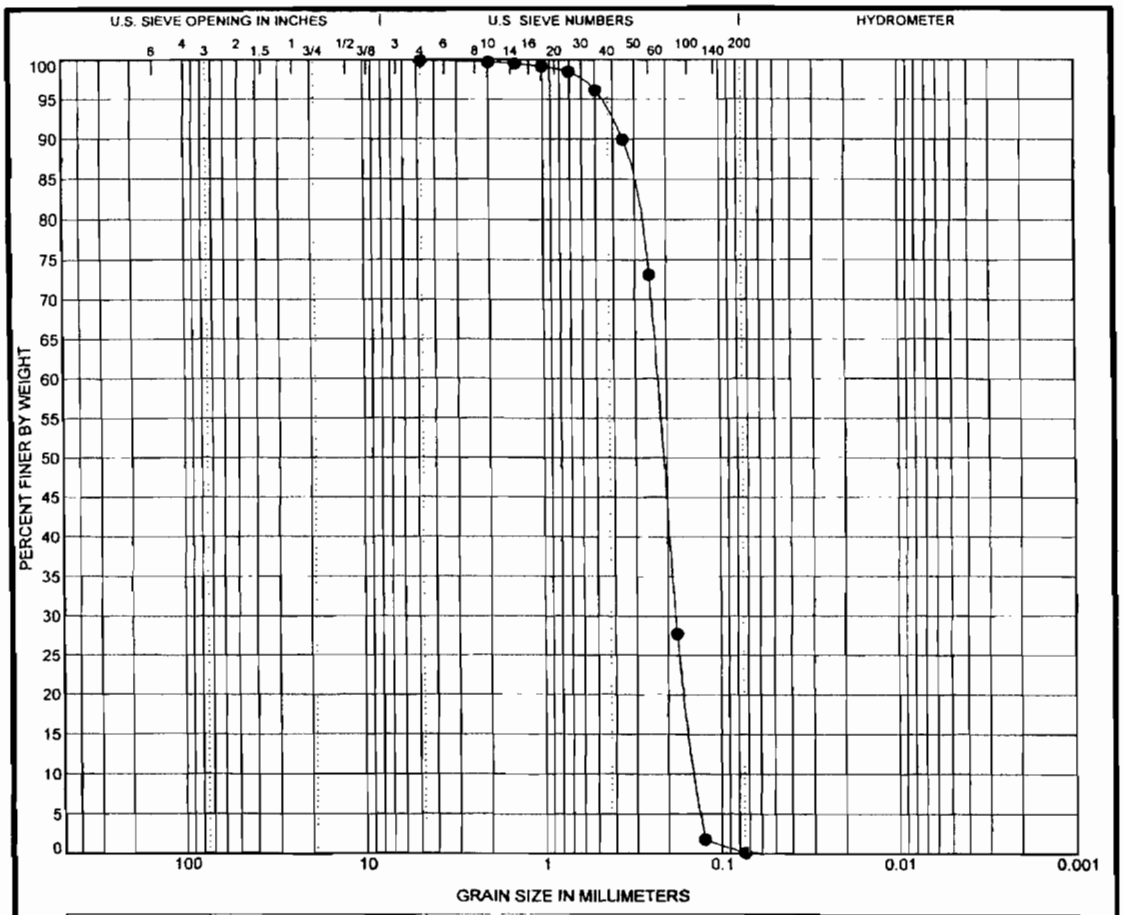
GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE

CITY: Emerald Isle Coast Guard

PREPARED FOR: USACOE

US_GRAIN_SIZE_SINGLE_202062-EICG.GPJ_CATLIN.GDT_7/13/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-7-2	7.5	Olive gray poorly graded sand, SP				1.03	1.62
■		8.0	1.5% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-7-2	7.5	4.76	0.226	0.18	0.14	0.0	99.8	0.1	
■		8.0								
▲										
★										
⊙										

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CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US GRAIN SIZE SINGLE 202-062 EICG-07-V-7-2 CATLIN.GDT 7/13/07

Hole No. EICG-07-V-8

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT EMERALD ISLE COAST GUARD STATION	10. SIZE AND TYPE OF BIT 4" Dia. Vibracore
2. LOCATION (Coordinates or Station) E2572639 N332669 NCNAD83	11. DATUM FOR ELEVATION SHOWN (BM or MSL) MLLW
3. DRILLING AGENCY WILMINGTON DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL
4. HOLE NO. (As shown on drawing title and file number) EICG-07-V-8	13. TOTAL NO OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 5 / UNDISTURBED 0
5. NAME OF DRILLER LESTER GAUGHF (CRANE OPERATOR D/B SNELL)	14. TOTAL NUMBER CORE BOXES N/A
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER N/A
7. THICKNESS OF OVERBURDEN N/A (10.0' of Water)	16. DATE HOLE STARTED 5/22/07 / COMPLETED 5/22/07
8. DEPTH DRILLED INTO ROCK 0.0'	17. ELEVATION TOP OF HOLE 0.0' MLLW
9. TOTAL DEPTH OF HOLE 20.0'	18. TOTAL CORE RECOVERY FOR BORING N/A %
	19 SIGNATURE OF INSPECTOR LARRY BENJAMIN CIVIL ENGINEERING TECH.

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
0.0	0		0.0' TO 10.0' WATER			Time begin vibracoring: 1311 hrs Soils described by Larry Benjamin, Civ. Eng. Tech. NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
			CHANNEL BOTTOM @ 10.0'		10.0'	
-10.0	10.0		SP-Tan, coarse, poorly-graded sand, trace shell fragments		1 10.5'	
	12.0				12.0' 2 12.5'	VIBRACORE BORING From 0.0' to 10.0' Ran 10.0' Rec: 6.9' Top of vibracore soil sample is logged as the ocean/channel bottom When the run is greater than the recovery, the difference is depicted Assumed Not Recovered
	14.0		14.4'	14.4'	13.9' 3	
			MH-Dark gray elastic silt 14.9'	15.0'	4 5 15.5'	NOTE: Commercial soils lab classified samples according to ASTM D2487
	16.0		SP-Tan, coarse, poorly-graded sand 16.9'			LAB CLASSIFICATION Jar Number / Classification 1 NOT TESTED 2 NOT TESTED 3 NOT TESTED 4 NOT TESTED 5 NOT TESTED
-16.9	16.9		ASSUMED NOT RECOVERED			
	18.0					
-20.0	20.0		BOTTOM OF HOLE AT 20.0' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			NOTE: HOLE TERMINATED AT PREDETERMINED DEPTH OF 10.0'

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT EMERALD ISLE COAST GUARD STATION | HOLE NO. EICG-07-V-8

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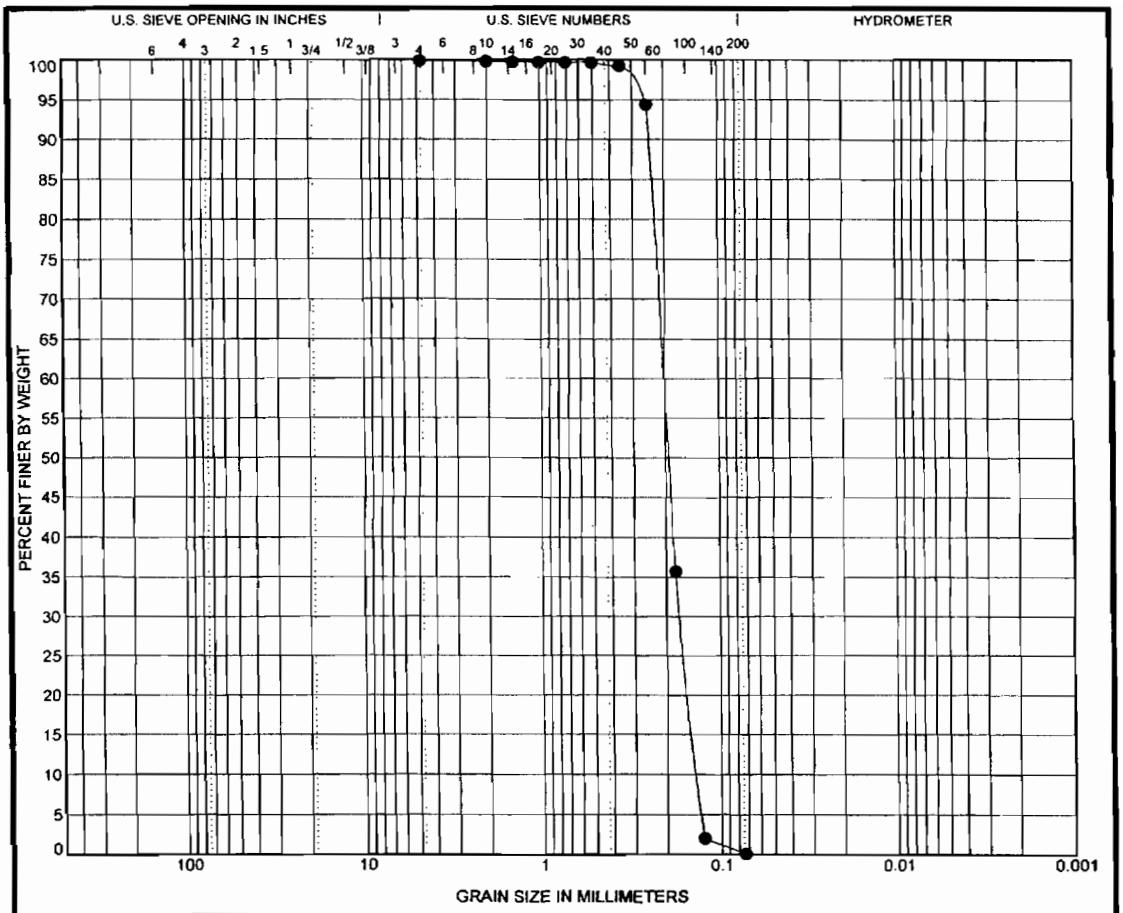
Hole No. EICG-07-V-9

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS
1. PROJECT EMERALD ISLE COAST GUARD STATION		10. SIZE AND TYPE OF BIT 4" Dia. Vibracore	
2. LOCATION (Coordinates or Station) E2572365 N332502 NCNAD83		11. DATUM FOR ELEVATION SHOWN (BM or MSL) MLLW	
3. DRILLING AGENCY WILMINGTON DISTRICT		12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL	
4. HOLE NO. (As shown on drawing title and file number)	EICG-07-V-9	13. TOTAL NO OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 3	UNDISTURBED 0
5. NAME OF DRILLER LESTER GAUGHF (CRANE OPERATOR D/B SNELL)		14. TOTAL NUMBER CORE BOXES N/A	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN N/A (1.0' of Water)		16. DATE HOLE STARTED 5/22/07	COMPLETED 5/22/07
8. DEPTH DRILLED INTO ROCK 0.0'		17. ELEVATION TOP OF HOLE 0.0' MLLW	
9. TOTAL DEPTH OF HOLE 11.0'		18. TOTAL CORE RECOVERY FOR BORING N/A %	
		19. SIGNATURE OF INSPECTOR LARRY BENJAMIN CIVIL ENGINEERING TECH.	

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
0.0	0		0.0' TO 1.0' WATER			Time begin vibracoring: 1321 hrs Soils described by Larry Benjamin, Civ. Eng. Tech. NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
			CHANNEL BOTTOM @ 1.0'		1.0'	
-1.0	1.0		SP-Tan, coarse, poorly-graded sand		1	
					1.5'	
	3.0				3.0'	VIBRACORE BORING From 0.0' to 10.0' Ran 10.0' Rec: 6.0' Top of vibracore soil sample is logged as the ocean/channel bottom When the run is greater than the recovery, the difference is depicted Assumed Not Recovered
					2	
					3.5'	
	5.0				5.0'	
					3	
					5.5'	NOTE: Commercial soils lab classified samples according to ASTM D2457
			7.0'			
-7.0	7.0		ASSUMED NOT RECOVERED			LAB CLASSIFICATION Jar Number — Classification 1 — SP 2 — SP 3 — SP
	9.0					
-11.0	11.0		BOTTOM OF HOLE AT 11.0'			NOTE: HOLE TERMINATED AT PREDETERMINED DEPTH OF 10.0'
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-9-1	1.0	Olive gray poorly graded sand, SP				1.00	1.50
⊠		1.5	0.3% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-9-1	1.0	4.76	0.204	0.167	0.136	0.0	99.7	0.1	
⊠		1.5								
▲										
★										
⊙										

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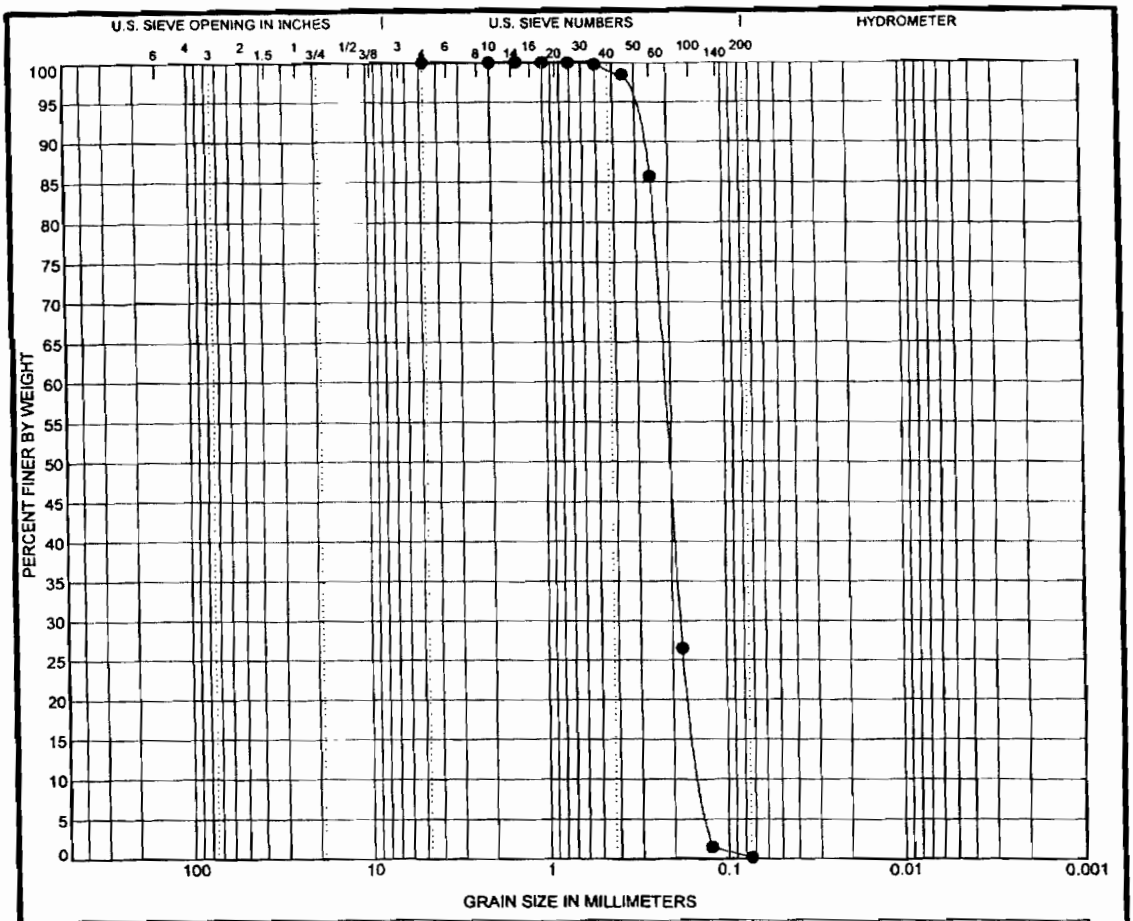
GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US GRAIN SIZE SINGLE 202-062 EICG.GPJ CATLIN.GDT 7/14/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-9-2	3.0	Olive gray poorly graded sand, SP				1.08	1.53
⊞		3.5	0.1% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-9-2	3.0	4.76	0.215	0.181	0.141	0.0	99.8	0.2	
⊞		3.5								
▲										
★										
⊙										

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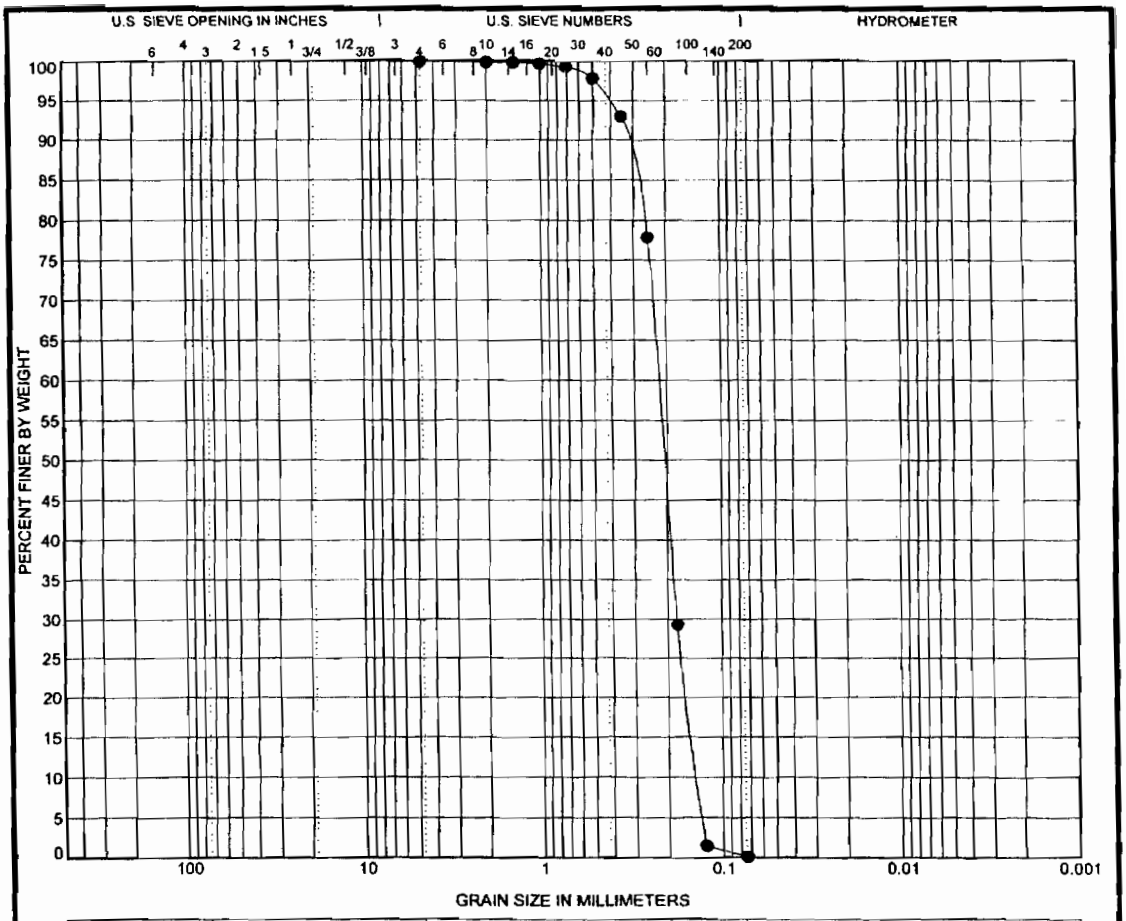
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US_GRAIN_SIZE_SINGLE_202-062-EICG-GDT_CATLIN.GDT 7/13/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-9-3	5.0	Olive gray poorly graded sand, SP				1.03	1.58
⊠		5.5	0.8% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-9-3	5.0	4.76	0.22	0.178	0.139	0.0	99.8	0.2	
⊠		5.5								
▲										
★										
⊙										

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CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

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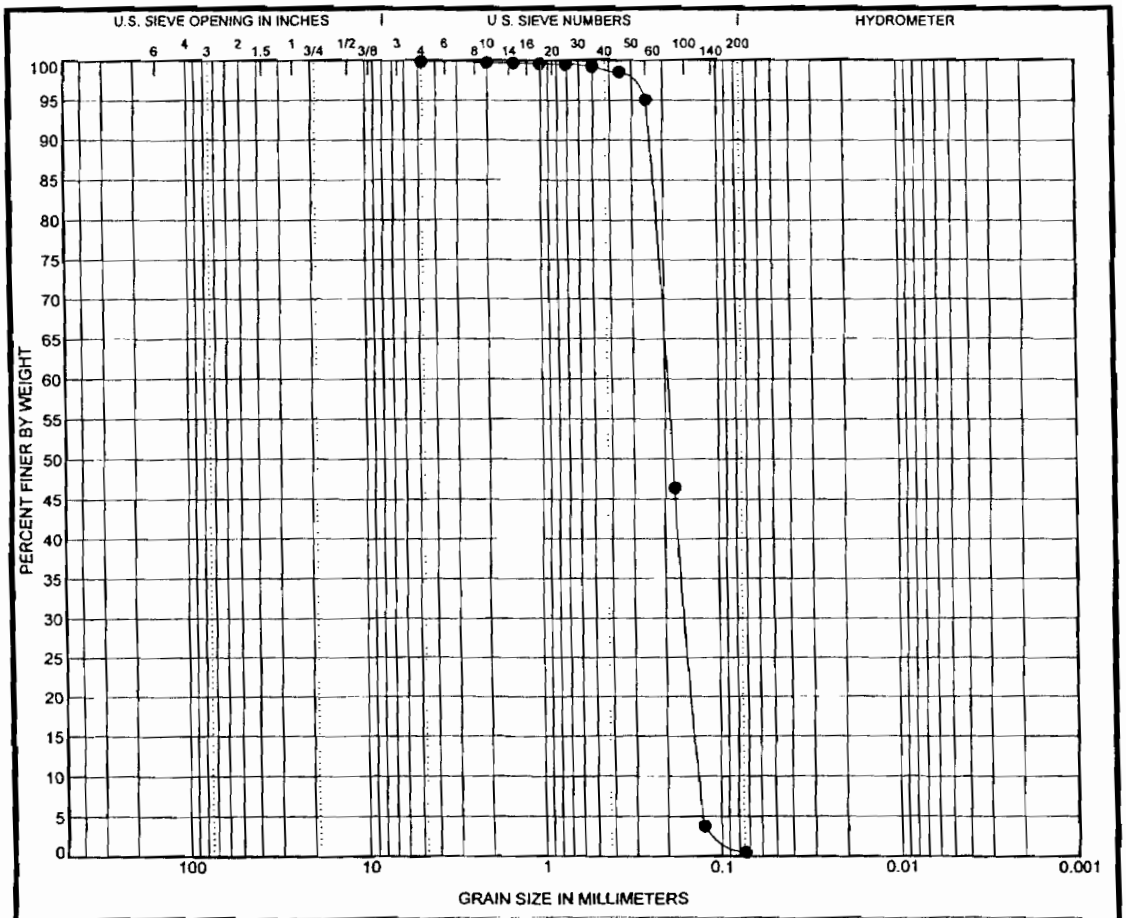
Hole No. EICG-07-V-10

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS
1. PROJECT EMERALD ISLE COAST GUARD STATION		10. SIZE AND TYPE OF BIT 4" Dia. Vibracore	
2. LOCATION (Coordinates or Station) E2570210 N335347 NCNAD83		11. DATUM FOR ELEVATION SHOWN (GS or MSL) MLLW	
3. DRILLING AGENCY WILMINGTON DISTRICT		12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL	
4. HOLE NO. (As shown on drawing title and file number) EICG-07-V-10		13. TOTAL NO OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 4 / UNDISTURBED 0
5. NAME OF DRILLER LESTER GAUGHF (CRANE OPERATOR D/B SNELL)		14. TOTAL NUMBER CORE BOXES N/A	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN N/A (3.5' of Water)		16. DATE HOLE	STARTED 5/22/07 / COMPLETED 5/22/07
8. DEPTH DRILLED INTO ROCK 0.0'		17. ELEVATION TOP OF HOLE 0.0' MLLW	
9. TOTAL DEPTH OF HOLE 13.5'		18. TOTAL CORE RECOVERY FOR BORING N/A %	
		19. SIGNATURE OF INSPECTOR LARRY BENJAMIN CIVIL ENGINEERING TECH.	

ELEVATION MLLW (a)	DEPTH Feet (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
0.0	0		0.0' TO 3.5' WATER			Time begin vibracoring: 1351 hrs Soils described by Larry Benjamin, Civ. Eng. Tech. NOTE: TOP OF HOLE is defined as the surface of water and compensation is made for the actual tide such that the top of hole is 0.0 EL MLLW.
	3.0		CHANNEL BOTTOM @ 3.5'		3.5'	
-3.5	3.5		SP-Tan, coarse, poorly-graded sand		1 4.0'	
	5.0				5.5'	VIBRACORE BORING From 0.0' to 10.0' Ran 10.0' Rec: 6.5'
					2 6.0'	Top of vibracore soil sample is logged as the ocean/channel bottom When the run is greater than the recovery, the difference is depicted Assumed Not Recovered
	7.0				7.5'	
					3 8.0'	NOTE: Commercial soils lab classified samples according to ASTM D2457
	9.0		9.0' Trace shell fragments		9.5'	LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SP 3 SP 4 NOT TESTED
			10.0'		4	
-10.0	10.0		ASSUMED NOT RECOVERED		10.0'	
	11.0					
	13.0					
-13.5	13.5		BOTTOM OF HOLE AT 13.5'			NOTE: HOLE TERMINATED AT PREDETERMINED DEPTH OF 10.0'
	15.0		SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-10-1	3.5	Olive gray poorly graded sand, SP				0.94	1.48
■		4.0	0.5% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-10-1	3.5	4.76	0.195	0.155	0.131	0.0	99.2	0.6	
■		4.0								
▲										
★										
⊙										

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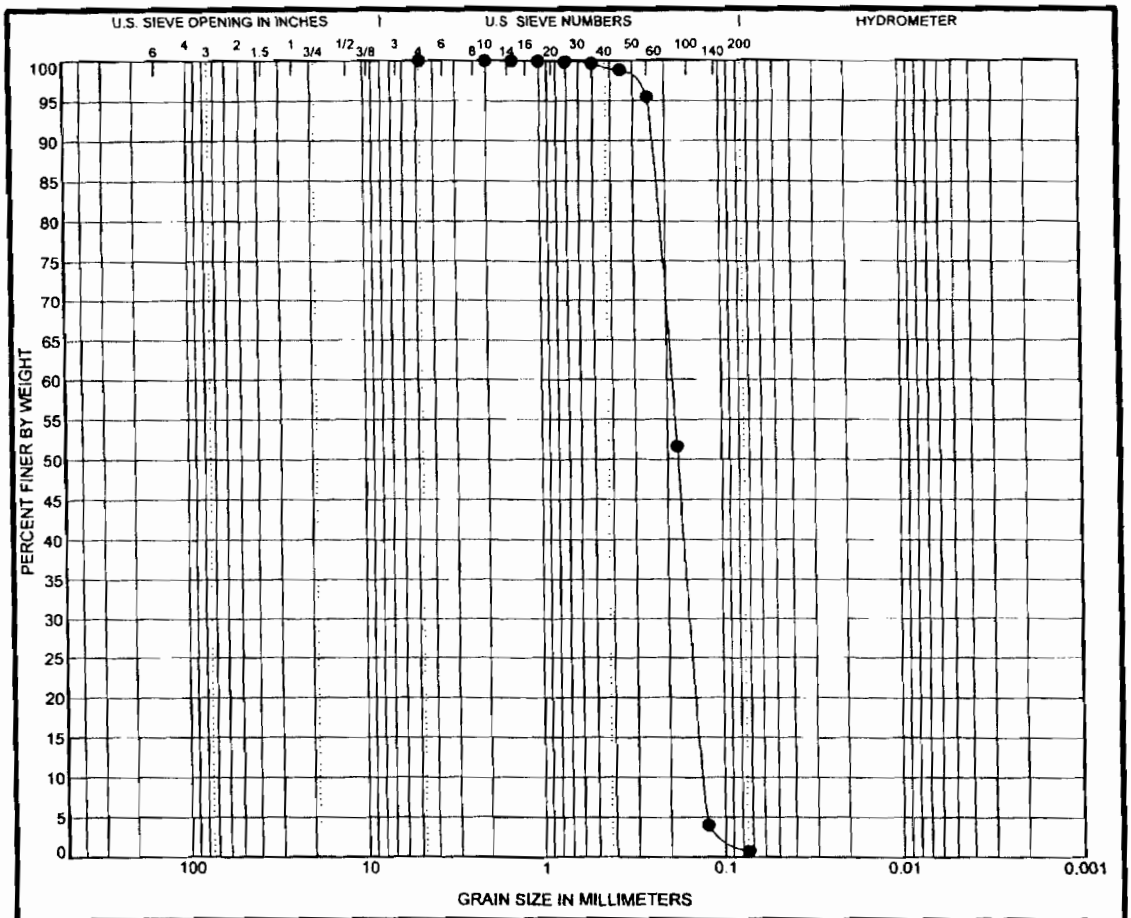
GEOTECHNICAL LABORATORIES
Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US_GRAIN_SIZE_SINGLE_202-062 EICG GR L CATLIN.GDT 7/13/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-10-2	5.5	Olive gray poorly graded sand, SP				0.93	1.45
⊠		6.0	0.1% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-10-2	5.5	4.76	0.189	0.151	0.131	0.0	99.1	0.9	
⊠		6.0								
▲										
★										
⊙										

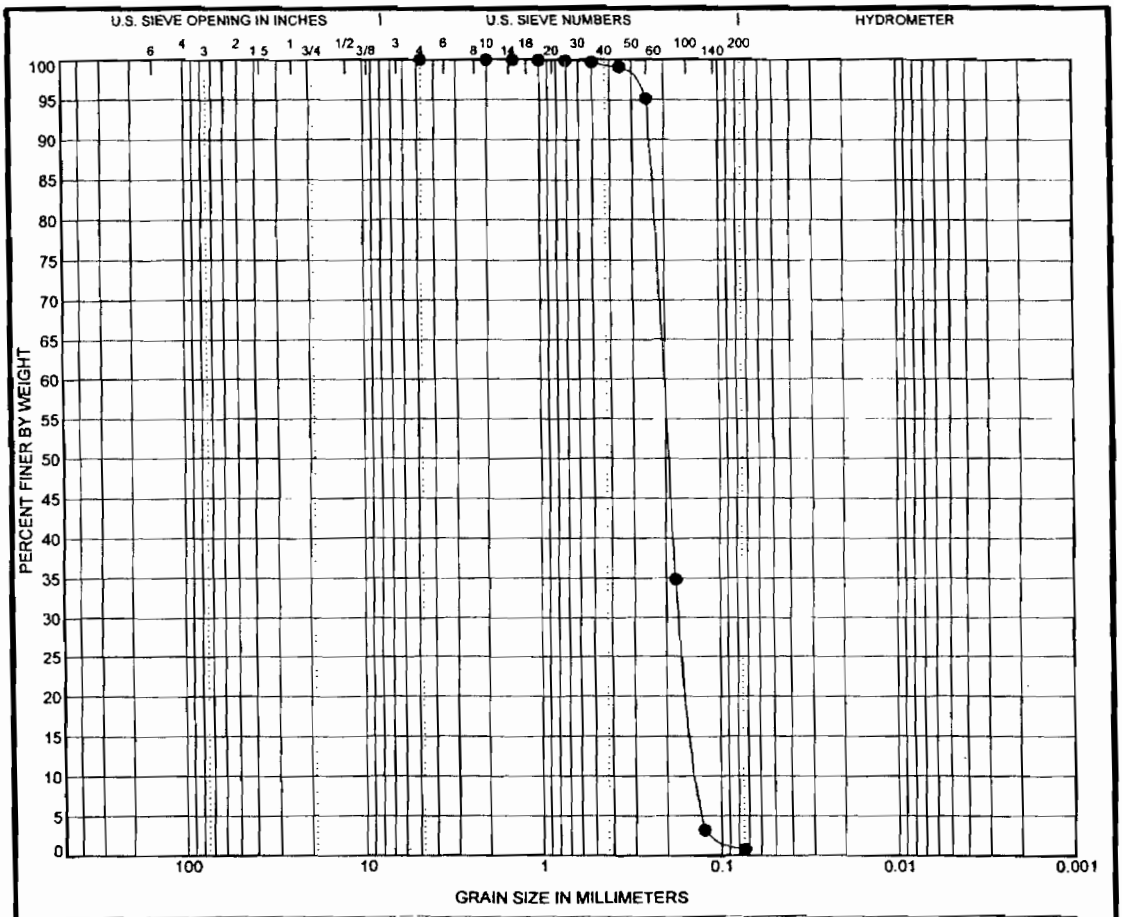
CATLIN
ENGINEERS and SCIENTISTS
GEOTECHNICAL LABORATORIES
Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US GRAIN SIZE SINGLE 202-062 EICG-08 CATLIN GDT 7/13/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	EICG-07-V-10-3	7.5	Olive gray poorly graded sand, SP				1.02	1.52
■		8.0	0.1% shells					
▲								
★								
⊙								

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EICG-07-V-10-3	7.5	4.76	0.204	0.168	0.135	0.0	99.1	0.9	
■		8.0								
▲										
★										
⊙										

CATLIN
ENGINEERS and SCIENTISTS
GEOTECHNICAL LABORATORIES
Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

US_GRAIN_SIZE_SINGLE_202-062 EICG GPJ CATLIN GDT 7/13/07

TABLE 1
SUMMARY OF LABORATORY TESTING RESULTS
FOR GRAIN SIZE ANALYSIS

USACOE - EMERALD ISLE COAST GUARD
CATLIN PROJECT NO. 202-062

BORING NUMBER	SAMPLE #	DEPTH	% SHELL	#4	#10	#14	#18	#26	#35	#45	#60	#80	#120	#230
EICG-07-V-1	1	6.2-6.7	0.3	100.0	99.9	99.9	99.8	99.7	99.2	97.9	40.6	32.0	3.0	0.5
EICG-07-V-1	2	8.0-8.5	0.4	99.7	99.6	99.6	99.6	99.6	99.4	99.1	97.4	50.0	3.9	0.2
EICG-07-V-2	1	8.2-8.7	5.9	99.1	97.5	96.7	95.7	94.1	90.2	82.4	62.4	20.3	1.5	0.2
EICG-07-V-3	1	3.0-3.5	0.1	100.0	100.0	99.9	99.9	99.9	99.8	99.4	96.4	48.2	4.7	1.0
EICG-07-V-3	2	5.0-5.5	0.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	98.4	56.0	5.1	0.7
EICG-07-V-3	3	7.0-7.5	2.6	99.5	98.5	98.1	97.7	97.4	96.7	95.2	88.6	51.3	8.2	2.5
EICG-07-V-4	1	6.7-7.2	1.5	99.8	99.4	99.2	98.9	98.5	97.5	95.1	87.0	63.7	21.4	8.6
EICG-07-V-5	1	8.0-8.5	2.4	99.7	99.1	98.5	97.6	95.7	90.1	76.7	58.6	21.9	4.0	3.0
EICG-07-V-7	1	5.5-6.0	1.0	100.0	99.8	99.7	99.4	99.0	97.6	94.5	86.0	47.1	3.8	0.7
EICG-07-V-7	2	7.5-8.0	1.5	99.9	99.7	99.5	99.2	98.5	96.1	89.9	73.1	27.7	1.8	0.1
EICG-07-V-9	1	1.0-1.5	0.3	99.8	99.8	99.7	99.7	99.7	99.6	99.2	94.4	36.1	2.5	0.6
EICG-07-V-9	2	3.0-3.5	0.1	100.0	100.0	100.0	100.0	99.9	99.7	98.4	85.7	26.5	1.5	0.2
EICG-07-V-9	3	5.0-5.5	0.8	99.9	99.9	99.8	99.6	99.2	97.8	93.0	77.9	29.2	1.5	0.1
EICG-07-V-10	1	3.5-4.0	0.5	99.8	99.7	99.7	99.6	99.5	99.3	98.6	95.1	46.4	3.8	0.5
EICG-07-V-10	2	5.5-6.0	0.1	100.0	100.0	100.0	99.9	99.9	99.6	98.9	95.5	51.6	4.0	0.8
EICG-07-V-10	3	7.5-8.0	0.1	100.0	100.0	100.0	99.9	99.9	99.7	99.1	95.2	34.8	3.2	0.8

DRILLING LOG

DIVISION: South Atlantic Division

INSTALLATION: Wilmington District

SHEET 1 OF 2 SHEETS

1. PROJECT: Emerald Isle USCG, Wilmington, North Carolina

2. HOLE NUMBER: **ECG-22-V-001**

LOCATION COORDINATES: N 334353.2 E 2572347.15

3. DRILLING AGENCY: USACE, Wilmington District

4. NAME OF DRILLER: Lester Gaughf-Snell Crane Operator

5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED; DEG FROM VERTICAL: ---; BEARING:

6. THICKNESS OF OVERBURDEN:

7. DEPTH DRILLED INTO ROCK:

8. TOTAL DEPTH OF BORING: 15.8 FT

9. COORDINATE SYSTEM: NC State Plane - NAD83; HORIZONTAL: NAD83; VERTICAL: MLLW

10. SIZE AND TYPE OF BIT: 4" Vibracore SNELL

11. MANUFACTURER'S DESIGNATION OF DRILL:

12. TOTAL SAMPLES: DISTURBED 0; UNDISTURBED 0

13. TOTAL NUMBER CORE BOXES: 0

14. ELEVATION GROUND WATER: See Remarks

15. DATE TIME GROUP OF BORING: STARTED 10/11/22 @ 0000 hrs; COMPLETED 10/11/22 @ 0000 hrs.

16. ELEVATION TOP OF BORING: -4.9' MLLW

17. TOTAL CORE RECOVERY FOR BORING: N/A

18. SIGNATURE AND TITLE OF INSPECTOR: Stephen Fabian, P.G., Geologist

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-4.9	0.0		**SP** Light grey, fine poorly graded sand, clean uniform texture, trace amounts of silt and trace amounts of very fine shell hash.	Core Run / Recovery %	1.0' S-1 2.0' 3.0' S-2 4.0' 5.0' S-3 6.0' 7.0' S-4 8.0' 9.0'	
	2.0					
	4.0					
	6.0					
	8.0					

LAB CLASSIFICATION

Sample ID	Lab Class.	% Content Shell	#200 Fines	Gravel
S-1	SP	0	2	0
S-2	SP	0	2	0
S-3	Not Tested----------			
S-4	Not Tested----------			
S-5	Not Tested----------			

NOTE: Soils are Visually Lab Classified in Accordance with ASTM-D2487. Percent Passing #200 Sieve and Percent Shell are Determined in Accordance with ASTM-D6913.

Wilmington District Geotechnical Section

Drafted By: Stephen Fabian, P.G.
Date Drafted: 03/24/2023

Reviewed By:
Date Checked:
VERSION: Draft

DRILLING LOG (Cont Sheet)

INSTALLATION			SHEET 2 OF 2 SHEETS
Wilmington District			
PROJECT	COORDINATE SYSTEM	HORIZONTAL	VERTICAL
Emerald Isle USCG	NC State Plane - NAD83	NAD83	MLLW
LOCATION COORDINATES	ELEVATION TOP OF BORING		
N 334353.2 E 2572347.15	-4.9'		

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10.0		**SP** Light grey, fine poorly graded sand, clean uniform texture, trace amounts of silt and trace amounts of very fine shell hash.		**S-5** 10.0'	
-16.1						
	12.0		**SW** Medium grey, fine to medium grained sand with shell hash and fragemnts 0.1-0.2' in size. Rip-up clast at 11.8' with trace amounts of silt throughout.			
-17.3						
	14.0		**SP** Light grey, fine poorly graded sand, uniform texture, clean quartz sand with trace amounts of silt. Very fine shell hash throughout.			
-20.7						
			BOTTOM OF BOREHOLE AT 15.8 FT SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			

Wilmington District
Geotechnical Section

DRILLING LOG

DIVISION: South Atlantic Division

INSTALLATION: Wilmington District

SHEET 1 OF 2 SHEETS

1. PROJECT: Emerald Isle USCG, Wilmington, North Carolina

2. HOLE NUMBER: **ECG-22-V-002**

LOCATION COORDINATES: N 334512.44 E 2572370.98

3. DRILLING AGENCY: USACE, Wilmington District

4. NAME OF DRILLER: Lester Gaughf-Snell Crane Operator

5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED; DEG FROM VERTICAL: ---; BEARING:

6. THICKNESS OF OVERBURDEN:

7. DEPTH DRILLED INTO ROCK:

8. TOTAL DEPTH OF BORING: 15.6 FT

9. COORDINATE SYSTEM: NC State Plane - NAD83; HORIZONTAL: NAD83; VERTICAL: MLLW

10. SIZE AND TYPE OF BIT: 4" Vibracore SNELL

11. MANUFACTURER'S DESIGNATION OF DRILL:

12. TOTAL SAMPLES: DISTURBED: 0; UNDISTURBED: 0

13. TOTAL NUMBER CORE BOXES: 0

14. ELEVATION GROUND WATER: See Remarks

15. DATE TIME GROUP OF BORING: STARTED 10/11/22 @ 0000 hrs; COMPLETED 10/11/22 @ 0000 hrs.

16. ELEVATION TOP OF BORING: -7.4' MLLW

17. TOTAL CORE RECOVERY FOR BORING: N/A

18. SIGNATURE AND TITLE OF INSPECTOR: Stephen Fabian, P.G., Geologist

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-7.4	0.0		**SP** Grey mottled brown, fine grained sand, uniform texture, trace amounts of silt and very fine shell hash	Core Run / Recovery %	1.0' S-1 2.0' 3.0' S-2 4.0' 5.0' S-3 6.0' 7.0' S-4 8.0' 9.0'	
-16.4	15.6		**SW** Grey, fine to medium sand with shell hash and trace amounts of silt			

LAB CLASSIFICATION

Sample ID	Lab Class.	% Content Shell	#200 Fines	Gravel
S-1	SP	0	1	0
S-2	SP	0	1	0
S-3	Not Tested			
S-4	Not Tested			
S-5	Not Tested			

NOTE: Soils are Visually Lab Classified in Accordance with ASTM-D2487. Percent Passing #200 Sieve and Percent Shell are Determined in Accordance with ASTM-D6913.

Wilmington District Geotechnical Section

Drafted By: Stephen Fabian, P.G.
Date Drafted: 03/24/2023

Reviewed By:
Date Checked:
VERSION: Draft

DRILLING LOG (Cont Sheet)

INSTALLATION	SHEET
Wilmington District	2 OF 2 SHEETS

PROJECT	COORDINATE SYSTEM	HORIZONTAL	VERTICAL
Emerald Isle USCG	NC State Plane - NAD83	NAD83	MLLW

LOCATION COORDINATES	ELEVATION TOP OF BORING
N 334512.44 E 2572370.98	-7.4'

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-17.4	10.0		**SW** Grey, fine to medium sand with shell hash and trace amounts of silt		**S-5** 10.0'	
-18.8			**SP** Light grey, fine to medium grained sand, trace amounts of silt, and little amounts of shell hash			
-19.6	12.0		**SW** Dark grey, gravel sized shell hash with fine grained sand			
-20.4			**SM** Very dark grey, silty sand, trace very fine shell fragments, alternating higher amounts of silt throughout.			
-23.0	14.0		**SP** Grey, very fine to fine grained sand with trace amounts of silt and very fine shell hash. Peat lens (possible wood fragment) at 14.0'			
			BOTTOM OF BOREHOLE AT 15.6 FT SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			

Wilmington District
Geotechnical Section

DRILLING LOG

DIVISION: South Atlantic Division

INSTALLATION: Wilmington District

SHEET 1 OF 2 SHEETS

1. PROJECT: Emerald Isle USCG, Wilmington, North Carolina

2. HOLE NUMBER: **ECG-22-V-003**

LOCATION COORDINATES: N 334746.29 E 2572478.12

3. DRILLING AGENCY: USACE, Wilmington District

4. NAME OF DRILLER: Lester Gaughf-Snell Crane Operator

5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED; DEG FROM VERTICAL: ---; BEARING:

6. THICKNESS OF OVERBURDEN:

7. DEPTH DRILLED INTO ROCK:

8. TOTAL DEPTH OF BORING: 13.5 FT

9. COORDINATE SYSTEM: NC State Plane - NAD83; HORIZONTAL: NAD83; VERTICAL: MLLW

10. SIZE AND TYPE OF BIT: 4" Vibracore SNELL

11. MANUFACTURER'S DESIGNATION OF DRILL:

12. TOTAL SAMPLES: DISTURBED 0; UNDISTURBED 0

13. TOTAL NUMBER CORE BOXES: 0

14. ELEVATION GROUND WATER: See Remarks

15. DATE TIME GROUP OF BORING: STARTED 10/11/22 @ 0000 hrs; COMPLETED 10/11/22 @ 0000 hrs.

16. ELEVATION TOP OF BORING: -7.2' MLLW

17. TOTAL CORE RECOVERY FOR BORING: N/A

18. SIGNATURE AND TITLE OF INSPECTOR: Stephen Fabian, P.G., Geologist

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-7.2	0.0		**SP** Grey, fine poorly graded sand, uniform texture, clean quartz sand with trace amounts of silt and trace amounts of very fine shell hash	Core Run / Recovery %	1.0' S-1 2.0' 3.0' S-2 4.0' 5.0' S-3 6.0' 7.0' S-4 8.0'	
	2.0					
	4.0					
	6.0					
	8.0					

LAB CLASSIFICATION

Sample ID	Lab Class.	% Content Shell	#200 Fines	Gravel
S-1	SP	0	1	0
S-2	SP	0	1	0
S-3	Not Tested			
S-4	Not Tested			
S-5	Not Tested			

NOTE: Soils are Visually Lab Classified in Accordance with ASTM-D2487. Percent Passing #200 Sieve and Percent Shell are Determined in Accordance with ASTM-D6913.

Wilmington District Geotechnical Section

Drafted By: Stephen Fabian, P.G.
Date Drafted: 03/24/2023

Reviewed By:
Date Checked:
VERSION: Draft

DRILLING LOG (Cont Sheet)

INSTALLATION: Wilmington District			SHEET 2 OF 2 SHEETS
PROJECT: Emerald Isle USCG	COORDINATE SYSTEM: NC State Plane - NAD83	HORIZONTAL: NAD83	VERTICAL: MLLW
LOCATION COORDINATES: N 334746.29 E 2572478.12	ELEVATION TOP OF BORING: -7.2'		

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-17.0						
	10.0		**SW** Light grey, fine to coarse sand with gravel-sized shell hash		10.0'	
					S-5	
					11.0'	
-19.2	12.0		**SP** Grey, fine grained sand uniform texture, clean quartz sand, with trace amounts of silt and trace amounts of very fine shell hash			
-20.7			BOTTOM OF BOREHOLE AT 13.5 FT			
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			

Wilmington District
Geotechnical Section

DRILLING LOG

DIVISION: South Atlantic Division

INSTALLATION: Wilmington District

SHEET 1 OF 2 SHEETS

1. PROJECT: Emerald Isle USCG, Wilmington, North Carolina

2. HOLE NUMBER: **ECG-22-V-004**

LOCATION COORDINATES: N 333470.64 E 2572736.64

3. DRILLING AGENCY: USACE, Wilmington District

4. NAME OF DRILLER: Lester Gaughf-Snell Crane Operator

5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED; DEG FROM VERTICAL: ---; BEARING:

6. THICKNESS OF OVERBURDEN:

7. DEPTH DRILLED INTO ROCK:

8. TOTAL DEPTH OF BORING: 15.1 FT

9. COORDINATE SYSTEM: NC State Plane - NAD83; HORIZONTAL: NAD83; VERTICAL: MLLW

10. SIZE AND TYPE OF BIT: 4" Vibracore SNELL

11. MANUFACTURER'S DESIGNATION OF DRILL:

12. TOTAL SAMPLES: DISTURBED 0; UNDISTURBED 0

13. TOTAL NUMBER CORE BOXES: 0

14. ELEVATION GROUND WATER: See Remarks

15. DATE TIME GROUP OF BORING: STARTED 10/11/22 @ 0000 hrs; COMPLETED 10/11/22 @ 0000 hrs.

16. ELEVATION TOP OF BORING: -5' MLLW

17. TOTAL CORE RECOVERY FOR BORING: N/A

18. SIGNATURE AND TITLE OF INSPECTOR: Stephen Fabian, P.G., Geologist

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-5.0						
	0.0		**SP** Grey, mottled light brown fine grained sand uniform texture, trace amounts of silt		1.0'	
					S-1	
	2.0				2.0'	
				Core Run	3.0'	
				Recovery %	**S-2**	
-9.1	4.0				4.0'	
			ML Black, mostly silt with a fine sand lens 5-5.2' trace fine shell fragments		**S-3**	
					4.5'	
-10.6						
	6.0		**SP-SM** Dark grey, very fine grained sand with some silt and trace amounts of very fine shell hash		6.0'	
					S-4	
-11.5					6.5'	
			SP Grey, fine to medium grained sand with fine to medium shell hash lens from 9.0' to 9.3'.			
	8.0					

LAB CLASSIFICATION

Sample ID	Lab Class.	% Content Shell	% Content #200 Fines	% Content Gravel
S-1	SP	0	1	0
S-2	SP	0	1	0
S-3	SM	0	48	0
S-4	Not Tested----------			
S-5	Not Tested----------			

NOTE: Soils are Visually Lab Classified in Accordance with ASTM-D2487. Percent Passing #200 Sieve and Percent Shell are Determined in Accordance with ASTM-D6913.

Wilmington District Geotechnical Section

Drafted By: Stephen Fabian, P.G.
Date Drafted: 03/24/2023

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Date Checked:
VERSION: Draft

DRILLING LOG (Cont Sheet)

INSTALLATION: Wilmington District			SHEET 2 OF 2 SHEETS
PROJECT: Emerald Isle USCG	COORDINATE SYSTEM: NC State Plane - NAD83	HORIZONTAL: NAD83	VERTICAL: MLLW
LOCATION COORDINATES: N 333470.64 E 2572736.64	ELEVATION TOP OF BORING: -5'		

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10.0		**SP** Grey, fine to medium grained sand with fine to medium shell hash lens from 9.0' to 9.3'.		10.0'	
					S-5	
-16.5					11.0'	
	12.0		**SW** Grey, fine to medium with shell hash throughout with trace amounts of silt			
-17.3			**SP** Grey, fine to medium sand with shell hash lens from 13.7' to 13.9' with trace amounts of silt			
-19.2	14.0		**SP** Grey, fine grained sand with trace amounts of fine shell and silt			
-20.1			BOTTOM OF BOREHOLE AT 15.1 FT SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			

Wilmington District
Geotechnical Section

DRILLING LOG

DIVISION: South Atlantic Division

INSTALLATION: Wilmington District

SHEET 1 OF 2 SHEETS

1. PROJECT	Emerald Isle USCG Wilmington, North Carolina
2. HOLE NUMBER	**ECG-22-V-005**
LOCATION COORDINATES	N 333061.3 E 2572889.7
3. DRILLING AGENCY	USACE, Wilmington District
4. NAME OF DRILLER	Lester Gaughf-Snell Crane Operator
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG FROM VERTICAL	---
BEARING	
6. THICKNESS OF OVERBURDEN	
7. DEPTH DRILLED INTO ROCK	
8. TOTAL DEPTH OF BORING	15.1 FT
9. COORDINATE SYSTEM	NC State Plane - NAD83
HORIZONTAL	NAD83
VERTICAL	MLLW
10. SIZE AND TYPE OF BIT	4" Vibracore SNELL
11. MANUFACTURER'S DESIGNATION OF DRILL	
12. TOTAL SAMPLES	
DISTURBED	0
UNDISTURBED	0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	See Remarks
15. DATE TIME GROUP OF BORING	STARTED 10/11/22 @ 0000 hrs. COMPLETED 10/11/22 @ 0000 hrs.
16. ELEVATION TOP OF BORING	-7' MLLW
17. TOTAL CORE RECOVERY FOR BORING	N/A
18. SIGNATURE AND TITLE OF INSPECTOR	Stephen Fabian, P.G., Geologist

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-7.0	0.0		**SP** Light to dark grey throughout, fine to medium grained sand uniform texture with little amounts of fine to medium shell fragmetns and hash throughout. Ripup clast at 7.0' <0.1'	Core Run Recovery %	1.0' **S-1** 2.0' 4.0' **S-2** 5.0' 7.0' **S-3** 8.0'	

2.0
4.0
6.0
8.0

LAB CLASSIFICATION

Sample ID	Lab Class.	% Content Shell	#200 Fines	Gravel
S-1	SP	0	1	0
S-2	SP	0	1	0
S-3	Not Tested----------			
S-4	Not Tested----------			

NOTE: Soils are Visually Lab Classified in Accordance with ASTM-D2487. Percent Passing #200 Sieve and Percent Shell are Determined in Accordance with ASTM-D6913.

Wilmington District Geotechnical Section

Drafted By: Stephen Fabian, P.G.
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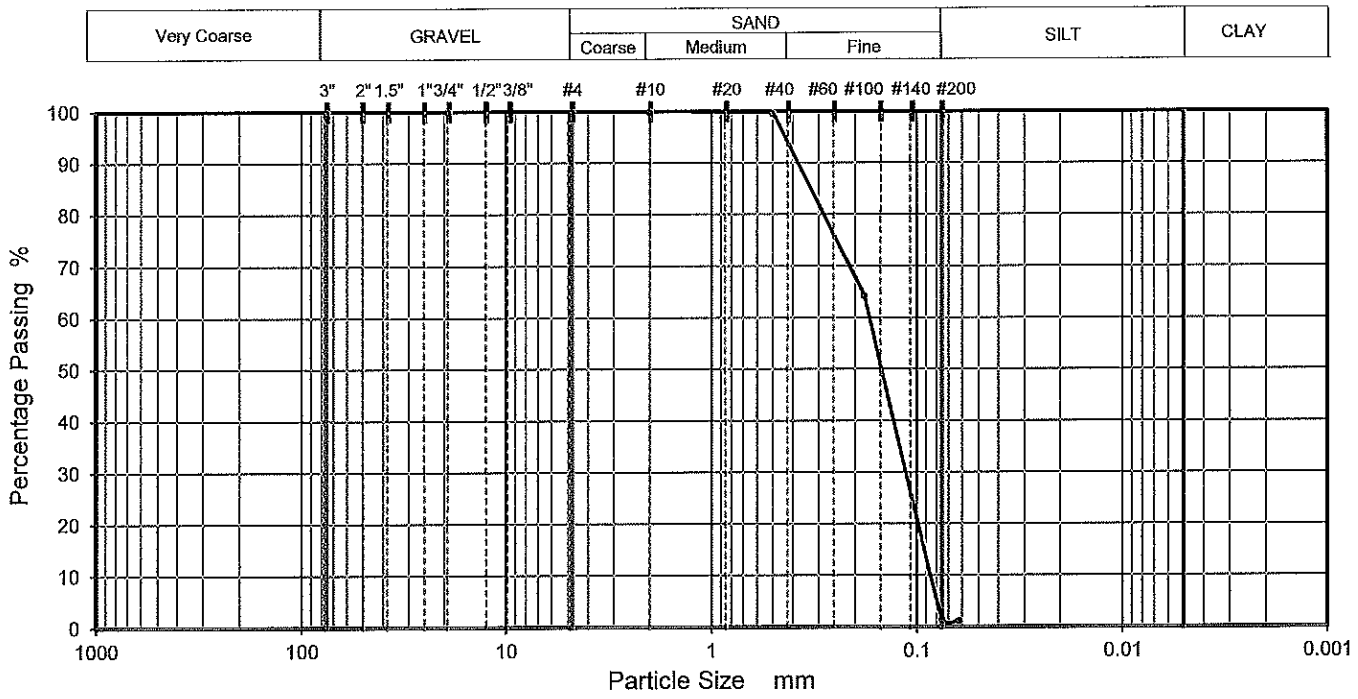
DRILLING LOG (Cont Sheet)

INSTALLATION: Wilmington District			SHEET 2 OF 2 SHEETS
PROJECT: Emerald Isle USCG	COORDINATE SYSTEM: NC State Plane - NAD83	HORIZONTAL: NAD83	VERTICAL: MLLW
LOCATION COORDINATES: N 333061.3 E 2572889.7	ELEVATION TOP OF BORING: -7'		

ELEV (MLLW) a	DEPTH (feet) b	LEGEND c	FIELD CLASSIFICATION OF MATERIALS (Description) d	% CORE REC e	BOX OR SAMPLE # f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10.0		**SP** Light to dark grey throughout, fine to medium grained sand uniform texture with little amounts of fine to medium shell fragmetns and hash throughout. Ripup clast at 7.0' <0.1'		10.0'	
					S-4	
					11.0'	
	12.0					
	14.0					
-22.1						
			BOTTOM OF BOREHOLE AT 15.1 FT			
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			

Wilmington District
Geotechnical Section

PARTICLE SIZE DISTRIBUTION



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#10	100		
#35	100		
#80	64		
#200	2		
#230	1		

Dry Mass of sample, g: 347.5

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	0
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	2

USCS	SP	Liquid Limit		D90	0.377	D50	0.147	D10	0.084
AASHTO		Plastic Limit		D85	0.326	D30	0.112	Cu	2.005
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.169	D15	0.091	Cc	0.870

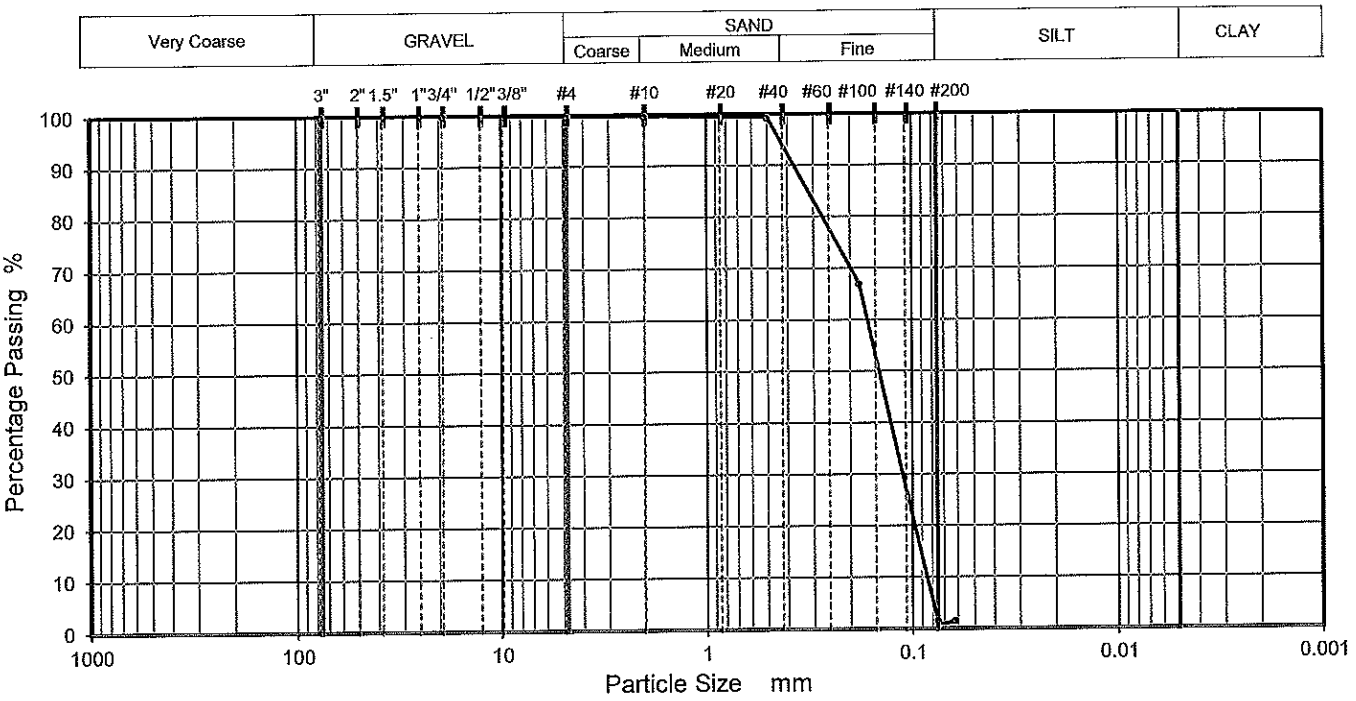
Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-001

Project No.: 22:33186
Depth (ft): 1.0 - 2.0
Sample No.: S-1
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 or #4 sieve

PARTICLE SIZE DISTRIBUTION



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#10	100		
#35	99		
#80	67		
#200	2		
#230	2		

Dry Mass of sample, g	278.3

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	0
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	2

USCS	SP	Liquid Limit		D90	0.371	D50	0.143	D10	0.084
AASHTO		Plastic Limit		D85	0.317	D30	0.110	Cu	1.953
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.164	D15	0.090	Cc	0.874

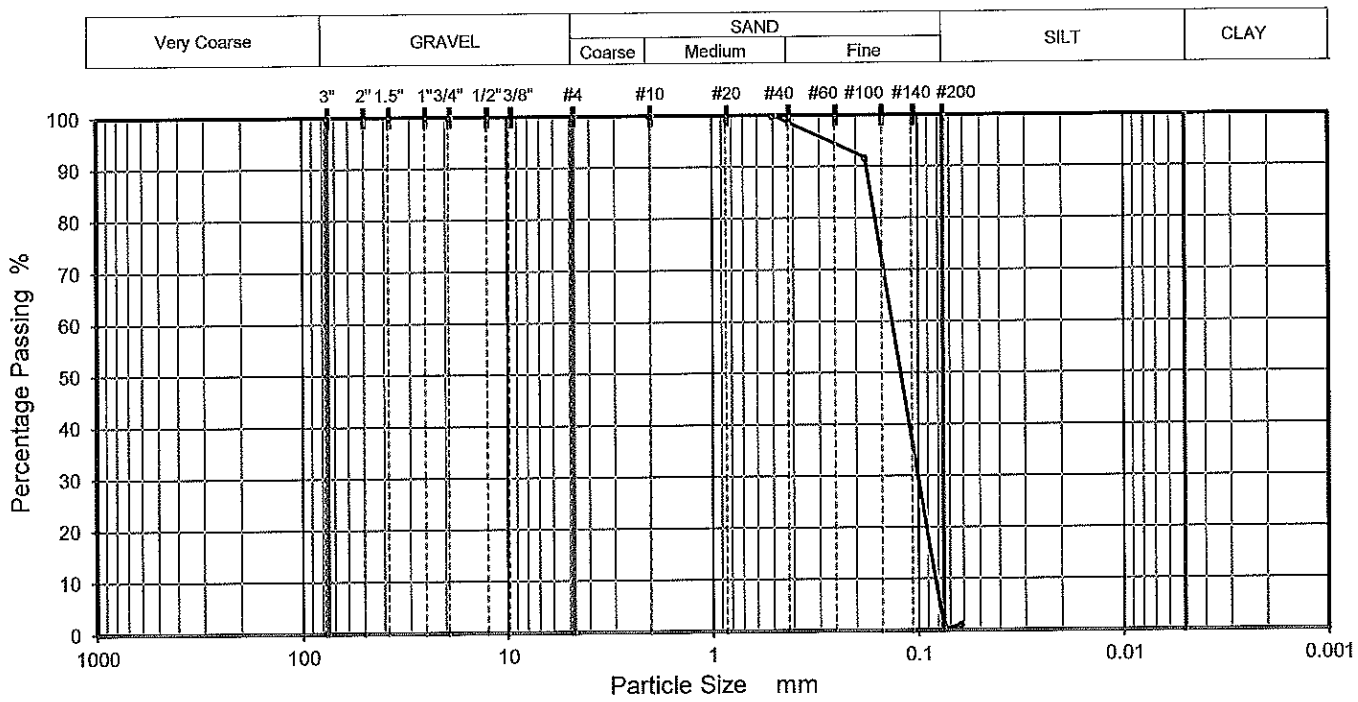
Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-001

Project No.: 22:33186
Depth (ft): 3.0 - 4.0
Sample No.: S-2
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 sieve. 100% of material retained on #4 sieve was shell.

PARTICLE SIZE DISTRIBUTION



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#10	100		
#35	100		
#80	92		
#200	1		
#230	1		

Dry Mass of sample, g: 253.2

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	0
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	1

USCS	SP	Liquid Limit		D90	0.177	D50	0.120	D10	0.082
AASHTO		Plastic Limit		D85	0.169	D30	0.099	Cu	1.622
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.132	D15	0.086	Cc	0.908

Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-002

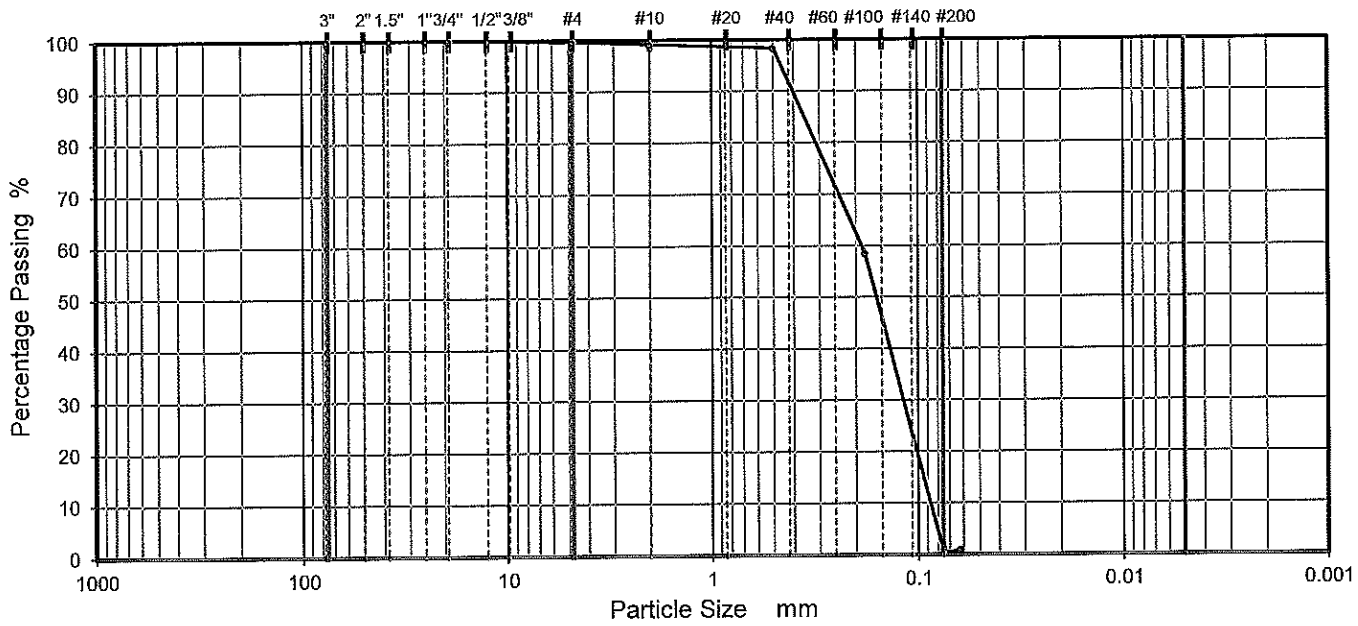
Project No.: 22:33186
Depth (ft): 1.0 - 2.0
Sample No.: S-1
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 or #4 sieve

PARTICLE SIZE DISTRIBUTION

Very Coarse	GRAVEL	SAND			SILT	CLAY
		Coarse	Medium	Fine		



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#10	99		
#35	98		
#80	59		
#200	1		
#230	1		

Dry Mass of sample, g: 261.3

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	1
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	1

USCS	SP	Liquid Limit		D90	0.403	D50	0.158	D10	0.086
AASHTO		Plastic Limit		D85	0.355	D30	0.116	Cu	2.176
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.187	D15	0.093	Cc	0.847

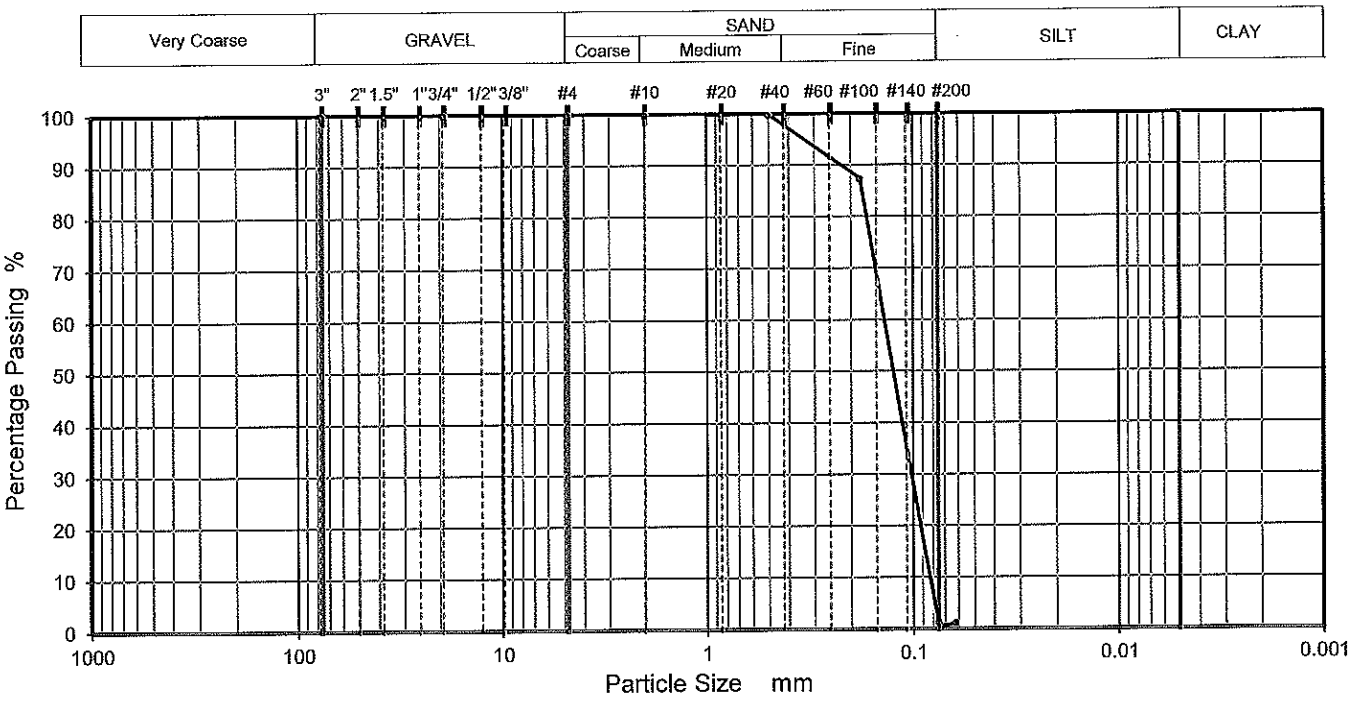
Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-002

Project No.: 22:33186
Depth (ft): 3.0 - 4.0
Sample No.: S-2
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 sieve.100% of material retained on #4 sieve was shell

PARTICLE SIZE DISTRIBUTION



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#10	100		
#35	100		
#80	88		
#200	1		
#230	1		

Dry Mass of sample, g	279.4

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	0
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	1

USCS	SP	Liquid Limit		D90	0.221	D50	0.123	D10	0.082
AASHTO		Plastic Limit		D85	0.176	D30	0.100	Cu	1.663
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.136	D15	0.086	Cc	0.903

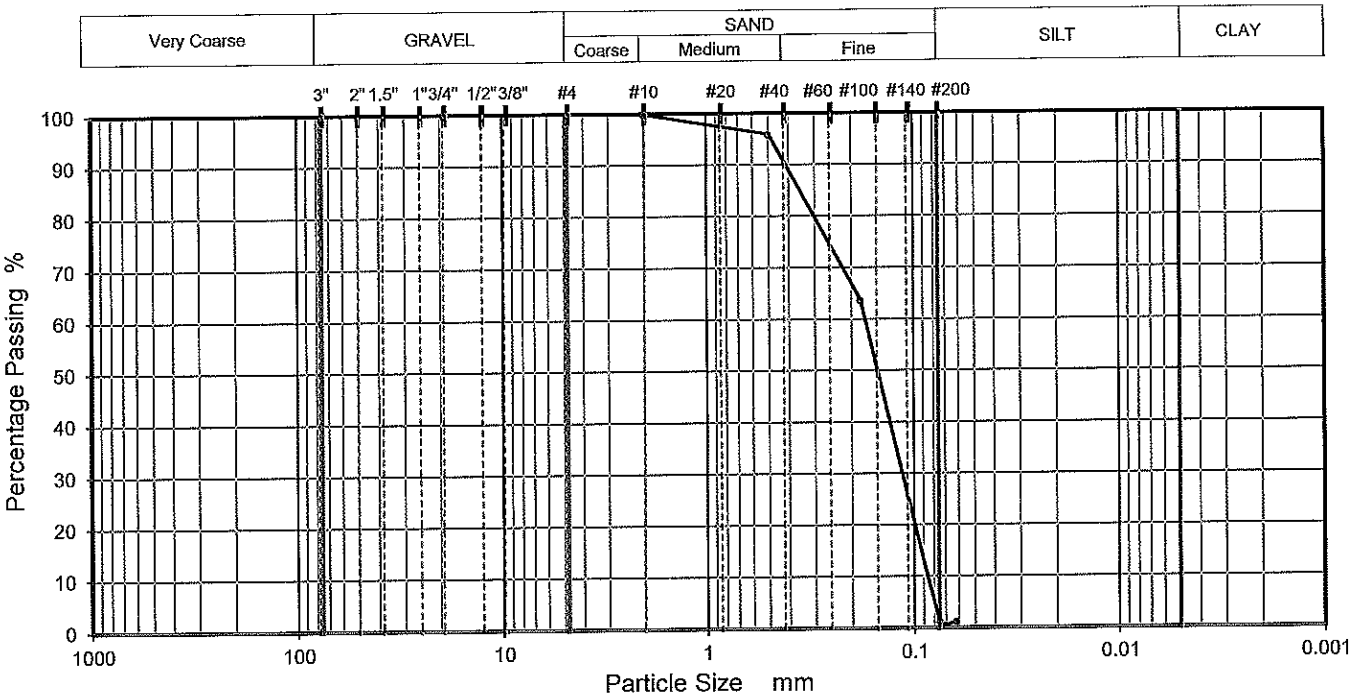
Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-003

Project No.: 22:33186
Depth (ft): 1.0 - 2.0
Sample No.: S-1
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 or #4 sieve

PARTICLE SIZE DISTRIBUTION



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#10	100		
#35	96		
#80	64		
#200	1		
#230	1		

Dry Mass of sample, g: 305.4

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	0
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	1

USCS	SP	Liquid Limit		D90	0.414	D50	0.149	D10	0.085
AASHTO		Plastic Limit		D85	0.353	D30	0.112	Cu	2.019
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.171	D15	0.091	Cc	0.869

Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-003

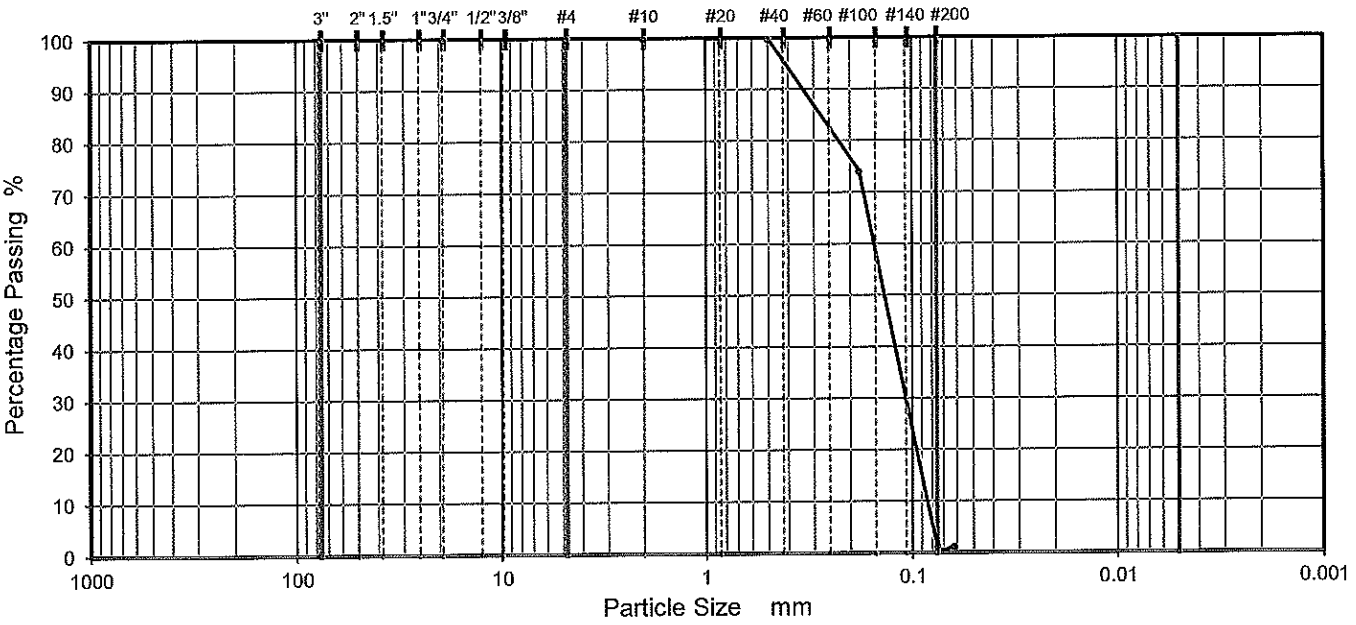
Project No.: 22:33186
Depth (ft): 3.0 - 4.0
Sample No.: S-2
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 or #4 sieve

PARTICLE SIZE DISTRIBUTION

Very Coarse	GRAVEL	SAND			SILT	CLAY
		Coarse	Medium	Fine		



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#10	100		
#35	100		
#80	74		
#200	1		
#230	1		

Dry Mass of sample, g: 261.6

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	0
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	1

USCS	SP	Liquid Limit		D90	0.337	D50	0.135	D10	0.083
AASHTO		Plastic Limit		D85	0.277	D30	0.106	Cu	1.823
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.152	D15	0.088	Cc	0.887

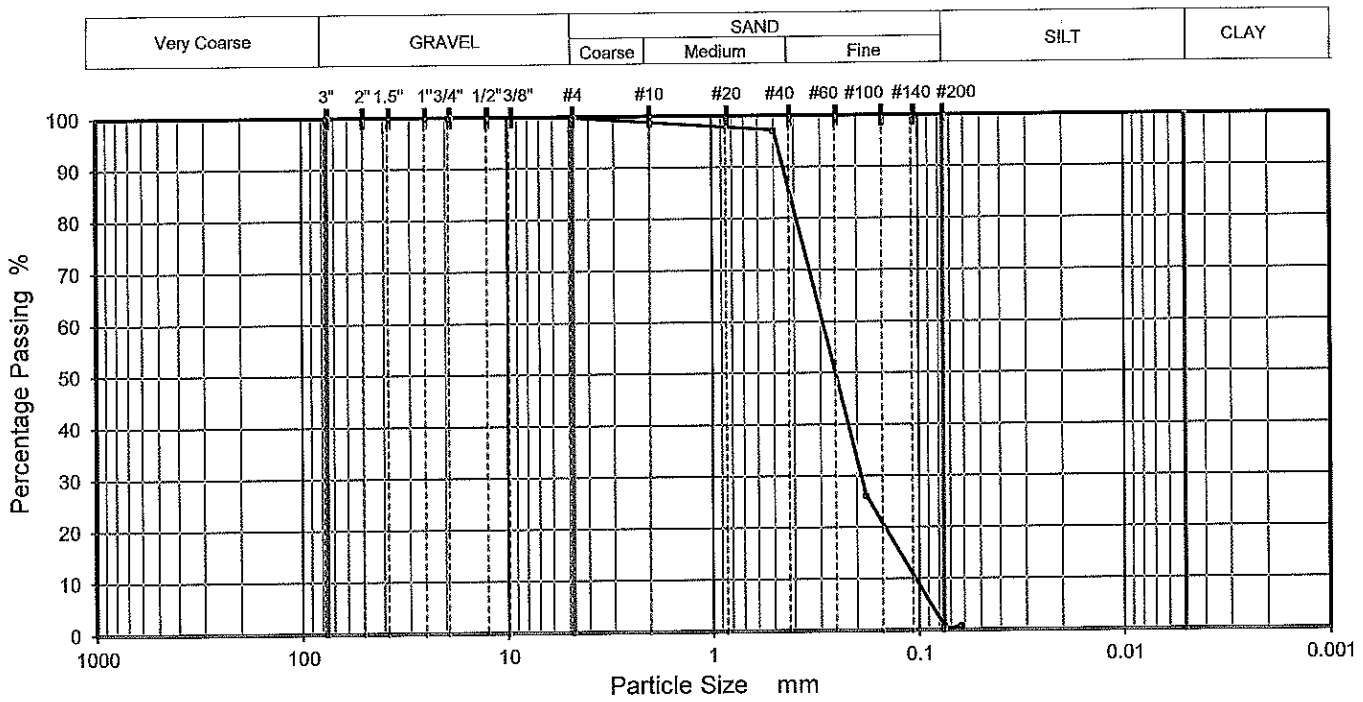
Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-004

Project No.: 22:33186
Depth (ft): 1.0 - 2.0
Sample No.: S-1
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 or #4 sieve

PARTICLE SIZE DISTRIBUTION



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#35	97		
#80	26		
#200	1		
#230	1		

Dry Mass of sample, g: 332.5

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	1

USCS	SP	Liquid Limit		D90	0.451	D50	0.253	D10	0.102
AASHTO		Plastic Limit		D85	0.419	D30	0.190	Cu	2.856
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.293	D15	0.122	Cc	1.204

Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-004

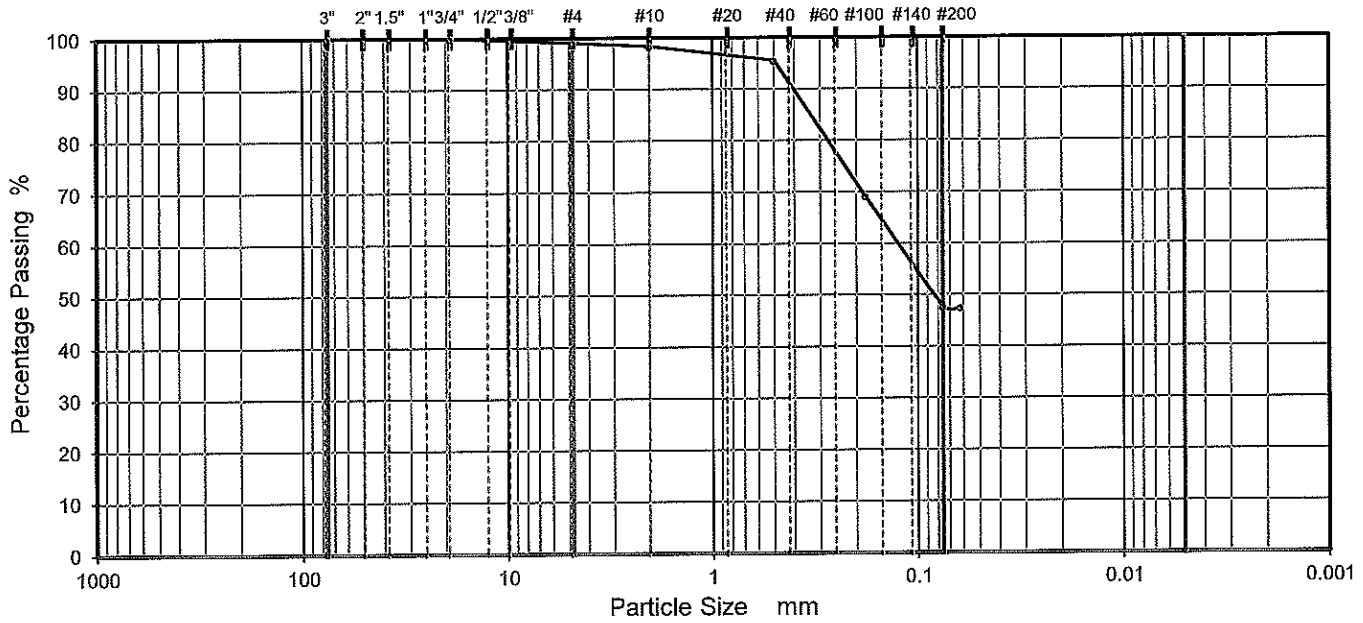
Project No.: 22:33186
Depth (ft): 3.0 - 4.0
Sample No.: S-2
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 sieve. 100% of material retained on #4 sieve was shell.

PARTICLE SIZE DISTRIBUTION

Very Coarse	GRAVEL	SAND			SILT	CLAY
		Coarse	Medium	Fine		



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	99		
#10	98		
#35	96		
#80	69		
#200	48		
#230	48		

Dry Mass of sample, g: 183.1

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	1
Coarse Sand, #4 to #10 sieve	1
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	48

USCS	SM	Liquid Limit		D90	0.403	D50	0.082	D10	
AASHTO		Plastic Limit		D85	0.332	D30		Cu	
USCS Group Name	Silty sand	Plasticity Index		D60	0.124	D15		Cc	

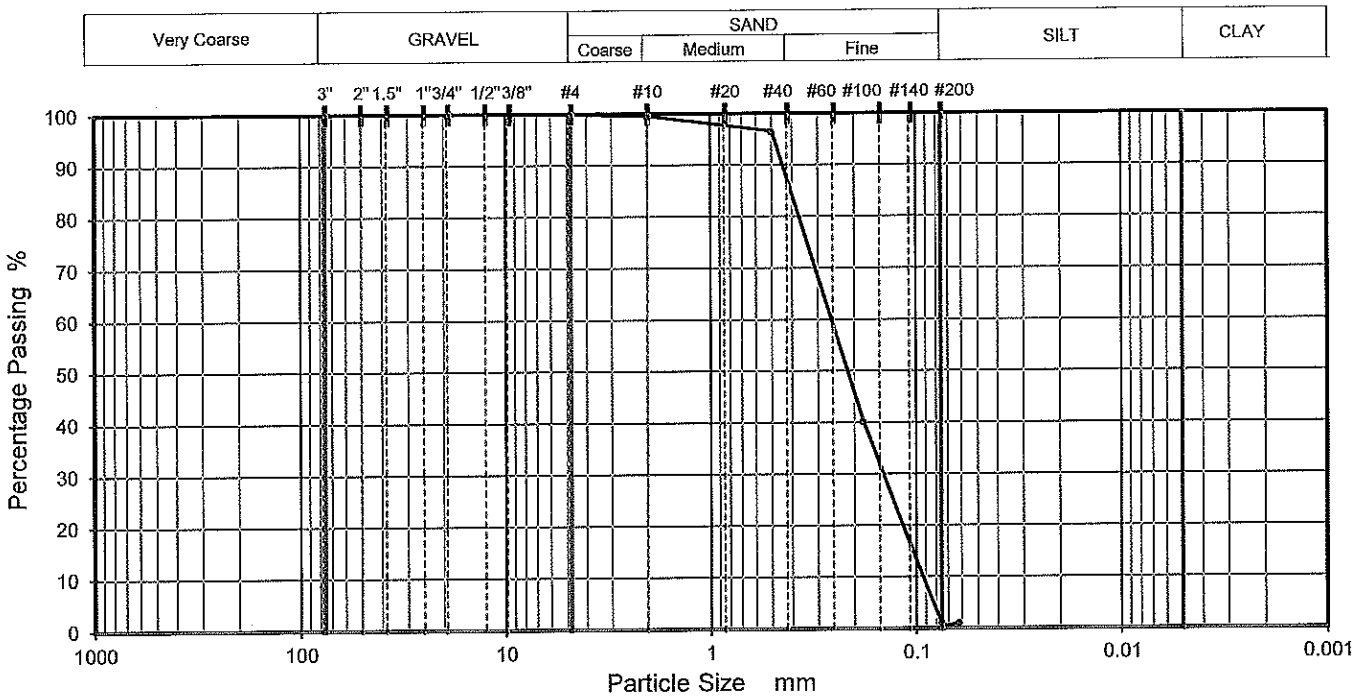
Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray ML
Sample Source: ECG-22-V-004

Project No.: 22:33186
Depth (ft): 4.0 - 4.5
Sample No.: S-3
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 sieve. 100% of material retained on #4 sieve was shell.

PARTICLE SIZE DISTRIBUTION



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#10	100		
#35	97		
#80	40		
#200	1		
#230	1		

Dry Mass of sample, g: 368.0

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	0
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	1

USCS	SP	Liquid Limit		D90	0.444	D50	0.215	D10	0.091
AASHTO		Plastic Limit		D85	0.405	D30	0.143	Cu	2.818
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.257	D15	0.102	Cc	0.869

Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-005

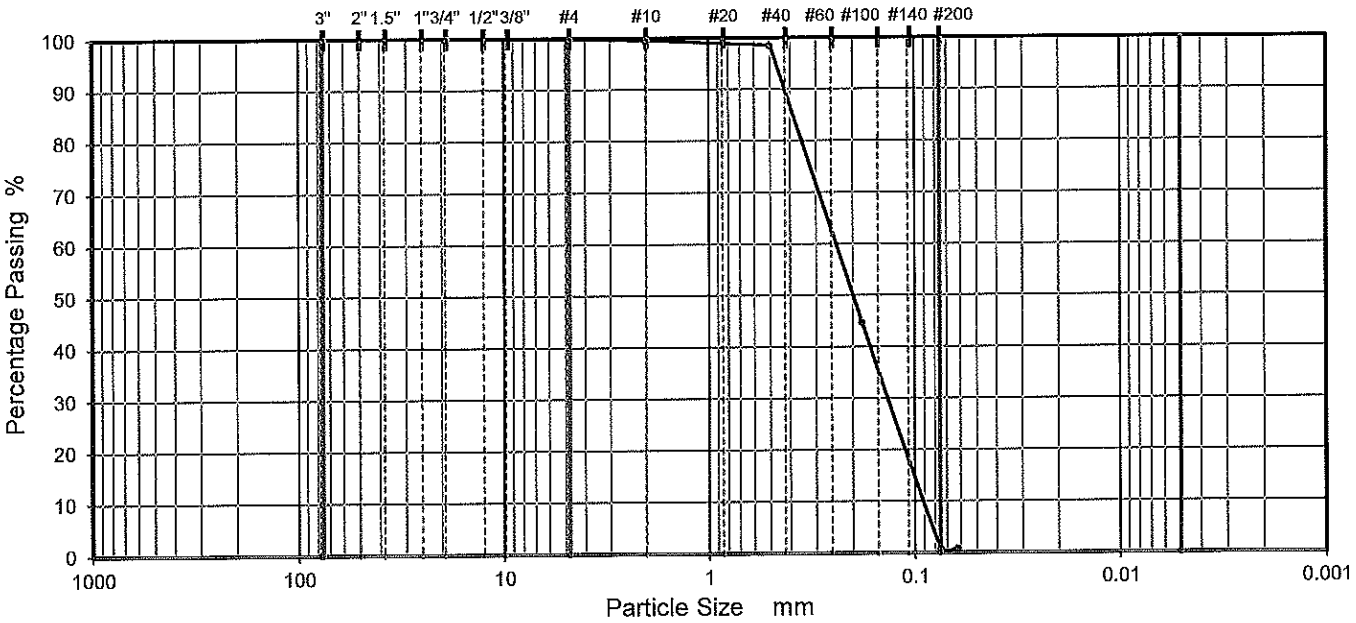
Project No.: 22:33186
Depth (ft): 1.0 - 2.0
Sample No.: S-1
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4 sieve. 100% of material retained on #4 sieve was shell

PARTICLE SIZE DISTRIBUTION

Very Coarse	GRAVEL	SAND			SILT	CLAY
		Coarse	Medium	Fine		



TEST RESULTS (ASTM D6913M-17-METHOD A)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3"	100		
3/4"	100		
#4	100		
#10	100		
#35	99		
#80	45		
#200	1		
#230	1		

Dry Mass of sample, g	329.2

Sample Proportions	% dry mass
Very coarse, >3" sieve	0
Gravel, 3" to # 4 sieve	0
Coarse Sand, #4 to #10 sieve	0
Medium Sand, #10 to #40	
Fine Sand, #40 to #200	
Fines <#200	1

USCS	SP	Liquid Limit		D90	0.425	D50	0.198	D10	0.090
AASHTO		Plastic Limit		D85	0.386	D30	0.134	Cu	2.673
USCS Group Name	Poorly graded sand	Plasticity Index		D60	0.240	D15	0.099	Cc	0.830

Project: Emerald Isle USCG Project
Client: USACE - Wilmington District
Sample Description: gray SP
Sample Source: ECG-22-V-005

Project No.: 22:33186
Depth (ft): 4.0 - 5.0
Sample No.: S-2
Date Reported: 5/12/2023

Office / Lab	Address	Office Number / Fax
ECS Southeast LLP - Wilmington	6714 Netherlands Drive Wilmington, NC 28405	(910)686-9114 (910)686-9666

Tested by	Checked by	Approved by	Date Received	Remarks
		MYoung1		0% retained on 3/4. 100% of material retained on #4 sieve was shell

Attachment B

Updated Lists of ESA Listed Species (IPAC)

Environmental Assessment Maintenance Dredging
U.S. Coast Guard Station, Emerald Isle

Carteret County, North Carolina

October 2023

Prepared by:

Environmental Resources Section

U.S. Army Corps of Engineers, Wilmington District

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Ecological Services Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Phone: (919) 856-4520 Fax: (919) 856-4556

In Reply Refer To: February 16, 2022
Project Code: 2022-0008449
Project Name: US Coast Guard Emerald Isle EA

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Raleigh Ecological Services Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
(919) 856-4520

Project Summary

Project Code: 2022-0008449
Event Code: None
Project Name: US Coast Guard Emerald Isle EA
Project Type: Navigation Channel Improvement
Project Description: In 2008, the USACE completed an EA that authorized dredging the USCG navigation channel to ensure access to the USACE federally maintained navigation channel. The USCG navigation channel is 6 feet deep mean lower low water (MLLW), with 2 feet of allowable overdepth, by 90 feet wide. Due to the dynamic nature of the area, the USCG navigation channel follows naturally occurring deep water and currently extends approximately 4,000 to 5,000 feet north of the basin. The USACE is preparing an EA that proposes an additional channel route to the south. This route would give the USCG two options to exit the Station, providing more flexibility in accessing the federal channel and would provide a direct route to Bogue Inlet, following a natural deep water. The USACE federal channel also follows naturally occurring deep water and the channel historically migrates between an eastern route and a western route between the Atlantic Intercoastal Waterway and the inlet. The proposed southern route for the USCG's use has been previously dredged as part of the USACE federal channel

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.64745465,-77.10437755540599,14z

Counties: Carteret and Onslow counties, North Carolina

Endangered Species Act Species

There is a total of 16 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened
West Indian Manatee *Trichechus manatus* There is **final** critical habitat for this species. The location of the critical habitat is not available. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/4469	Threatened

Birds

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Red-cockaded Woodpecker *Picoides borealis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered
Roseate Tern *Sterna dougallii dougallii* Population: Northeast U.S. nesting population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Reptiles

NAME	STATUS
American Alligator *Alligator mississippiensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/776	Similarity of Appearance (Threatened)
Green Sea Turtle *Chelonia mydas* Population: North Atlantic DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Kemp's Ridley Sea Turtle *Lepidochelys kempii* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle *Dermochelys coriacea* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle *Caretta caretta* Population: Northwest Atlantic Ocean DPS There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

Flowering Plants

NAME	STATUS
Cooley's Meadowrue *Thalictrum cooleyi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3281	Endangered
Pondberry *Lindera melissifolia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1279	Endangered
Rough-leaved Loosestrife *Lysimachia asperulaefolia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2747	Endangered
Seabeach Amaranth *Amaranthus pumilus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8549	Threatened

Critical habitats

There are 2 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Loggerhead Sea Turtle *Caretta caretta* https://ecos.fws.gov/ecp/species/1110#crithab	Final
Piping Plover *Charadrius melodus* https://ecos.fws.gov/ecp/species/6039#crithab	Final

IPaC User Contact Information

Name: Jeremy Overstreet
Address: 69 Darlington Avenue
City: Wilmington
State: NC
Zip: 28402
Email jeremy.r.overstreet@usace.army.mil
Phone: 9102514700

Attachment C

Public and Agency Comments and Responses

Draft Environmental Assessment Maintenance Dredging
U.S. Coast Guard Station, Emerald Isle

Carteret County, North Carolina

October 2023

Prepared by:

Environmental Resources Section

U.S. Army Corps of Engineers, Wilmington District

Table of Contents

FEDERAL AGENCY COMMENTS & RESPONSES

Environmental Protection Agency (EPA)
Email Dated 16 September 2022

EPA Comment 1: *Dredged Material*: According to Section 5.1 of the document, dredged material containing less than 10% fine-grained material may be used for beach nourishment or stored in placement areas for future use. Dredged material composed of greater than 10% fine-grained would be placed in a confined upland placement site. The EPA recommends sediment be tested for contaminants prior to the commencement of dredging activities. If contaminants are found to be present, the USACE should coordinate with the North Carolina Department of Environmental Quality for their proper disposal. The EPA is available to provide additional technical guidance and support for selection of appropriate placement sites and determining suitability of material.

USACE Response 1: Based on a query of available HTRW/spill databases and investigation of historic aerial photographs and current imagery, the USACE finds no evidence suggesting the sediments in the project area have been contaminated. This information has been added to the final EA. In addition, USACE appreciates a close coordinating relationship with the NC Dept of Environmental Quality on dredging projects as a courtesy and safeguard for such concerns (see State Agency Comments and Responses below).

EPA Comment 2: *Water Quality*: Section 6.02.02 of the draft EA states, "*Sediments in the vicinity of the north and southwest routes have been sampled and tested and all material to be dredged has less than 10% fines (=90% sand) and therefore is not likely to produce significant turbidity. Sediments in the new area of dredging will be tested prior to dredging to determine the available placement options*." The EPA recommends continued consultation with the North Carolina Division of Water Quality regarding potential water quality impacts from the proposed project and the implementation of turbidity monitoring to ensure suspended solids dissipate from the water column as rapidly as anticipated.

USACE Response 2: The USACE has and will continue to coordinate with the NC Division of Water Resources throughout the project. Additionally, the USACE will obtain a Section 401 Water Quality Certification (WQC) for the proposed work and will comply with all WQC conditions, in addition to the commitments documented in the EA to minimize turbidity.

EPA Comment 3: *Air Quality*: The proposed activity is located in Cateret County, North Carolina which has not been designated as non-attainment or maintenance status for any of the National Ambient Air Quality Standards. The proposed activity may

result in slight increases in air emissions but are anticipated to be minor and short in duration. The EPA recommends the use of diesel controls and implementing strategies and technologies that reduce unnecessary idling.

USACE Response 3: As part of the USACE project specifications, a temporary environmental controls section is included. Outlined within is the requirement for an Installation Environmental Officer (Air Program Manager) who must identify all air pollution generating equipment and processes and provide a list of all fixed or mobile equipment, machinery, or operations that could generate air emissions during the project. The contractors are also required to maintain applicable records and log the hours of operation, fuel use, reason for operation, and delineate between emergency and non-emergency operations of any internal combustion engines that will be used or serviced.

U.S. Fish and Wildlife Service (USFWS)
Email Dated 19 August 2022

USFWS Comment 1: Thanks for the opportunity to review the Final Draft EA for this project. Since beach placement is proposed to follow the requirements of the 2017 SPBO, and the Corps also proposes to follow the 2017 Manatee Guidelines, I don't have objections or significant comments on the project. I agree that sand placement from the project may be covered under the USFWS 2017 Statewide Programmatic Biological Opinion for North Carolina Coastal Beach Sand Placement.

USACE Response 1: Noted.

USFWS Comment 2: On Page 34, the EA states: "All conditions and conservation recommendations of the USFWS 2017 North Carolina Coastal Beach Sand Placement, Statewide Programmatic Biological Opinion will be abided by, therefore no impacts to T&E species including Seabeach Amaranth are anticipated. The roseate tern, eastern black rail and sensitive joint-vetch are not likely to occur within the project area. The West Indian manatee may be present, however, by following the 2017 USFWS Guidelines for Avoiding Impacts to the West Indian Manatee, no impacts are anticipated." Then, Page 36 states: "All dredging and placement activities for the No Action alternative would be conducted in accordance with the PDCs of the 2020 SARBO and the terms and conditions of the USFWS Statewide Programmatic BO, thereby leading to a may affect, not likely to adversely affect determination for sea turtles, sturgeon, sawfish, manatee and whales, piping plover, red knot, and seabeach amaranth." Page 37 has similar language for Alternatives 2 and 3.

It is important to note that the 2017 USFWS SPBO provides coverage to the Corps for potential adverse impacts to listed species from the project, so it is not appropriate to indicate that there will be no effect or no adverse effects. There may be adverse affects, but the Corps is covered if the project complies with the SPBO. This only applies for the species covered by the SPBO (sea turtles, red knot, piping

plover, seabeach amaranth, and the various critical habitats found on Bogue Banks). The same is true for the SARBO. It provides legal coverage for potential adverse impacts to listed species under the purview of NMFS, so a NE or MANLAA determination should not be made for those species.

For West Indian manatee, it is fine to make a MANLAA determination if the 2017 Manatee Guidelines are followed (but I would not recommend "no effect"), because the Guidelines are intended to minimize the potential for adverse impacts to the manatee. So, I would separate manatee from the other species and state that the adherence to the 2017 Manatee Guidelines will avoid and minimize the potential for adverse impacts to West Indian manatee, and therefore the three alternatives are not likely to adversely affect that species.

For the species covered by the USFWS SPBO and NMFS SARBO, I would revise the language to make a determination of "May Affect, but the Corps is relying upon the findings of the USFWS 2017 North Carolina Coastal Beach Sand Placement, Statewide Programmatic Biological Opinion and the 2020 SARBO to meet its responsibilities under Section 7(a)(2) of the ESA."

USACE Response 2: Concur; USACE has updated section 6.09 to reflect the recommended changes. USACE thanks the USFWS for their considerations and recommendations for improving language accuracy.

National Marine Fisheries Service – Habitat Conservation Division (NMFS)
Email Dated 30 August 2023

NMFS Comment 1: NOAA's National Marine Fisheries Service (NMFS) reviewed the project described in public notice dated August 17, 2023, for dredging that would add an additional southwest route to provide the USCG with two options to exit its Emerald Isle Station, located in Carteret County. Based on the information in the notice and Environmental Assessment, we confirm the District's determination that the proposed work would occur in the vicinity of essential fish habitat (EFH) designated by the South Atlantic Fishery Management Council, Mid-Atlantic Fishery Management Council, or the NMFS. Present staffing levels preclude further analysis of the proposed work and no further action is planned. This position is neither supportive of nor in opposition to authorization of the proposed work.

USACE Response 1: Noted.

STATE AGENCY COMMENTS & RESPONSES

North Carolina Wildlife Resources Commission (NCWRC)
Letter Dated 12 September, 2022

NCWRC Comment 1: The NCWRC has reviewed the DEA. Our agency is familiar with the project and provided comments during the scoping process (30 December 2021, Dunn) as well as during previous project reviews. We appreciate the incorporation of requested measures to minimize impacts to important wildlife resources. The primary management tool request, the April 1 – November 15 moratorium, will help minimize impacts to a wide variety of resources, including piping plover (*Charadrius melodus melodus*), red knot (*Calidris canutus rufa*), roseate tern (*Sterna dougallii dougallii*), gull-billed tern (*Sterna nilotica*), common tern (*Sterna hirundo*), least tern (*Sterna antillarum*), black skimmer (*Rynchops niger*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), little blue heron (*Egretta caerulea*), glossy ibis (*Plegadis falcinellus*), Wilson's plover (*Charadrius wilsonia*), American oystercatcher (*Haematopus palliatus*), and Kemp's Ridley (*Lepidochelys kempi*), hawksbill (*Eretmochelys imbricata*), leatherback (*Dermochelys coriacea*), loggerhead (*Caretta caretta*), and green (*Chelonia mydas*) sea turtles. This moratorium also includes the growing season for submerged aquatic vegetation (SAV), thereby protecting another important aquatic habitat.

USACE Response 1: Noted.

NCWRC Comment 2: The NCWRC does not object to the addition of the new 300' "shortcut" channel with the Southwest Route. We note that the DEA states a 100' buffer would be present between the dredged channel and SAV, with SAV being identified by aerial photography and GIS prior to the dredge event. Generally, the NCWRC recognizes a 300' buffer as a more protective buffer to minimize impacts to SAV. Conducting dredge activities outside the SAV growing season minimizes impacts to SAV, but we also request the buffer between dredging and SAV be increased to the greatest extent possible beyond the 100' buffer.

USACE Response 2: Concur. The buffer between dredging and SAV will be increased to 300-feet to the greatest extent practicable. The USACE updated the language in sections 6.06.01 and 6.06.10 of the final EA to include the suggested language in this comment as well as NCDMF's comment 2. The buffer sentences now read: "A minimum of a 100-foot buffer will be placed around any SAVs identified, with the use of a 300-foot buffer to the greatest extent practicable to protect SAV from effects of turbidity and sedimentation" and "A minimum of 100-foot buffer will be placed around any SAVs identified to protect them from effects of turbidity and sedimentation. No dredging or placement, including sidecasting of dredged material, will occur within 100 feet of identified SAVs, and a 300-foot buffer will be followed to the greatest extent practicable."

NCWRC Comment 3: The DEA states only beach quality sand would be sidecasted, placed on the beach or placed in the designated nearshore placement area. Material with greater than 10% fine-grain sediment would be placed in PA 60 or PA 61. Our earlier comments requested only beach quality material be placed within PA 60. We continue to request this condition to protect the quality of avian habitat on the disposal site. However, if the site is used for disposal of fine material, it should only be placed at the eastern end of the island. Please coordinate closely with the NCWRC waterbird biologist prior to using this site.

USACE Response 3: Concur. The USACE will prioritize use of PA 61 over PA 60 for fine-grained material and any fine-grained material will be placed on the eastern end of PA 61. USACE has updated the language in sections 6.00 and 6.09 of the final EA to reflect this. Additionally, the USACE will coordinate closely with the NCWRC waterbird biologist prior to using this site.

NCWRC Comment 4: We also would like to ask the USACE to continue to consider material placement on Bogue Inlet Shoal. This deposition site would provide a benefit for waterbirds and may increase sediment management opportunities. Use of this site has the benefit of compliance with state requirements of returning beach quality material to the active nearshore, beach or inlet shoal system and would have the added benefit of restoring waterbird habitat. Furthermore, this benefit would help to offset negative impacts of frequent beach disposal as it would provide an alternate nesting site.

USACE Response 4: The USACE has added Bogue Inlet Shoal as a potential future placement area in the final EA. It is also noted, however, that the State Park or other entity would be responsible for obtaining the appropriate permits and approvals prior to USACE placing material at the site (should there be a need and funding).

NCWRC Comment 5: While we understand the Town of Emerald Isle and the Carteret County Shore Protection Office will be in consultation with the USACE for material placed within the designated beach and nearshore deposition areas and that any manipulation outside the designated areas would require additional authorizations, we would like to once again reference the *Bogue Inlet Waterbird Management Plan* (2004) prepared by the NCWRC and the US Fish and Wildlife Service (USFWS). This document was established to help address and mitigate impacts the realignment of Bogue Inlet had on avian resources on the western end of Bogue Banks within the Town of Emerald Isle. While the USACE may not be directly involved in some of the management strategies of this document, we request they encourage the Town and County to consult with resource agencies and abide by the existing plan during material placement events.

USACE Response 5: Although, the USACE is not directly involved with the Bogue Inlet Management Plan, if/when material is placed on the beach or in the nearshore, we would encourage compliance with the plan, including resource agency coordination, as applicable.

North Carolina Division of Marine Fisheries (NCDMF)
Letter Dated 14 September, 2022

NCDMF Comment 1: DMF does not object to the addition of the new 300' "shortcut" channel within the southwest route. Furthermore, DMF acknowledges and appreciates the proposed minimization measures. During the scoping process, DMF provided comments that included a recommendation for an in water work moratorium to be included in the proposal. Including this limitation will help minimize impacts to species and habitats of concern for DMF.

USACE Response 1: Noted.

NCDMF Comment 2: As described above, the proposal includes a measure to identify SAV and maintain a 100' buffer (300' during the summer months) around SAV. DMF would recommend that, if any SAV is identified during pre-dredging observations, this SAV should also be assessed after dredging operations are complete. This can help to document any potential impacts that may occur as a result of the operations.

USACE Response 2: The USACE plans to monitor SAV using aerial imagery before and after dredging events and will provide this information to resource agencies. This information has been added to section 6.06.01 of the final EA.

NCDMF Comment 3: DMF would also request additional clarity regarding the timing of the extended buffer, as it was only noted as "during summer months." DMF would recommend that the extended buffer be utilized when operations are required during the 1 April to 15 November period. This would provide the extended buffer during the entirety of the SAV growing season and, more specifically, the peak growing period.

USACE Response 3: To address this NCDMF comment and NCWRC comment 1, USACE removed language referring to extending a buffer only during certain times of the year and added language to extend the buffer area to 300 feet wherever practicable (sections 6.06.01 and 6.06.10). In addition, section 5.01 states that any dredging outside the environmental window (November 16 to March 31) will be coordinated with agencies prior to activities.

North Carolina Department of Environmental Quality (NCDEQ), Division of Waste Management (NCDWM) Solid Waste Section (SWS)
Letter Dated 14 September, 2022

NCDWM SWS Comment 1: Any waste generated by and of the project that cannot be beneficially reused or recycled as described, may require disposal of at a solid waste management facility permitted by the Division. The Section strongly recommends that the Department of the Army require all contractors to provide proof of proper disposal for all generated waste to permitted facilities. Permitted solid waste management facilities are listed on the Division of Waste Management, Solid Waste Section portal site at: https://deq.nc.gov/about/divisions/waste-management/wastemanagement-rules-data/solid-waste-management-annual-reports/solid-waste-permitted-facilitylist

USACE Response 1: USACE contractors are required to comply with Hazardous Waste Program requirements (including storage, handling, manifesting, and disposal) and comply with federal, state, and local regulations pertaining to the environment, including water, air, solid waste, hazardous wase and substances, oily substances, and noise pollution. They must maintain environmental records documenting permit compliance and provide a Solid Waste Disposal Documentation report.

North Carolina Department of Environmental Quality (NCDEQ), Division of Waste Management (NCDWM) Inactive Hazardous Sites Branch (IHSB)
Letter Dated 19 September, 2022

NCDWM IHSB Comment 1: No (0) Superfund Section sites were identified within one mile of the project as shown on the attached report.

USACE Response 1: Noted.

North Carolina Department of Environmental Quality (NCDEQ) clearinghouse
Letters Dated 26 June, 2023

DWR/Water Resources Management Comment 1: No comment.

USACE Response 1: Noted.

Hazardous Waste Section Comment 1: No comment.

USACE Response 1: Noted.

DMF-Shellfish Sanitation Comment 1: No comment.

USACE Response 1: Noted.

Department of Transportation Comment 1: No comment.

USACE Response 1: Noted.

DPS Division of Emergency Management Comment 1: No comment.

USACE Response 1: Noted.

Department of Agriculture Comment 1: No comment.

USACE Response 1: Noted.

North Carolina Department of Natural and Cultural Resources (NCSHPO)
Refer to Appendix E for complete record of correspondence and coordination with NCSHPO.

Letter Dated 26 June, 2023

NCSHPO Summary Comment 1: After reviewing the information provided from *An Archaeological Remote Sensing Survey of the U.S. Coast Guard Access Channel, Emerald Isle, North Carolina,* (May 27, 2008) conducted by Mid-Atlantic Technology and Environmental Research, Inc., it is our opinion that the proposed new "shortcut" USCG navigational route has been adequately assessed for the presence of unknown submerged cultural resources.

USACE Response 1: Noted.

NCSHPO Summary Comment 2: Despite Bogue Inlet being an area of high potential for cultural resources associated with historic maritime activity, the 2008 survey indicates a low probability of encountering unknown resources within the Area of Potential Effect that may be potentially eligible for listing on the National Register of Historic Places. We, therefore, concur with the Corps' determination that the proposed dredging of the additional USCG navigation route described in the August 2022 Environmental Assessment should have no effect on historic properties. If unknown cultural resources (i.e., shipwreck remains, etc.) are encountered, dredging operations should cease immediately in that area and professional staff at our office be contacted to make an assessment before work continues in that location.

USACE Response 2: Noted.

INDIVIDUAL, ASSOCIATION, & ORGANIZATION COMMENTS & RESPONSES

Carteret County Shore Protection Office (CCSPO)
Letter Dated 31 August 2022

CCSPO Comment 1: With regards to the current project proposal, the Commission requests that the option of the placement of beach quality material within Placement Areas 60 and 61 be eliminated from further consideration. The placement of beach quality sand within these Placement Areas would effectively eliminate the ability to beneficially utilize this sand for beach nourishment. The use of Placement Areas 60 and 61 would also potentially be inconsistent with the North Carolina Dredge and Fill Law. Specifically, NCGS 113-229 (h1) states "*beach-quality sand may be placed on the affected downdrift ocean beaches or, if placed elsewhere, an equivalent quality and quantity of sand from another location shall be placed on the downdrift ocean beaches".* NCHS I 13-229 (h2) continues by mandating beach quality sand must be maintained within the littoral system. The referenced statue states *"Clean, beach quality material dredged from navigational channel within the active nearshore, beach or inlet shoal systems shall not be removed permanently from the active nearshore, beach or inlet shoal system. This dredged material shall be disposed of on the ocean beach or shallow active nearshore areas where it is environmentally acceptable and compatible with other uses of the beach".* As was stated above. the placement of beach-quality material within the two Placement Areas would not seem to be consistent with the intent of this Law.

USACE Response 1: Concur. The language in the EA reflects that only non-beach quality material (composed of >10% fine-grained sediment) would be considered for upland placement. Beach quality sand would be sidecasted, placed on the beach or in the nearshore placement area, keeping it in the littoral system.

CCSPO Comment 2: Additionally, while the project proposal indicates that the use of Placement Areas 60 and 61 would only be considered in situations where dredging must be performed during times of sea turtle nesting season, this statement does not fully acknowledge that in many cases, regulatory agency relief from these environmental moratoria windows can be negotiated. Such relief has been granted several times for Bogue Banks nourishment projects, and it would seem likely that similar opportunities would be available to the USACE in the future. The Commission therefore further encourages the USACE to schedule the proposed projects in a manner that would eliminate the need to utilize Placement Areas 60 and 61.

USACE Response 2: As documented in the EA, all work is planned to occur from November 16-March 31 to avoid sea turtle and bird nesting seasons; however, should dredging outside the window be required, the USCG would coordinate with agencies prior to dredging. If dredged material to be removed contains fine-grained material, the only placement option is PA 60 and 61. No fine-grained material may be placed in the water, on beaches, or in the nearshore.

Attachment D

NC Division of Coastal Management Federal Consistency

Environmental Assessment Maintenance Dredging
U.S. Coast Guard Station, Emerald Isle

Carteret County, North Carolina

October 2023

Prepared by:
Environmental Resources Section
U.S. Army Corps of Engineers, Wilmington District

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
BRAXTON DAVIS
Director

NORTH CAROLINA
Environmental Quality

July 26, 2023

Ms. Jenny Owens
Chief, Environmental Resources Section
U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28403

SUBJECT: Consistency Concurrence Concerning the Proposed U.S. Coast Guard Maintenance Dredging and Additional Navigation Route, Bogue Inlet, Carteret County (DCM#2023026)

Dear Ms. Owens,

North Carolina's coastal zone management program consists of, but is not limited to, the Coastal Area Management Act (CAMA), the State's Dredge and Fill Law, Chapter 7 of Title 15A of North Carolina's Administrative Code, and the land use plan of the County and/or local municipality in which the proposed project is located. It is the objective of the Division of Coastal Management (DCM) to manage the State's coastal resources to ensure that proposed federal activities would be compatible with safeguarding and perpetuating the biological, social, economic, and aesthetic values of the State's coastal waters.

DCM has reviewed the submitted information pursuant to the management objectives and enforceable policies of Subchapters 7H and 7M of Chapter 7 in Title 15A of the North Carolina Administrative Code and concurs that the proposed action is consistent with North Carolina's approved coastal management program.

Should the proposed action be further modified, a consistency determination could be necessary. Likewise, if further project assessments reveal environmental effects not previously considered, a consistency certification may be required. If you have any questions, please contact me at (252)-515-5435. Thank you for your consideration of the North Carolina Coastal Management Program.

Sincerely,

Daniel Govoni
Federal Consistency Coordinator

Attachment E

Correspondence and Coordination with Public and Agencies

Environmental Assessment Maintenance Dredging
U.S. Coast Guard Station, Emerald Isle

Carteret County, North Carolina

October 2023

Prepared by:
Environmental Resources Section
U.S. Army Corps of Engineers, Wilmington District

From:	Singh-White, Alya
To:	Overstreet, Jeremy R CIV USARMY CESAW (USA)
Cc:	Dean, Kenneth; Buskey, Traci P.
Subject:	[Non-DoD Source] EPA Comments on the Draft Environmental Assessment for the Emerald Isle Channel Dredging and Maintenance
Date:	Friday, September 16, 2022 1:02:51 PM

Mr. Jeremy Overstreet
U.S. Army Corps of Engineer, Wilmington District
69 Darlington Avenue
Wilmington, North Carolina 28403-1343

Re: EPA Comments on the Draft Environmental Assessment for the Emerald Isle Channel Dredging and Maintenance, Carteret County, North Carolina

Dear Mr. Overstreet,

The U. S. Environmental Protection Agency (EPA) reviewed the Draft Environmental Assessment (EA) for the Emerald Isle Channel Dredging and Maintenance, in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The U.S Army Corps of Engineers (USACE), Wilmington District prepared the draft EA to evaluate the environmental impacts associated with the maintenance of the North Route and establishment of a Southwest Route from the U.S. Coast Guard (USCG) Emerald Isle Station. The purpose of this project is to provide a second route for the USCG to exit the Emerald Ise Station and connect to the Federal Navigation Route and Bogue Inlet.

The draft EA examines two Action Alternatives and a "No Action" Alternative and are as follows:

- Alternative 1, the "No Action" Alternative – Maintenance dredging of the North Route only.
- Alternative 2, the Proposed Action – Maintenance dredging of the North and Southwest Routes and establishment of a new 300 linear-foot "shortcut" channel to connect the southwest route to the current USCG channel. All dredging and placement work would be completed between November 16 and March 31
- Alternative 3 – Same as Alternative 2 but dredging and placement would be accomplished at any time of the year.

Based on our review of the draft EA, the EPA has the following comments for your consideration.

- *Dredged Material*: According to Section 5.1 of the document, dredged material containing less than 10% fine-grained material may be used for beach nourishment or stored in placement areas for future use. Dredged material composed of greater than 10% fine-grained would be placed in a confined upland placement site. The EPA recommends sediment be tested for contaminants prior to the commencement of dredging activities. If contaminants are found to be present, the USACE should coordinate with the North Carolina Department of Environmental Quality for their proper disposal. The EPA is available to provide additional technical guidance and support for selection of appropriate placement sites and determining suitability of material.
- *Water Quality*: Section 6.02.02 of the draft EA states, "*Sediments in the vicinity of the north and southwest routes have been sampled and tested and all material to be dredged has less than 10% fines (=90% sand) and therefore is not likely to produce significant turbidity. Sediments in the new area of dredging will be tested prior to dredging to determine the available placement options*." The EPA recommends continued consultation with the North Carolina Division of Water Quality regarding potential

water quality impacts from the proposed project and the implementation of turbidity monitoring to ensure suspended solids dissipate from the water column as rapidly as anticipated.

- *Air Quality*: The proposed activity is located in Cateret County, North Carolina which has not been designated as non-attainment or maintenance status for any of the National Ambient Air Quality Standards. The proposed activity may result in slight increases in air emissions but are anticipated to be minor and short in duration. The EPA recommends the use of diesel controls and implementing strategies and technologies that reduce unnecessary idling.

Thank you for the opportunity to review and provide comments on the draft EA. Upon completion of the Final EA, please submit an electronic copy to the EPA for review. If you have any questions regarding the EPA's comments, please contact me by phone at 404-562-9339 or via email at Singh-White.Alya@epa.gov.

Sincerely,

Alya Singh-White
Biologist | NEPA Project Manager

U.S. EPA Region 4
Office of the Regional Administrator
Strategic Programs Office | NEPA Section
61 Forsyth St SW
Atlanta, GA 30303
(404)-562-9339 | singh-white.alya@epa.gov

Currylow, Andrea F CIV USARMY CESAW (USA)

From: Dunn, Maria T. <maria.dunn@ncwildlife.org>
Sent: Monday, July 24, 2023 9:09 AM
To: Owens, Jennifer L CIV USARMY CESAW (USA)
Cc: Currylow, Andrea F CIV USARMY CESAW (USA); Govoni, Daniel
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: [External] WRC comments on Federal Consistency USCG Station Emerald Isle
Attachments: BogueInletWaterbirdMgtPlanFinal2005.pdf

Good morning Jenny.

Thank you for your thorough response. The inclusion of Bogue Inlet Shoal as a disposal option in the EA is very appreciated. I think it can be a good option for many parties.

Please let me know if there is anything needed from me or other NCWRC staff during this event. At this time, concerns and statements by NCWRC have been adequately addressed.

Attached is the 2004 Bogue Inlet Waterbird Management Plan for your reference.

Take care,
Maria

Maria T. Dunn
Coastal Coordinator

NC Wildlife Resources Commission
943 Washington Sq. Mall
Washington, NC 27889
252-495-5554

www.ncwildlife.org

From: Owens, Jennifer L CIV USARMY CESAW (USA) <Jennifer.L.Owens@usace.army.mil>
Sent: Friday, July 21, 2023 2:39 PM
To: Dunn, Maria T. <maria.dunn@ncwildlife.org>
Cc: Currylow, Andrea F CIV USARMY CESAW (USA) <Andrea.Currylow@usace.army.mil>; Govoni, Daniel <daniel.govoni@deq.nc.gov>
Subject: RE: [External] WRC comments on Federal Consistency USCG Station Emerald Isle

Good afternoon, Maria. Thanks for providing the Bogue Inlet Shoal info and figures.

Response to comment on Bogue Inlet Shoal: Based on your input, the USACE will consider dredged material placement on Bogue Inlet Shoal and will add the Bogue Inlet Shoal to the EA as a future placement option. I coordinated this with our Navigation Section and they have no issues adding Bogue Inlet Shoal as a future option. However, due to time constraints and the need to complete everything for the USCG in the next couple of months, we won't be able to add Bogue Inlet Shoal to our other permits (401) and required approvals, like NMFS EFH consultation and the consistency. That said, by adding the shoal as an option in the EA, if the State Park or some other entity obtains the approvals to place material on the shoal, we could place material under their permit without additional agency coordination, just as we place material on WRC bird islands under your permits.

Response to comment on the 2004 Bogue Inlet Waterbird Management Plan: Even though we may not be a party to the agreement or responsible for implementing the Mgmt Plan, we would not want to do anything counter to the plan. For that reason, if/when we place material on the beach or in the nearshore, we would encourage compliance with the plan, including resource agency coordination, as applicable. I don't believe I've seen the 2004 plan, so if you could provide us with a copy or link, that would be great.

Do these responses address your concerns?

Thanks and have a good weekend-
Jenny

Jenny Owens
Chief, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Work: 910-251-4757

From: Dunn, Maria T. <maria.dunn@ncwildlife.org>
Sent: Monday, July 17, 2023 2:47 PM
To: Owens, Jennifer L CIV USARMY CESAW (USA) <Jennifer.L.Owens@usace.army.mil>
Cc: Currylow, Andrea F CIV USARMY CESAW (USA) <Andrea.Currylow@usace.army.mil>; Govoni, Daniel <daniel.govoni@deq.nc.gov>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: [External] WRC comments on Federal Consistency USCG Station Emerald Isle

Good afternoon, Jenny. Thank you for your email and voicemail.

Attached are a few maps that denote the location of the Bogue Inlet Shoal referenced in NCWRC's 2022 comments. This area is associated with Bear Island and has in the past been an excellent area for birds. Since the shoal is connected to Bear Island, Hammocks Beach State Park would need to coordinate, but I imagine the material would be highly welcomed. The first map is an outline of the shoal in 2021, the second has the shoal in 1998, and the third is the 1998 outline over the 2021 aerial imagery. (Just a note - there is a new shoal forming more within the inlet throat. NCWRC does not want this shoal to be nourished. It is well within the inlet and likely is a navigation concern for inlet management).

Both sides of the inlet are designated critical habitat for piping plover (PIPL), NC-10. All of Bogue Banks, Carteret County ocean shoreline, is proposed critical habitat for red knot (REKN). While this shoal is not, it could easily be utilized by REKN. Therefore, it would be a great beneficial use of material to improve habitat that is not as easily influenced by people, such as that on the EI side. Placement on the shoal would remove material from the system, improve habitat, and likely increase resiliency of Bear Island.

The 2004 Bogue Inlet Waterbird Management Plan is a topic that has been referenced recently during some property discussions on EI. Much of the area near "The Point" is owned by the State of North Carolina and is managed for birds. This agreement served as mitigation for the inlet relocation. Due to recent actions by private landowners near the point regarding public access and property values, there have been discussions regarding management concerns in the area. This includes vehicular access, pedestrian access, and Christmas tree installation. Several aspects of the plan could/should be revisited and it would be appreciated if the plan is considered during any project implementation. Placement of light material within the conservation area to manage vegetation may even be an option.

Once again Jenny, thank you for the email. Please let me know if there is anything additional.

Andrea, I look forward to working with you on this and other projects. Please don't ever hesitate to call or email.

Maria

Maria T. Dunn
Coastal Coordinator

NC Wildlife Resources Commission
943 Washington Sq. Mall
Washington, NC 27889
252-495-5554

www.ncwildlife.org

From: Owens, Jennifer L CIV USARMY CESAW (USA) <Jennifer.L.Owens@usace.army.mil>
Sent: Friday, July 14, 2023 3:00 PM
To: Dunn, Maria T. <maria.dunn@ncwildlife.org>
Cc: Currylow, Andrea F CIV USARMY CESAW (USA) <Andrea.Currylow@usace.army.mil>; Govoni, Daniel <daniel.govoni@deq.nc.gov>
Subject: [External] WRC comments on Federal Consistency USCG Station Emerald Isle

Good afternoon, Maria-

As per the voicemail I just left you, we're trying to pick up where we left off last fall on the USCG Station Emerald Isle EA and consistency. I spoke with Daniel Govoni earlier today and he suggested working with you to resolve any outstanding comments before he reopens the consistency. Based on the email chain below, I believe there are only two outstanding comments from WRC:

1) *"We also would like to as the USACE to continue to consider material placement on Bogue Inlet Shoal. This deposition site would provide a benefit for waterbirds and may increase sediment management opportunities. Use of this site has the benefit of compliance with state requirements of returning beach quality material to the active nearshore, beach or inlet shoal system and would have the added benefit of restoring waterbird habitat. Furthermore, this benefit would help to offset negative impacts of frequent beach disposal as it would provide an alternate nesting site."* Before we attempt to address this comment, can you provide a figure that shows the area you're referring to as "Bogue Inlet Shoal" or provide a relatively detailed description of the shoal so we're clear about the location?

2) *"While we understand the Town of Emerald Isle and the Carteret County Shore Protection Office will be in consultation with the USACE for material placed within the designated beach and nearshore deposition areas and that any manipulation outside the designated areas would require additional authorizations, we would like to once again reference the Bogue Inlet Waterbird Management Plan (2004) prepared by the NCWRC and the US Fish and Wildlife Service (USFWS). This document was established to help address and mitigate impacts the realignment of Bogue Inlet had on avian resources on the western end of Bogue Banks within the Town of Emerald Isle. While the USACE may not be directly involved in some of the management strategies of this document, we request they encourage the Town and County to consult with resource agencies and abide by the existing plan during material placement events."*

A few other WRC comments were previously addressed to your satisfaction, I believe, as documented below. Please let me know if the comments above are the only outstanding comments from WRC and we'll work to address them.

Andrea Currylow, a new biologist in our Section, is assigned to this project now, so I'll be helping her complete the consistency process and NEPA process (final EA and FONSI). I've copied her on this email FYI. Daniel also asked to be copied on the comment resolution.

Let me know if you have any questions.

Thanks and have a great weekend!
Jenny
910-620-8718

Jenny Owens
Chief, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Work: 910-251-4757

From: Young, Teresa R CIV USARMY CESAW (USA) <Teresa.R.Young@usace.army.mil>
Sent: Wednesday, November 9, 2022 10:07 AM
To: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Cc: Horton, James Todd CIV USARMY CESAW (USA) <James.T.Horton@usace.army.mil>; Owens, Jennifer L CIV USARMY CESAW (USA) <Jennifer.L.Owens@usace.army.mil>
Subject: Request for Temp. Stay/hold on Consistency Request for Station Emerald Isle

Good morning Daniel,

Per our phone conversation this morning, the Corps working with the USCG would like to request a stay or hold on this existing Federal Consistency request for USCG Station Emerald Isle at this time. We may need some additional time to work on addressing some of the comments and gathering information. We do expect this project to pick back up in the near future and I will reach out to you as soon as I have more information to move forward with responses to these comments as listed in the email below.

Best Regards,
Teresa Young

From: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Sent: Wednesday, November 9, 2022 9:39 AM
To: Young, Teresa R CIV USARMY CESAW (USA) <Teresa.R.Young@usace.army.mil>
Subject: FW: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hey Teresa,

Is there any follow up to address comments? Also, Friday is DCM deadline so we might need another extension. Thanks

Daniel M. Govoni
Policy Analyst
Federal Consistency Coordinator
NC Division of Coastal Management
Department of Environmental Quality

252-515-5435
Daniel.Govoni@ncdenr.gov

400 Commerce Avenue
Morehead City, NC 28557

From: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Sent: Monday, October 31, 2022 7:48 AM
To: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Cc: Young, Teresa R CIV USARMY CESAW (USA) <Teresa.R.Young@usace.army.mil>
Subject: RE: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hi Daniel,

We are okay with the extension. We will follow up with you soon to address the outstanding comments.

Also, Just FYSA- This is my last week working in the Wilmington District. Teresa Young will be taking over my duties on this project. My email address will be the same going forward, so you can still reach me if you need something.

Thanks,

Jeremy Overstreet

Biologist, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Office: 910-251-4700

From: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Sent: Friday, October 28, 2022 12:07 PM
To: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Subject: FW: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hello Jeremy,

Please see below response from WRC. Let me know if you have any additional comments. Also, DCM deadline to conclude review is 10/31/22. DCM requests an extension until 11/11/22 to have adequate time to consider all comments and conclude review. Please let me know if the Corps is ok with this extension. Thank you

Daniel M. Govoni
Policy Analyst
Federal Consistency Coordinator
NC Division of Coastal Management
Department of Environmental Quality

252-515-5435
Daniel.Govoni@ncdenr.gov

400 Commerce Avenue
Morehead City, NC 28557

From: Dunn, Maria T. <maria.dunn@ncwildlife.org>
Sent: Friday, October 28, 2022 9:21 AM
To: Govoni, Daniel <daniel.govoni@ncdenr.gov>; Harrison, James A <James.Harrison@ncdenr.gov>
Cc: Coats, Heather <heather.coats@ncdenr.gov>; Johnson, Carmen M <carmen.johnson@ncwildlife.org>; kathryn_matthews@fws.gov
Subject: RE: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Thank you for the forward Daniel.

The request for sand material on PA 60 is due to use of the island by birds. We understand fines placement within the dike system, but also that the area could be enhanced for resource use if available. The reply satisfies our comment at this time, though it is one we will restate at any opportunity.

Other comments made that were not responded to include the following:

"We also would like to as the USACE to continue to consider material placement on Bogue Inlet Shoal. This deposition site would provide a benefit for waterbirds and may increase sediment management opportunities. Use of this site has the benefit of compliance with state requirements of returning beach quality material to the active nearshore, beach or inlet shoal system and would have the added benefit of restoring waterbird habitat. Furthermore, this benefit would help to offset negative impacts of frequent beach disposal as it would provide an alternate nesting site."

The exploration of habitat enhancement on Bogue Inlet Shoal is something NCWRC biologists would like explored as an option for beneficial material placement. Like the PA 60 comments, this is one that will be restated at any available opportunity.

"While we understand the Town of Emerald Isle and the Carteret County Shore Protection Office will be in consultation with the USACE for material placed within the designated beach and nearshore deposition areas and that any manipulation outside the designated areas would require additional authorizations, we would like to once again reference the Bogue Inlet Waterbird Management Plan (2004) prepared by the NCWRC and the US Fish and Wildlife Service (USFWS). This document was established to help address and mitigate impacts the realignment of Bogue Inlet had on avian resources on the western end of Bogue Banks within the Town of Emerald Isle. While the USACE may not be directly involved in some of the management strategies of this document, we request they encourage the Town and County to consult with resource agencies and abide by the existing plan during material placement events."

The 2004 waterbird plan is one where we have great concern. Management activities on the western end of Bogue Banks is significantly affecting habitat areas protected during the review and permitting of the Bogue Inlet realignment. It was acknowledged that conversations may need to be focused more with the Town of Emerald Isle, but it would be appreciated if USACE discusses this plan during their conversations with the Town regarding the beneficial placement of material near the western end of Bogue Banks. Of particular concern is the placement of Christmas trees, sand fencing, and potential dune planting.

Once again, thank you for the information. Please forward as necessary to appropriate parties.

Thank you.
Maria

Maria T. Dunn
Coastal Coordinator

NC Wildlife Resources Commission
943 Washington Sq. Mall
Washington, NC 27889
office: 252-948-3916

www.ncwildlife.org

From: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Sent: Friday, October 28, 2022 9:09 AM
To: Dunn, Maria T. <maria.dunn@ncwildlife.org>; Harrison, James A <James.Harrison@ncdenr.gov>
Cc: Coats, Heather <heather.coats@ncdenr.gov>
Subject: FW: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Please see below additional info regarding your comments. Let me know if you have any concerns or comments. Thanks

Daniel M. Govoni

Policy Analyst
Federal Consistency Coordinator
NC Division of Coastal Management
Department of Environmental Quality

252-515-5435
Daniel.Govoni@ncdenr.gov

400 Commerce Avenue
Morehead City, NC 28557

From: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Sent: Monday, October 24, 2022 12:34 PM
To: Coats, Heather <heather.coats@ncdenr.gov>
Cc: Govoni, Daniel <daniel.govoni@ncdenr.gov>; Devan, Gregory A CIV USCG (USA) <Gregory.A.DeVan@uscg.mil>
Subject: RE: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hi Heather,

It was good speaking with you last week. Please see my responses below regarding the comments in your email. Also, we will consider all the comments we received when we finalize the EA.

DMF: To clarify what "during summer months" means when describing the SAV buffer.

Response: We intend to observe an in-water work moratorium of 1 April to 15 November, except for emergency operations that will be coordinated with the appropriate resource agencies. We plan to observe a minimum 100' buffer inside the 16 November to March 31 work window. We would observe a minimum 300' buffer during any emergency dredging event from 1 April to 15 November.

WRC: They request "*….the buffer between dredging and SAV be increased to the greatest extent possible beyond the 100' buffer*."

Response: The 100' buffer is a minimum distance and we would increase that distance to the maximum extent possible that still allows for maintenance of the proposed channel locations under the Corps normal operating procedures.

"*…..requested only beach quality material be placed within PA 60. We continue to request this condition to protect the quality of avian habitat on the disposal site. However, if the site is used for disposal of fine material, it should only be placed at the eastern end of the island*."

Response: We only plan to utilize PA 60 and 61 for the placement of fine material. We are currently testing the new 300' "shortcut" area for sand compatibility and need an option for placement if we do find fine material. We would only place fine material within a diked system. Currently the eastern end of PA 60 has an existing dike, so that would be the most likely location. We could also create a new dike on PA 61. We would coordinate with the NCWRC bird biologist.

Carteret County: "*We feel that the placement of this material in other upland disposal areas (60)(61) is not consistent with NC Dredge and Fill law*."

Response: We are no longer proposing to place sand material on PAs 60 or 61.

Hopefully the above responses will be helpful. Let me know if you have any questions.

Thanks!

Jeremy Overstreet
Biologist, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Office: 910-251-4700

From: Coats, Heather <heather.coats@ncdenr.gov>
Sent: Thursday, October 20, 2022 3:11 PM
To: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Cc: Govoni, Daniel <daniel.govoni@ncdenr.gov>; Devan, Gregory A CIV USCG (USA) <Gregory.A.DeVan@uscg.mil>
Subject: RE: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hi Jeremy,

I just want to check in on the status of your response to the comments I sent.

Thanks!

Heather

Heather Coats
Beach & Inlet Management Project Coordinator
Division of Coastal Management
North Carolina Department of Environmental Quality

910 796 7302 office
heather.coats@ncdenr.gov

127 Cardinal Drive Extension
Wilmington, NC 28405

From: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Sent: Wednesday, October 12, 2022 9:03 AM
To: Coats, Heather <heather.coats@ncdenr.gov>

Cc: Govoni, Daniel <daniel.govoni@ncdenr.gov>; Devan, Gregory A CIV USCG (USA) <Gregory.A.DeVan@uscg.mil>
Subject: RE: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hi Heather,

Thanks for forwarding the comments. I will provide a response soon as possible.

Sincerely,

Jeremy Overstreet
Biologist, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Office: 910-251-4700

From: Coats, Heather <heather.coats@ncdenr.gov>
Sent: Tuesday, October 11, 2022 4:36 PM
To: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>; Devan, Gregory A CIV USCG (USA) <Gregory.A.DeVan@uscg.mil>
Cc: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Subject: RE: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hi Jeremy,

I wanted to send a reminder about the email below and comments submitted by DMF, WRC and Carteret Co.

More specifically, I'm pasting the pertinent comments below for your ease of reference:

DMF:
DMF does not object to the addition of the new 300' "shortcut" channel within the southwest route. Furthermore, DMF acknowledges and appreciates the proposed minimization measures. During the scoping process, DMF provided comments that included a recommendation for an in-water work moratorium to be included in the proposal. Including this limitation will help minimize impacts to species and habitats of concern for DMF.
As described above, the proposal includes a measure to identify SAV and maintain a 100' buffer (300' during the summer months) around SAV. DMF would recommend that, if any SAV is identified during pre-dredging observations, this SAV should also be assessed after dredging operations are complete. This can help to document any potential impacts that may occur as a result of the operations. DMF would also request additional clarity regarding the timing of the extended buffer, as it was only noted as "during summer months." DMF would recommend that the extended buffer be utilized when operations are required during the 1 April to 15 November period. This would provide the extended buffer during the entirety of the SAV growing season and, more specifically, the peak growing period.

WRC:
The NCWRC does not object to the addition of the new 300' "shortcut" channel with the Southwest Route. We note that the DEA states a 100' buffer would be present between the dredged channel and SAV, with SAV being identified by aerial photography and GIS prior to the dredge event. Generally, the NCWRC recognizes a 300' buffer as a more protective buffer to minimize impacts to SAV. Conducting dredge activities outside the SAV growing season minimizes

impacts to SAV, but we also request the buffer between dredging and SAV be increased to the greatest extent possible beyond the 100' buffer.
The DEA states only beach quality sand would be sidecasted, placed on the beach or placed in the designated nearshore placement area. Material with greater than 10% fine-grain sediment would be placed in PA 60 or PA 61. Our earlier comments requested only beach quality material be placed within PA 60. We continue to request this condition to protect the quality of avian habitat on the disposal site. However, if the site is used for disposal of fine material, it should only be placed at the eastern end of the
island. Please coordinate closely with the NCWRC waterbird biologist prior to using this site.
We also would like to ask the USACE to continue to consider material placement on Bogue Inlet Shoal. This deposition site would provide a benefit for waterbirds and may increase sediment management opportunities. Use of this site has the benefit of compliance with state requirements of returning beach quality material to the active nearshore, beach or inlet shoal system and would have the added benefit of restoring waterbird habitat. Furthermore, this benefit would help to offset negative impacts of frequent beach disposal as it would provide an alternate nesting site.
While we understand the Town of Emerald Isle and the Carteret County Shore Protection Office will be in consultation with the USACE for material placed within the designated beach and nearshore deposition areas and that any manipulation outside the designated areas would require additional authorizations, we would like to once again reference the Bogue Inlet Waterbird Management Plan (2004) prepared by the NCWRC and the US Fish and Wildlife Service (USFWS). This document was established to help address and mitigate impacts the realignment of Bogue Inlet had on avian resources on the western end of Bogue Banks within the Town of Emerald Isle. While the USACE may not be directly involved in some of the management strategies of this document, we request they encourage the Town and County to consult with resource agencies and abide by the existing plan during material placement events.

Carteret County:
"Carteret County supports the project but asks that the beach compatible sand be beneficially used on Emerald Isle beaches. We feel that the placement of this material in other upland disposal areas (60)(61) is not consistent with NC Dredge and Fill law. Thanks for the opportunity to provide comments to you."

Please let me know if you plan to provide any response to these comments as soon as possible.

Thanks again,

Heather

Heather Coats
Beach & Inlet Management Project Coordinator
Division of Coastal Management
North Carolina Department of Environmental Quality

910 796 7302 office
heather.coats@ncdenr.gov

127 Cardinal Drive Extension
Wilmington, NC 28405

From: Coats, Heather
Sent: Monday, September 19, 2022 9:37 AM
To: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>; Devan, Gregory A CIV USCG (USA) <Gregory.A.DeVan@uscg.mil>
Cc: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Subject: FW: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hi Jeremy,

We have received the following comments from DMF, WRC (attached) and Carteret County (pasted below)- please let us know if you all have any questions or comments in response.

Thanks,

Heather

Heather Coats
Beach & Inlet Management Project Coordinator
Division of Coastal Management
North Carolina Department of Environmental Quality

910 796 7302 office
heather.coats@ncdenr.gov

127 Cardinal Drive Extension
Wilmington, NC 28405

Heather,

My office is working on a comment letter to ACOE on this project. Carteret County supports the project but asks that the beach compatible sand be beneficially used on Emerald Isle beaches. We feel that the placement of this material in other upland disposal areas (60)(61) is not consistent with NC Dredge and Fill law. Thanks for the opportunity to provide comments to you.

Best,

Ryan Davenport

From: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Sent: Monday, September 12, 2022 9:51 AM
To: Coats, Heather <heather.coats@ncdenr.gov>
Cc: Govoni, Daniel <daniel.govoni@ncdenr.gov>; Devan, Gregory A CIV USCG (USA) <Gregory.A.DeVan@uscg.mil>
Subject: RE: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hi Heather,

Sorry for the delayed response. I was on leave last week. I'm responding on behalf of USCG.

That's correct that we do not plan to have sampling results before completing the EA. We expect the material to be beach quality sand based on past sampling within the area. Our vibracore sampling vessel will be in the area in about a month and we hope to sample at that time. It would take some time for the results of the classification. We expect to have sufficient capacity for upland placement if the area doesn't have beach quality sand.

Nearshore placement would only be conducted with a special purpose hopper. A pipeline would be used to place the material within the approved beach placement area.

Thanks,

Jeremy Overstreet
Biologist, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Office: 910-251-4700

From: Coats, Heather <heather.coats@ncdenr.gov>
Sent: Thursday, September 1, 2022 9:43 AM
To: Gregory.A.DeVan@uscg.mil
Cc: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>; Govoni, Daniel <daniel.govoni@ncdenr.gov>
Subject: [Non-DoD Source] FW: [External] Consistency Request for Station Emerald Isle

Hello Mr. Gregory,

We have received your request for a consistency determination and I have a few questions regarding information provided:

The letter states:

"There are several methods of dredging available for accomplishing the work. These methods are: pipeline dredge, mechanical (clamshell) dredge, government-owned sidecast dredge, and government-owned special purpose (hopper) dredge…
Placement of dredged material would be dependent upon the method of dredging used and the quality of the material to be dredged. Sediment sampling in the area of new dredging (300 linear-foot section) would be accomplished prior to dredging to determine sediment characteristics."

So you don't have any plans to sample the new area in the near future for compatibility and provide those results to us to help make our consistency determination and the plan is to only sample in the future prior to dredging? Do you know you have (and will continue to have) adequate capacity in the upland disposal areas if the material is not beach-compatible?

Also it states in part:

…"Placement of pipeline dredged material will be in the previously approved nearshore placement areas off the western end of Emerald Isle."

-Is this correct that nearshore placement would potentially be conducted by pipeline dredge or special purpose hopper (as stated elsewhere)- or was this meant to say placement of pipeline dredged material will be in the previously approved *beach placement area*?

Thanks in advance for any further clarification you can provide!

Best regards,

Heather Coats
Beach & Inlet Management Project Coordinator
Division of Coastal Management
North Carolina Department of Environmental Quality

910 796 7302 office
heather.coats@ncdenr.gov

127 Cardinal Drive Extension
Wilmington, NC 28405

From: Devan, Gregory A CIV USCG (USA) <Gregory.A.DeVan@uscg.mil>
Sent: Wednesday, August 31, 2022 9:14 AM
To: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Cc: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Subject: [External] Consistency Request for Station Emerald Isle

Mr. Govoni,

The U.S. Coast Guard is requesting a consistency review under the North Carolina Coastal Area Management Program for maintenance dredging an additional navigation route to access the USACE federally maintained navigation channel at Bogue Inlet for our Station Emerald Isle. Please see attached request letter from the USCG. If you have any comments or questions please contact me and cc Mr. Jeremy Overstreet.

Thank you,

Greg DeVan, P.E.

U.S. Coast Guard
Civil Engineering Unit Cleveland
Phone (216) 902-6252
Email gregory.a.devan@uscg.mil

From:	Matthews, Kathryn H
To:	Overstreet, Jeremy R CIV USARMY CESAW (USA)
Cc:	Ellis, John
Subject:	[Non-DoD Source] Re: [EXTERNAL] Draft Environmental Assessment Availability - US Coast Guard Emerald Isle Station
Date:	Friday, August 19, 2022 7:11:40 PM
Attachments:	USCG_Public_Notice.pdf USFWS_USCG EA Transmittal Letter_17AUG2022.pdf

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Hi Jeremy,

Thanks for the opportunity to review the Final Draft EA for this project. Since beach placement is proposed to follow the requirements of the 2017 SPBO, and the Corps also proposes to follow the 2017 Manatee Guidelines, I don't have objections or significant comments on the project. I agree that sand placement from the project may be covered under the USFWS 2017 Statewide Programmatic Biological Opinion for North Carolina Coastal Beach Sand Placement.

However, I do recommend a revision to language in the EA to accurately reflect the species determinations that should be made.

On Page 34, the EA states: "All conditions and conservation recommendations of the USFWS 2017 North Carolina Coastal Beach Sand Placement, Statewide Programmatic Biological Opinion will be abided by, therefore no impacts to T&E species including Seabeach Amaranth are anticipated. The roseate tern, eastern black rail and sensitive joint-vetch are not likely to occur within the project area. The West Indian manatee may be present, however, by following the 2017 USFWS Guidelines for Avoiding Impacts to the West Indian Manatee, no impacts are anticipated."

Then, Page 36 states: "All dredging and placement activities for the No Action alternative would be conducted in accordance with the PDCs of the 2020 SARBO and the terms and conditions of the USFWS Statewide Programmatic BO, thereby leading to a may affect, not likely to adversely affect determination for sea turtles, sturgeon, sawfish, manatee and whales, piping plover, red knot, and seabeach amaranth." Page 37 has similar language for Alternatives 2 and 3.

It is important to note that the 2017 USFWS SPBO provides coverage to the Corps for potential adverse impacts to listed species from the project, so it is not appropriate to indicate that there will be no effect or no adverse effects. There may be adverse affects, but the Corps is covered if the project complies with the SPBO. This only applies for the species covered by the SPBO (sea turtles, red knot, piping plover, seabeach amaranth, and the various critical habitats found on Bogue Banks). The same is true for the SARBO. It provides legal coverage for potential adverse impacts to listed species under the purview of NMFS, so a NE or MANLAA determination should not be made for those species.

For West Indian manatee, it is fine to make a MANLAA determination if the 2017 Manatee Guidelines are followed (but I would not recommend "no effect"), because the Guidelines are intended to minimize the potential for adverse impacts to the manatee.

So, I would separate manatee from the other species and state that the adherence to the 2017 Manatee Guidelines will avoid and minimize the potential for adverse impacts to West Indian manatee, and therefore the three alternatives are not likely to adversely affect that species.

For the species covered by the USFWS SPBO and NMFS SARBO, I would revise the language to make a determination of "May Affect, but the Corps is relying upon the findings of the USFWS 2017 North Carolina Coastal Beach Sand Placement, Statewide Programmatic Biological Opinion and the 2020 SARBO to meet its responsibilities under Section 7(a)(2) of the ESA."

I hope that makes sense. Let me know if you have questions.

Please note that I am teleworking Wednesday through Friday, every week. Email is the best way to reach me. Thanks,

Kathy Matthews
NC Renewable Energy Coordinator &
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
551-F Pylon Drive
Raleigh, NC 27606
919-856-4520, x. 27

From: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Sent: Wednesday, August 17, 2022 4:51 PM
To: Benjamin, Pete <pete_benjamin@fws.gov>
Cc: Matthews, Kathryn H <kathryn_matthews@fws.gov>; Ellis, John <john_ellis@fws.gov>
Subject: [EXTERNAL] Draft Environmental Assessment Availability - US Coast Guard Emerald Isle Station

Mr. Benjamin,

Please find the attached letter and public notice for the US Coast Guard Emerald Isle Station channel dredging and maintenance Draft Environmental Assessment (EA). An electronic version of the Draft EA is available on the USACE, Wilmington District website.

Your comments are appreciated.

Feel free to contact me if you have any questions.

Thanks,

Jeremy Overstreet
Biologist, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Office: 910-251-4700

Currylow, Andrea F CIV USARMY CESAW (USA)

From: Owens, Jennifer L CIV USARMY CESAW (USA)
Sent: Wednesday, August 30, 2023 4:19 PM
To: Pace Wilber - NOAA Federal
Cc: fritz.rohde; Currylow, Andrea F CIV USARMY CESAW (USA)
Subject: RE: [Non-DoD Source] Re: US Coast Guard EA for Emerald Isle - NMFS input

Thanks so much for the quick reply!

Jenny

Jenny Owens
Chief, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Work: 910-251-4757

From: Pace Wilber - NOAA Federal <pace.wilber@noaa.gov>
Sent: Wednesday, August 30, 2023 4:16 PM
To: Owens, Jennifer L CIV USARMY CESAW (USA) <Jennifer.L.Owens@usace.army.mil>
Cc: fritz.rohde <fritz.rohde@noaa.gov>; Currylow, Andrea F CIV USARMY CESAW (USA) <Andrea.Currylow@usace.army.mil>
Subject: [Non-DoD Source] Re: US Coast Guard EA for Emerald Isle - NMFS input

Hi Jenny.

NOAA's National Marine Fisheries Service (NMFS) reviewed the project described in public notice dated August 17, 2023, for dredging that would add an additional southwest route to provide the USCG with two options to exit its Emerald Isle Station, located in Carteret County. Based on the information in the notice and Environmental Assessment, we confirm the District's determination that the proposed work would occur in the vicinity of essential fish habitat (EFH) designated by the South Atlantic Fishery Management Council, Mid-Atlantic Fishery Management Council, or the NMFS. Present staffing levels preclude further analysis of the proposed work and no further action is planned. This position is neither supportive of nor in opposition to authorization of the proposed work. If further coordination on this action is needed, please let us know.

Pace

On Wed, Aug 30, 2023 at 3:59 PM Owens, Jennifer L CIV USARMY CESAW (USA) <Jennifer.L.Owens@usace.army.mil> wrote:

> **Fritz-**

As discussed, we're trying to complete the final EA/Finding of No Significant Impact for the US Coast Guard Station at Emerald Isle. The project will provide a 300-foot shortcut for the USCG to exit their station to the southwest, instead of always having to go north, providing quicker access to Bogue Inlet when natural deep water is to the southwest. When the EA went out last August, NMFS did not comment and we'd like something from NMFS on this project for our files. Our USCG funding ran out last fall and we were recently funded again to complete the NEPA process before the end of September. Dredged material is sand and dredging would be done between November 15-March 31 (beach placement window). FYI – I've attached the comments and our responses from NCDMF, in case you're interested. We also have a federal consistency concurrence and are currently seeking a Regulatory permit on behalf of the USCG that will be obtained before we do any dredging. Currently, no dredging is needed.

It would be great if we could get an email from NMFS regarding this project. Feel free to call me if you have any questions.

Thanks-

Jenny

910-620-8718

Jenny Owens

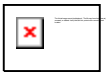
Chief, Environmental Resources Section

Wilmington District, U.S. Army Corps of Engineers

69 Darlington Ave.

Wilmington, NC 28402

Work: 910-251-4757



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Pace Wilber, Ph.D.
South Atlantic and Caribbean Branch Chief
Habitat Conservation Division
NOAA Fisheries Service
331 Ft Johnson Road
Charleston, SC 29412

843-592-3024 (NOAA Google Voice)
Pace.Wilber@noaa.gov

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary

NORTH CAROLINA
Environmental Quality

To: Crystal Best
State Clearinghouse
NC Department of Administration

From: Lyn Hardison
Division of Environmental Assistance and Customer Service
Washington Regional Office

RE: 23-0028
Environmental Assessment
Proposed project is for the Emerald Isle Channel Dredging and Maintenance EA. The proposed action includes dredging an additional southwest route to provide the USCG with two options to exit the Emerald Isle.
Carteret County

Date: September 15, 2022

The Department of Environment Quality has reviewed the proposal for the referenced project. Based on the information provided, several of our agencies have identified permits that may be required and offered some valuable guidance. The comments are attached for the applicant's review.

The Department will continue to be available to assist the applicant with any questions or concerns.

Thank you for the opportunity to respond.

Attachments

Department of Environmental Quality
Project Review Form

Project Number: 23-E-0000-0028 **County:Carteret** **Date Received: 8-18-2022**

Due Date: 9-15-2022

Project Description: *Environmental Assessment - Proposed project is for the Emerald Isle Channel Dredging and Maintenance EA. The proposed action includes dredging an additional southwest route to provide the USCG with two options to exit the Emerald Isle.*

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
___ Asheville	✓ Air	___ Air Quality	✓ Coastal Management
___ Fayetteville	✓ DWR	___ Parks & Recreation	✓ Marine Fisheries
___ Mooresville	✓ DWR - Public Water	✓ Waste Mgmt	___ Military Affairs
___ Raleigh	✓ DEMLR (LQ & SW)	✓ Water Resources Mgmt (Public Water, Planning & Water Quality Program)	✓ DMF-Shellfish Sanitation
___ Washington	✓ DWM	___ DWR-Transportation Unit	✓ Wildlife Maria
✓ Wilmington			___ Wildlife/DOT
___ Winston-Salem			

Manager Sign-Off/Region:	Date: 9-13-2022	In-House Reviewer/Agency: MCD / NCWRC

Response (check all applicable)

___ No objection to project as proposed. ___ No Comment

___ Insufficient information to complete review ✓ Other (specify or attach comments)

Attached comments were directly sent to USACE during the public notice process.

If you have any questions, please contact:

Lyn Hardison at lyn.hardison@ncdenr.gov or (252) 948-3842
943 Washington Square Mall Washington NC 27889
Courier No. 16-04-01

North Carolina Wildlife Resources Commission

Cameron Ingram, Executive Director

MEMORANDUM

TO: Jeremy Overstreet
Wilmington District
US Army Corps of Engineers

FROM: Maria T. Dunn, Coastal Coordinator
Habitat Conservation Division

DATE: September 12, 2022

SUBJECT: Draft Environmental Assessment Maintenance Dredging US Coast Guard Station Emerald Isle, Carteret County, North Carolina.

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) reviewed the Draft Environmental Assessment (DEA) with regard to impacts on fish and wildlife resources. Our comments are provided in accordance with provisions of the Coastal Area Management Act (G.S. 113A-100 through 113A-128), as amended, Sections 401 and 404 of the Clean Water Act, as amended, the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Magnuson-Stevens Fishery Conservation and Management Act (FCMA), as amended (16 U.S.C. 1801 et seq.), and the Migratory Bird Treaty Act (16 U.S.C. 703-712 et seq.).

The US Army Corps of Engineers (USACE) prepared a DEA for the US Coast Guard (USCG) station Emerald Isle to address improved navigation opportunities for the USCG Emerald Isle station near Bogue Inlet. The current USCG Emerald Isle facilities include a basin and a navigation channel that connects to the existing federal navigation channel between Bogue Inlet and the AIWW.

The DEA provided three alternatives for the USCG Emerald Isle Station:

- Alternative 1 – No Action - Maintaining the North Route Only
- Alternative 2 – Proposed Action – Maintaining the North Route and Adding a New Southwest Route (with dredging window). This option includes a new 300' "shortcut" channel as well as a route previously dredged as part of the USACE federally maintained navigation channel that can be maintained at the same time as the current USCG channel. To minimize impacts to environmental resources, an April 1 – November 15 moratorium would be observed. In cases of emergency during the moratorium, resource agencies would be consulted to discuss needs.

Mailing Address: Habitat Conservation • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028

- Alternative 3 – Maintaining the North Route and Adding a New Southwest Routh (no dredging window). This alternative includes the same "shortcut" channel as described in Alternative 2 but does not incorporate a moratorium to minimize impacts to environmental resources. The alternative would take into account the risk assessments that would be required under the 2020 SARBO.

All alternatives include the allowance to utilize multiple dredge plants for sediment removal and deposition. Placement of dredged material would be dependent upon the methodology of dredging and the quality of material dredged. Only beach quality sand would be sidecasted, placed on the beach or placed in the designated nearshore placement area. Material with greater than 10% fine-grain sediment would be placed in PA 60 or PA 61. Final placement of material within the designated beach placement areas would have consultation with the Town of Emerald Isle and the Carteret County Shore Protection Office. Manipulation of sand beyond previously designed areas would require separate authorizations.

The NCWRC has reviewed the DEA. Our agency is familiar with the project and provided comments during the scoping process (30 December 2021, Dunn) as well as during previous project reviews. We appreciate the incorporation of requested measures to minimize impacts to important wildlife resources. The primary management tool request, the April 1 – November 15 moratorium, will help minimize impacts to a wide variety of resources, including piping plover (*Charadrius melodus melodus*), red knot (*Calidris canutus rufa*), roseate tern (*Sterna dougallii dougallii*), gull-billed tern (*Sterna nilotica*), common tern (*Sterna hirundo*), least tern (*Sterna antillarum*), black skimmer (*Rynchops niger*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), little blue heron (*Egretta caerulea*), glossy ibis (*Plegadis falcinellus*), Wilson's plover (*Charadrius wilsonia*), American oystercatcher (*Haematopus palliatus*), and Kemp's Ridley (*Lepidochelys kempi*), hawksbill (*Eretmochelys imbricata*), leatherback (*Dermochelys coriacea*), loggerhead (*Caretta caretta*), and green (*Chelonia mydas*) sea turtles. This moratorium also includes the growing season for submerged aquatic vegetation (SAV), thereby protecting another important aquatic habitat.

The NCWRC does not object to the addition of the new 300' "shortcut" channel with the Southwest Route. We note that the DEA states a 100' buffer would be present between the dredged channel and SAV, with SAV being identified by aerial photography and GIS prior to the dredge event. Generally, the NCWRC recognizes a 300' buffer as a more protective buffer to minimize impacts to SAV. Conducting dredge activities outside the SAV growing season minimizes impacts to SAV, but we also request the buffer between dredging and SAV be increased to the greatest extent possible beyond the 100' buffer.

The DEA states only beach quality sand would be sidecasted, placed on the beach or placed in the designated nearshore placement area. Material with greater than 10% fine-grain sediment would be placed in PA 60 or PA 61. Our earlier comments requested only beach quality material be placed within PA 60. We continue to request this condition to protect the quality of avian habitat on the disposal site. However, if the site is used for disposal of fine material, it should only be placed at the eastern end of the island. Please coordinate closely with the NCWRC waterbird biologist prior to using this site.

We also would like to ask the USACE to continue to consider material placement on Bogue Inlet Shoal. This deposition site would provide a benefit for waterbirds and may increase sediment management opportunities. Use of this site has the benefit of compliance with state requirements of returning beach quality material to the active nearshore, beach or inlet shoal system and would have the added benefit of restoring waterbird habitat. Furthermore, this benefit would help to offset negative impacts of frequent beach disposal as it would provide an alternate nesting site.

While we understand the Town of Emerald Isle and the Carteret County Shore Protection Office will be in consultation with the USACE for material placed within the designated beach and nearshore deposition

areas and that any manipulation outside the designated areas would require additional authorizations, we would like to once again reference the *Bogue Inlet Waterbird Management Plan* (2004) prepared by the NCWRC and the US Fish and Wildlife Service (USFWS). This document was established to help address and mitigate impacts the realignment of Bogue Inlet had on avian resources on the western end of Bogue Banks within the Town of Emerald Isle. While the USACE may not be directly involved in some of the management strategies of this document, we request they encourage the Town and County to consult with resource agencies and abide by the existing plan during material placement events.

Thank you for the opportunity to review and provide comments on this DEA. We appreciate the attention given to our scoping comments and the inclusion of recommendations to minimize impacts to wildlife resources. If there are any comments, questions, or concerns please do not hesitate to contact me at maria.dunn@ncwildlife.org or 252-948-3916.

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

KATHY B. RAWLS
Director

TO: Heather Coats, NCDCM Beach & Inlet Management Project Coordinator

FROM: James Harrison, NCDMF Fisheries Resource Specialist

SUBJECT: USCG Emerald Isle Shortcut Channel, Carteret County

DATE: 14 September 2022

A North Carolina Division of Marine Fisheries (DMF) Fisheries Resource Specialist has reviewed the Federal Consistency Request Letter for proposed actions that may impact fish and/or fish habitats. The applicant – the U.S. Coast Guard (USCG) – submitted a letter, dated 31 August 2022, that provides details regarding the purpose, alternatives, impacts, minimization measures, and consistency determination for the proposed work.

The USCG Station Emerald Isle's (USCG-EI) facilities include a basin and navigation channel that connect to the existing federal navigation channel between Bogue Inlet and that Atlantic Intracoastal Waterway (AIWW). The USCG is seeking authorization to dredge and maintain a second route to the southwest to provide a safe, reliable navigation channel for the USCG to access the open ocean through Bogue Inlet. The proposed route would increase maintenance dredging flexibility for the USCG-EI navigation channel near Bogue Inlet, on the western end of Emerald Isle, Carteret County. The USCG-EI's ability to safely and efficiently access the AIWW and Bogue Inlet federal channels is critical to their mission-readiness.

The federal channel is currently located in the naturally-occurring deep water parallel to the southeast-facing shoreline of Dudley Island (the western edge of the orange box in Figure 1). Current dredge volumes for the northern route (currently approved route) are 2,600 cubic yards (CY) to a 6' (project depth) and 6,200 CY to overdepth. Dredging would typically take place over a 7-14-day period. The proposed southwest route and "shortcut" channel are currently at the authorized project depths. It's expected that maintaining both routes would require dredging one of the routes each year. Dredging of both routes during one dredging event is expected to take 10-18 days.

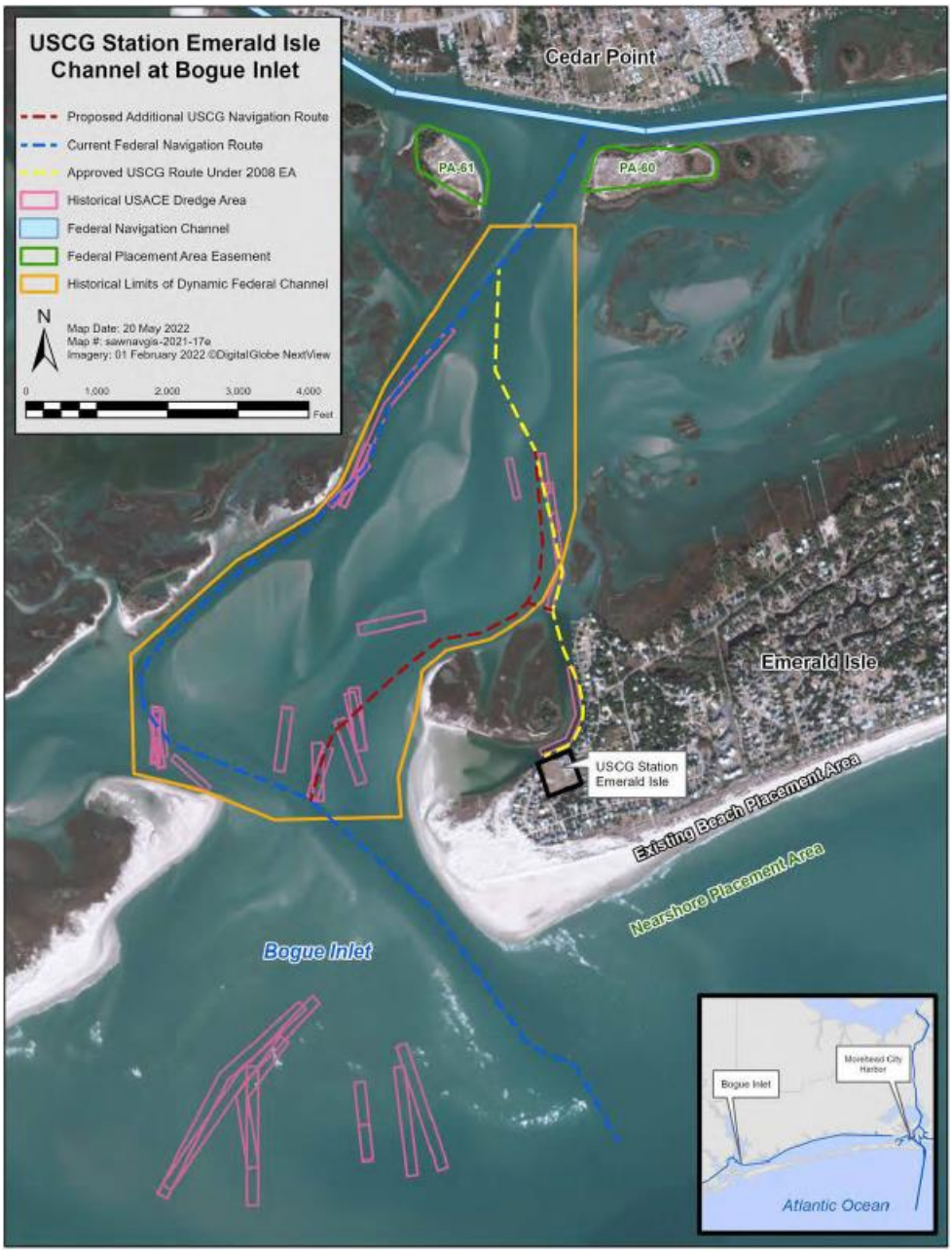


Figure 1. Past (post-2010) and proposed dredging locations. From USCG Federal Consistency Review Request letter dated 31 August 2022.

The USCG determined that there are three potential alternatives, detailed below.

- Alternative 1 – No Action – This action involves maintaining the status quo. The USCG would not have the additional flexibility to take a more direct route to Bogue Inlet. The shoaled conditions that presently exist would remain and potentially expand, creating increasingly more difficult navigation and longer delays for USCG vessels and teams.
- Alternative 2 – Maintaining the north route and adding a anew southwest route with dredging window (proposed action) – This alternative includes maintenance dredging a navigation route to the southwest to access the USACE federally maintained navigation

channel at Bogue Inlet (Figure 2). The southwest route has been previously dredged as a part of the U.S. Army Corps of Engineers (USACE) federally maintained navigation channel. This alternative would also include a new approximately 300 linear-foot (LF) "shortcut" channel to connect the southwest route to the current USCG channel. The southwest route could be maintained at the same time as the current USCG channel that runs north to the federally maintained channel. However, one route may only be maintained at times due to funding limitations. The proposed southwest route and "shortcut" channel are currently at authorized project depths. All dredging and placement work would be completed between 16 November and 31 March.

- Alternative 3 – Maintaining the north route and adding a new southwest route without a dredging window – This alternative would be the same as Alternative 2, but dredging and placement would be accomplished at any time of year, taking into account the risk assessments that would be required under the National Marine Fisheries Service's (NMFS) 2020 South Atlantic Regional Biological Opinion (SARBO). Eliminating the environmental windows for the project would provide maximum flexibility relative to dredge availability. The option would allow dredging of the route in a proactive manner by monitoring shoals through routine survey efforts and planning for scheduled maintenance events.

Figure 2. Currently approved and proposed USCG routes. From USCG Federal Consistency Review Request letter dated 31 August 2022.

There are several methods of dredging available for accomplishing the work. These methods include pipeline dredge, mechanical (clamshell) dredge, government-owned sidecast dredge, and government-owned special purpose (hopper) dredge. The result of dredging would be the removal of shoaled sediments lying above the plane of the -6' mean lower low water (MLLW), plus 2' of allowable overdepth in the Station's access channel in naturally-occurring deep water.

Placement of material would be dependent upon the method of dredging used and the quality of the material to be dredged. Sediment sampling in the area of new dredging (300 LF section) would be accomplished prior to dredging to determine sediment characteristics. Only beach quality sand would be sidecast, placed on the beach, or placed in the nearshore placement area.

The USCG anticipates scheduling necessary dredging to coincide with contracts for maintenance dredging in nearby federal channels that are overseen by the USACE Wilmington District. This would allow the USCG to avoid the expense of initial dredge plant mobilization and demobilization, often exceeding $500,000. However, the USCG would incur the expense associated with relocating the dredge to its basin and installing the pipeline for placement.

All dredging will be completed within the proposed corridor to follow natural deep water and will not exceed authorized channel dimensions. Prior to each dredging event, any submerged aquatic vegetation (SAV) within the project area will be identified and avoided – no dredging or sidecasting of material will occur within 100' of identified SAV. Additionally, material will be cast in the direction of the ebb tide. Per the letter's response to 15A NCAC 07H .0208(b)(1), sidecast and hopper dredging will avoid SAV with implementation of a 11' buffer (300' if emergency dredging during summer months) around mapped colonies and discharging sidecast material in the direction of ebb tide, toward deep water.

DMF does not object to the addition of the new 300' "shortcut" channel within the southwest route. Furthermore, DMF acknowledges and appreciates the proposed minimization measures. During the scoping process, DMF provided comments that included a recommendation for an in-water work moratorium to be included in the proposal. Including this limitation will help minimize impacts to species and habitats of concern for DMF.

As described above, the proposal includes a measure to identify SAV and maintain a 100' buffer (300' during the summer months) around SAV. DMF would recommend that, if any SAV is identified during pre-dredging observations, this SAV should also be assessed after dredging operations are complete. This can help to document any potential impacts that may occur as a result of the operations. DMF would also request additional clarity regarding the timing of the extended buffer, as it was only noted as "during summer months." DMF would recommend that the extended buffer be utilized when operations are required during the 1 April to 15 November period. This would provide the extended buffer during the entirety of the SAV growing season and, more specifically, the peak growing period.

Thank you for consideration of our comments and concerns. Please contact Jimmy Harrison at (252) 948-3835 or at james.harrison@ncdenr.gov with any further questions or concerns.

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: WIRO
Project Number: 23-0028 Due Date: 09/15/2022
County: Carteret

After review of this project it has been determined that the DEQ permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to construct & operate wastewater treatment facilities, non-standard sewer system extensions & sewer systems that do not discharge into state surface waters.	Application 90 days before begins construction or award of construction contracts. On-site inspection may be required. Post-application technical conference usual.	30 days (90 days)
☐	Permit to construct & operate, sewer extensions involving gravity sewers, pump stations and force mains discharging into a sewer collection system	Fast-Track Permitting program consists of the submittal of an application and an engineer's certification that the project meets all applicable State rules and Division Minimum Design Criteria.	30 days (N/A)
☐	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begins activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
☐	Water Use Permit	Pre-application technical conference usually necessary.	30 days (N/A)
☐	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a groundwater monitoring well located on property not owned by the applicant, and for a large capacity (>100,000 gallons per day) water supply well.	7 days (15 days)
☐	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
☐	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.O100 thru 2Q.0300)	Application must be submitted and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113).	90 days
☐	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
☐	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950	Please Note - The Health Hazards Control Unit (HHCU) of the N.C. Department of Health and Human Services, must be notified of plans to demolish a building, including residences for commercial or industrial expansion, even if no asbestos is present in the building.	60 days (90 days)
☐	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres are to be disturbed. Plan must be filed with and approved by applicable Regional Office (Land Quality Section) at least 30 days before beginning activity. A NPDES Construction Stormwater permit (NCG010000) is also usually issued should design features meet minimum requirements. A fee of $65 for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
☐	Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable Stormwater conveyances and outlets.		(30 days)
☐	Sedimentation and erosion control must be addressed in accordance with _____ Local Government's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable Stormwater conveyances and outlets.		Based on Local Program
☐	Compliance with 15A NCAC 2H .0126 - NPDES Stormwater Program which regulates three types of activities: Industrial, Municipal Separate Storm Sewer System & Construction activities that disturb ≥1 acre.		30-60 days (90 days)
☐	Compliance with 15A NCAC 2H 1000 -State Stormwater Permitting Programs regulate site development and post-construction stormwater runoff control. Areas subject to these permit programs include all 20 coastal counties, and various other counties and watersheds throughout the state.		45 days (90 days)

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: WIRO
Project Number: 23-0028 Due Date: 09/15/2022
County: Carteret

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Mining Permit	On-site inspection usual. Surety bond filed with DEQ Bond amount varies with type mine and number of acres of affected land. Affected area greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
☐	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction, and certify construction is according to DEQ approved plans. May also require a permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of $200.00 must accompany the application. An additional processing fee based on a percentage or the total project cost will be required upon completion.	30 days (60 days)
☐	Oil Refining Facilities	N/A	90-120 days (N/A)
☐	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with DEQ running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to DEQ rules and regulations.	10 days N/A
☐	Geophysical Exploration Permit	Application filed with DEQ at least 10 days prior to issue of permit. Application by letter. No standard application form.	10 days N/A
☐	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property	15-20 days N/A
☐	401 Water Quality Certification	Compliance with the T15A 02H .0500 Certifications are required whenever construction or operation of facilities will result in a discharge into navigable water as described in 33 CFR part 323.	60 days (130 days)
☐	Compliance with Catawba, Goose Creek, Jordan Lake, Randleman, Tar Pamlico or Neuse Riparian Buffer Rules is required. Buffer requirements: http://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/401-wetlands-buffer-permits/401-riparian-buffer-protection-program		
☐	Nutrient Offset: Loading requirements for nitrogen and phosphorus in the Neuse and Tar-Pamlico River basins, and in the Jordan and Falls Lake watersheds, as part of the nutrient-management strategies in these areas. DWR nutrient offset information: http://deq.nc.gov/about/divisions/water-resources/planning/nonpoint-source-management/nutrient-offset-information		
☐	CAMA Permit for MAJOR development	$250.00 - $475.00 fee must accompany application	75 days (150 days)
☐	CAMA Permit for MINOR development	$100.00 fee must accompany application	22 days (25 days)
☐	Abandonment of any wells, if required must be in accordance with Title 15A. Subchapter 2C.0100.		
☐	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
☐	Plans and specifications for the construction, expansion, or alteration of a public water system must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction as per 15A NCAC 18C .0300 et. seq., Plans and specifications should be submitted to 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. All public water supply systems must comply with state and federal drinking water monitoring requirements. For more information, contact the Public Water Supply Section, (919) 707-9100.		30 days
☐	If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources/Public Water Supply Section at 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. For more information, contact the Public Water Supply Section, (919) 707-9100.		30 days
☐	Plans and specifications for the construction, expansion, or alteration of the _____ water system must be approved through the _____ delegated plan approval authority. Please contact them at _____ for further information.		

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: WIRO
Project Number: 23-0028 Due Date: 09/15/2022
County: Carteret

Other Comments (attach additional pages as necessary, being certain to comment authority)

Division	Initials	No comment	Comments	Date Review
DAQ		☐		/ /
DWR-WQROS (Aquifer & Surface)	&	☐	&	/ /
DWR-PWS	HLC	☒		8/25/2022
DEMLR (LQ & SW)		☐		/ /
DWM – UST	LEP	☒		8/22/2022
Other Comments		☐		/ /

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

☐ **Asheville Regional Office**
2090 U.S. 70 Highway
Swannanoa, NC 28778-8211
Phone: 828-296-4500
Fax: 828-299-7043

☐ **Fayetteville Regional Office**
225 Green Street, Suite 714,
Fayetteville, NC 28301-5043
Phone: 910-433-3300
Fax: 910-486-0707

☐ **Mooresville Regional Office**
610 East Center Avenue, Suite 301,
Mooresville, NC 28115
Phone: 704-663-1699
Fax: 704-663-6040

☐ **Raleigh Regional Office**
3800 Barrett Drive,
Raleigh, NC 27609
Phone: 919-791-4200
Fax: 919-571-4718

☐ **Washington Regional Office**
943 Washington Square Mall,
Washington, NC 27889
Phone: 252-946-6481
Fax: 252-975-3716

☒ **Wilmington Regional Office**
127 Cardinal Drive Ext.,
Wilmington, NC 28405
Phone: 910-796-7215
Fax: 910-350-2004

☐ **Winston-Salem Regional Office**
450 Hanes Mill Road, Suite 300,
Winston-Salem, NC 27105
Phone: 336-776-9800
Fax: 336-776-9797

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
MICHAEL SCOTT
Director

NORTH CAROLINA
Environmental Quality

MEMORANDUM

TO: Michael Scott, Division Director through Sharon Brinkley

FROM: Drew Hammonds, Eastern District Supervisor - Solid Waste Section

DATE: September 14, 2022

SUBJECT: Review: SW 23-0028 – Carteret County (EA – Department of Army – Proposed project is for the Emerald Isle Channel Dredging and Maintenance EA.)

The Division of Waste Management, Solid Waste Section (Section) has reviewed the documents submitted for the subject project in Carteret County, NC. Based on the information provided in this document, the Section at this time does not see an adverse impact on the surrounding communities and likewise knows of no situations in the communities, which would affect this project.

Any waste generated by and of the project that cannot be beneficially reused or recycled as described, may require disposal of at a solid waste management facility permitted by the Division. The Section strongly recommends that the Department of the Army require all contractors to provide proof of proper disposal for all generated waste to permitted facilities.

Permitted solid waste management facilities are listed on the Division of Waste Management, Solid Waste Section portal site at: https://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/solid-waste-management-annual-reports/solid-waste-permitted-facility-list

Questions regarding solid waste management for this project should be directed to Mr. Ray Williams, Environmental Senior Specialist, Solid Waste Section, at (252) 948-3955.

cc: Ray Williams, Environmental Senior Specialist

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
MICHAEL SCOTT
Director

NORTH CAROLINA
Environmental Quality

Date: August 29, 2022

To: Michael Scott, Director
Division of Waste Management

Through: Janet Macdonald
Inactive Hazardous Sites Branch

From: Katie C Tatum
Inactive Hazardous Sites Branch

Subject: SEPA Project # 23-0028 Department of Army, Carteret County, North Carolina

The Superfund Section has reviewed the proximity of sites under its jurisdiction to the Department of Army project. Proposed project is for the Emerald Isle Channel Dredging and Maintenance EA. The proposed action includes dredging an additional southwest route to provide the USCG with two options to exit the Emerald Isle.

No (0) Superfund Section sites were identified within one mile of the project as shown on the attached report.

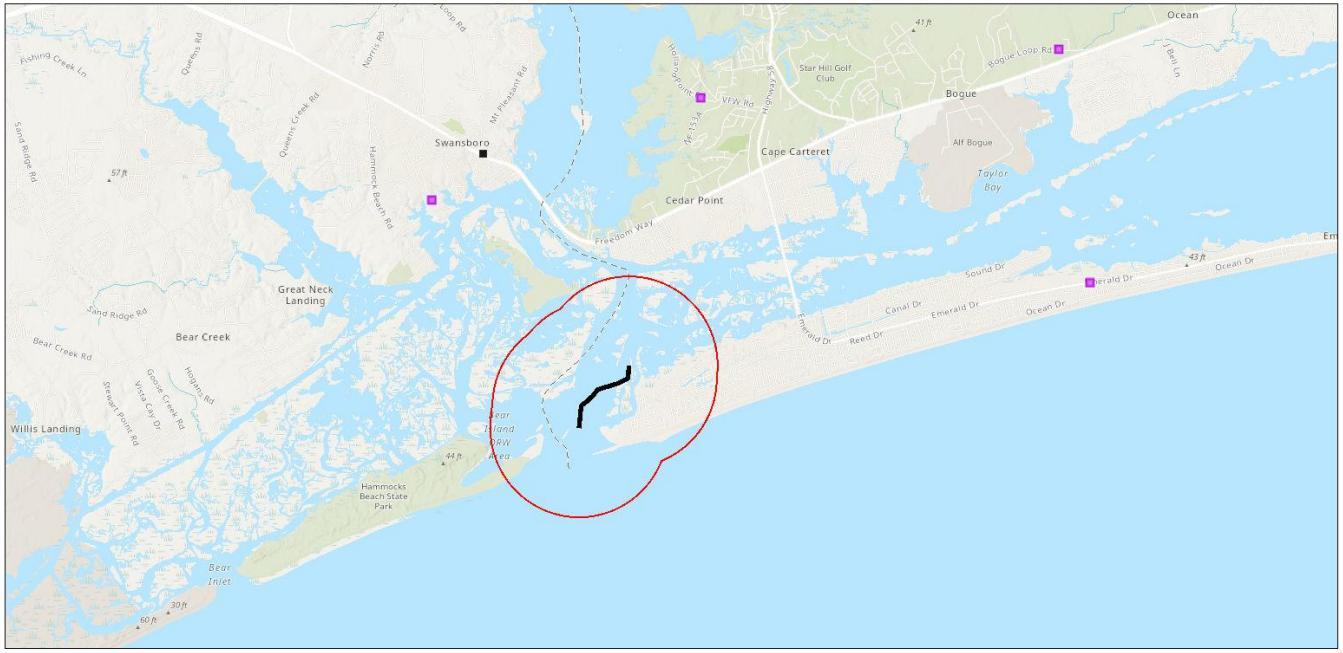
Please contact Janet Macdonald at 919.707.8349 if you have any questions concerning the Superfund Section review portion of this SEPA/NEPA inquiry.

Superfund Section Only: SEPA/NEPA

Area of Interest (AOI) Information **Carteret County** **NEPA project 23-0028**

Area : 3,270.97 acres

Aug 29 2022 8:59:34 Eastern Daylight Time



Pre Regulatory Landfill Sites

- Activity Pending
- DryCleaning Contaminated

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

Superfund Section Only
Carteret County NEPA project 23-0028

Summary

Name	Count	Area(acres)	Length(mi)
Certified DSCA Sites	0	N/A	N/A
Federal Remediation Branch Sites	0	N/A	N/A
Inactive Hazardous Sites	0	N/A	N/A
Pre-Regulatory Landfill Sites	0	N/A	N/A
Brownfields Program Sites	0	N/A	N/A

Department of Environmental Quality
Project Review Form

Project Number: 23-E-0000-0028 **County:Carteret** **Date Received: 8-18-2022**

Due Date: 9-15-2022

Project Description: *Environmental Assessment - Proposed project is for the Emerald Isle Channel Dredging and Maintenance EA. The proposed action includes dredging an additional southwest route to provide the USCG with two options to exit the Emerald Isle.*

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
___ Asheville	✓ Air	___ Air Quality	✓ Coastal Management
___ Fayetteville	✓ DWR	___ Parks & Recreation	✓ Marine Fisheries
___ Mooresville	✓ DWR - Public Water	✓ Waste Mgmt	___ Military Affairs
___ Raleigh	✓ DEMLR (LQ & SW)	✓ Water Resources Mgmt (Public Water, Planning & Water Quality Program)	✓ DMF-Shellfish Sanitation
___ Washington	✓ DWM	___ DWR-Transportation Unit	✓ Wildlife Maria
✓ Wilmington			___ Wildlife/DOT
___ Winston-Salem			

Manager Sign-Off/Region:	Date: 9/15/22	In-House Reviewer/Agency: Melodi Deaver, Hazardous Waste Section

Response (check all applicable)

___ No objection to project as proposed. X ___ No Comment

___ Insufficient information to complete review ___ Other (specify or attach comments)

If you have any questions, please contact:

Lyn Hardison at lyn.hardison@ncdenr.gov or (252) 948-3842
943 Washington Square Mall Washington NC 27889
Courier No. 16-04-01

Department of Environmental Quality
Project Review Form

Project Number: 23-E-0000-0028 **County:Carteret** **Date Received: 8-18-2022**

Due Date: 9-15-2022

Project Description: *Environmental Assessment - Proposed project is for the Emerald Isle Channel Dredging and Maintenance EA. The proposed action includes dredging an additional southwest route to provide the USCG with two options to exit the Emerald Isle.*

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
___ Asheville	✓ Air	___ Air Quality	✓ Coastal Management
___ Fayetteville	✓ DWR	___ Parks & Recreation	✓ Marine Fisheries
___ Mooresville	✓ DWR - Public Water	✓ Waste Mgmt	___ Military Affairs
___ Raleigh	✓ DEMLR (LQ & SW)	✓ Water Resources Mgmt (Public Water, Planning & Water Quality Program)	✓ DMF-Shellfish Sanitation
___ Washington	✓ DWM	___ DWR-Transportation Unit	✓ Wildlife Maria
✓ Wilmington			___ Wildlife/DOT
___ Winston-Salem			

Manager Sign-Off/Region:	Date:	In-House Reviewer/Agency:
	September 9, 2022	DWR/WRM David Wainwright

Response (check all applicable)

___ No objection to project as proposed. X No Comment

___ Insufficient information to complete review ___ Other (specify or attach comments)

If you have any questions, please contact:

Lyn Hardison at lyn.hardison@ncdenr.gov or (252) 948-3842
943 Washington Square Mall Washington NC 27889
Courier No. 16-04-01

Department of Environmental Quality
Project Review Form

Project Number: 23-E-0000-0028 **County:Carteret** **Date Received: 8-18-2022**

Due Date: 9-15-2022

Project Description: *Environmental Assessment - Proposed project is for the Emerald Isle Channel Dredging and Maintenance EA. The proposed action includes dredging an additional southwest route to provide the USCG with two options to exit the Emerald Isle.*

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
___ Asheville	✓ Air	___ Air Quality	✓ Coastal Management
___ Fayetteville	✓ DWR	___ Parks & Recreation	✓ Marine Fisheries
___ Mooresville	✓ DWR - Public Water	✓ Waste Mgmt	Military Affairs
___ Raleigh	✓ DEMLR (LQ & SW)	✓ Water Resources Mgmt (Public Water, Planning & Water Quality Program)	✓ DMF-Shellfish Sanitation
___ Washington	✓ DWM	___ DWR-Transportation Unit	✓ Wildlife Maria
✓ Wilmington			___ Wildlife/DOT
___ Winston-Salem			

Manager Sign-Off/Region:	Date: 8/19/2022	In-House Reviewer/Agency: Andrew Haines for Shannon Jenkins

Response (check all applicable)

___ No objection to project as proposed.

X No Comment

___ Insufficient information to complete review

___ Other (specify or attach comments)

If you have any questions, please contact:

Lyn Hardison at lyn.hardison@ncdenr.gov or (252) 948-3842
943 Washington Square Mall Washington NC 27889
Courier No. 16-04-01

Overstreet, Jeremy R CIV USARMY CESAW (USA)

From: DCR - Environmental_Review <Environmental.Review@ncdcr.gov>
Sent: Monday, September 12, 2022 12:11 PM
To: Overstreet, Jeremy R CIV USARMY CESAW (USA)
Subject: [URL Verdict: Neutral][Non-DoD Source] Re: [External] Draft Environmental Assessment Availability - US Coast Guard Emerald Isle Station
Attachments: ER-07-2129.pdf

Our response is attached. Thank you.

Best,
Devon L. Borgardt
Environmental Review Assistant
State Historic Preservation Office
109 E. Jones Street MSC 4603 Raleigh, NC 27699

***Please Note:** Requests for project review or responses to our review comments should be sent to the Environmental Review emailbox at environmental.review@ncdcr.gov. Otherwise, your request will be returned and you will be asked to send it to the proper mailbox. This will cause delays in your project. Information on email project submittal is at: NCHPO ER Project Review Checklist*

Facebook Twitter Instagram YouTube

From: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Sent: Wednesday, August 17, 2022 4:25 PM
To: Richard.Burr@ncleg.net <Richard.Burr@ncleg.net>; Speaker Thom Tillis <Thom.Tillis@ncleg.net>; gregory.murphy <gregory.murphy@ncleg.net>; Rep. Pat McElraft <Pat.McElraft@ncleg.gov>; Norman.Sanderson@ncleg.gov <Norman.Sanderson@ncleg.gov>; ryan.davenport@carteretcountync.gov <ryan.davenport@carteretcountync.gov>; Zapp, Matthew <mzapp@emeraldisle-nc.org>; Addison, Lindsay <laddison@audubon.org>; kerria@nccoast.org <kerria@nccoast.org>; anaz@nccoast.org <anaz@nccoast.org>; manley@ncwf.org <manley@ncwf.org>; mwhaling@selcnc.org <mwhaling@selcnc.org>; rmcgee@selcnc.org <rmcgee@selcnc.org>; information@outerbanks.org <information@outerbanks.org>; Tkerns@asmfc.org <Tkerns@asmfc.org>; Kajumba, Ntale <kajumba.ntale@epa.gov>; Davis, Braxton C <Braxton.Davis@NCDENR.Gov>; Govoni, Daniel <daniel.govoni@ncdenr.gov>; Deaton, Anne <anne.deaton@ncdenr.gov>; Wojoski, Paul A <Paul.Wojoski@ncdenr.gov>; Harrison, James A <James.Harrison@ncdenr.gov>; Dunn, Maria T. <maria.dunn@ncwildlife.org>; andrew.herndon@noaa.gov <andrew.herndon@noaa.gov>; david_hallac <david_hallac@nps.gov>; Henry, Sabrina <sabrina_henry@nps.gov>; DCR - Environmental_Review <Environmental.Review@ncdcr.gov>; Southerly, Chris <chris.southerly@ncdcr.gov>; Atkinson, Stephen B <stephen.atkinson@ncdcr.gov>; Fennel, Tommy E CIV USARMY CESAC (USA) <Tommy.E.Fennel@usace.army.mil>; Tyler.A.Crumbley@usace.army.mil <Tyler.A.Crumbley@usace.army.mil>; Gregory.M.Kennerley@uscg.mil <Gregory.M.Kennerley@uscg.mil>; Clint.S.Spivey@uscg.mil <Clint.S.Spivey@uscg.mil>; ryan.davenport@carteretcountync.gov <ryan.davenport@carteretcountync.gov>
Cc: Owens, Jennifer L CIV USARMY CESAW (USA) <Jennifer.L.Owens@usace.army.mil>; Horton, James Todd CIV USARMY

CESAW (USA) <James.T.Horton@usace.army.mil>; Dooley, Brennan J CIV USARMY CESAW (USA) <Brennan.J.Dooley@usace.army.mil>; Bashaw, Justin P CIV USARMY CESAW (USA) <Justin.P.Bashaw@usace.army.mil>; Smith, Jeremiah L (Jeremy) CIV USARMY CESAW (USA) <Jeremiah.L.Smith@usace.army.mil>
Subject: [External] Draft Environmental Assessment Availability - US Coast Guard Emerald Isle Station

All,

Please find the attached Public Notice for the US Coast Guard Emerald Isle Station channel dredging and maintenance Draft Environmental Assessment (EA). An electronic version of the Draft EA is available on the USACE, Wilmington District website. A link to the EA is in the public notice.

Your comments are appreciated. Please provide the comments in writing via email within 30 days of the date of this notice.

Feel free to contact me if you have any questions.

Thanks,

Jeremy Overstreet
Biologist, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Office: 910-251-4700

North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

June 26, 2023

Justin Bashaw
Environmental Resources Section
US Army Corps of Engineers
Wilmington District
69 Darlington Ave
Wilmington, NC 28403

Justin.P.Bashaw@usace.army.mil

Re: Maintenance Dredging, USCG Facility, Emerald Isle, Carteret County, ER 07-2129

Dear Mr. Bashaw:

Thank you for your correspondence of May 19, 2023, received May 25, 2023, regarding the above-referenced undertaking. We would like to take the opportunity to offer the following comments.

After reviewing the information provided from *An Archaeological Remote Sensing Survey of the U.S. Coast Guard Access Channel, Emerald Isle, North Carolina,* (May 27, 2008) conducted by Mid-Atlantic Technology and Environmental Research, Inc., it is our opinion that the proposed new "shortcut" USCG navigational route has been adequately assessed for the presence of unknown submerged cultural resources.

Despite Bogue Inlet being an area of high potential for cultural resources associated with historic maritime activity, the 2008 survey indicates a low probability of encountering unknown resources within the Area of Potential Effect that may be potentially eligible for listing on the National Register of Historic Places. We, therefore, concur with the Corps' determination that the proposed dredging of the additional USCG navigation route described in the August 2022 Environmental Assessment should have no effect on historic properties. If unknown cultural resources (i.e., shipwreck remains, etc.) are encountered, dredging operations should cease immediately in that area and professional staff at our office be contacted to make an assessment before work continues in that location.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

From:	Ryan Davenport
To:	Overstreet, Jeremy R CIV USARMY CESAW (USA)
Cc:	Cordeiro, Coley H CIV USARMY CESAW (USA); Matt Zapp; Danny Navey (dnavey@atlanticbeach-nc.com)
Subject:	[Non-DoD Source] Maintenance Dredging US Coast Guard Emerald Isle
Date:	Wednesday, September 7, 2022 9:09:46 AM
Attachments:	uscgsignedcomments.pdf

Mr. Overstreet,

Please accept the attached letter as comments from the Carteret County Beach Commission in regards to the proposed dredging at the Emerald Isle USCG station (Maintenance Draft EA dated August 2022).

Thanks,

Ryan Davenport
Shoreline Protection Manager

North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

September 28, 2022

Jeremy Overstreet
Biologist, U.S. Army Corps of Engineers

Jeremy.r.overstreet@usace.army.mil

RE: Maintenance Dredging, USCG Facility, Emerald Isle, Carteret County, ER 07-2129

Dear Mr. Overstreet:

Thank you for your September 12, 2022, submission concerning the above-referenced project. We have reviewed the project and offer the following comments.

As stated in your project submission, The Area of Potential Effect (APE) of Bogue Inlet has been an area of maritime cultural significance since the 1720's and has been in use through the American War for Independence, Civil War, and has played an important role in fishing and recreation industries. Our records indicate one potential site in proximity, the Blockade Runner York (lost 1862) as well as 40 other historically reported wrecks in or near the inlet. Due to this, we recommend a comprehensive maritime archaeological survey be undertaken prior to any ground disturbing activities in the proposed new "shortcut" USCG navigational route.

The purpose of this survey is to identify archaeological sites and make recommendations regarding their eligibility status for the National Register of Historic Places. The work should be conducted by an experienced archaeologist who meets the *Secretary of the Interior Professional Qualifications Standards*. A list of archaeological consultants who have conducted or expressed an interest in contract work in North Carolina is available at: https://archaeology.ncdcr.gov/archaeological-consultant-list. The archaeologists listed, or any other experienced archaeologist, may be contacted to conduct the recommended survey. ***Please note that our office requests consultation with the Office of State Archaeology Review Archaeologist to discuss appropriate field methodologies prior to the archaeological field investigation.***

One paper copy and one digital copy (PDF) of all resulting archaeological reports, as well as a digital copy (PDF) of the North Carolina Site Form for each site recorded, should be forwarded to the Office of State Archaeology (OSA) through this office, for review and comment as soon as they are available and in advance of any construction or ground disturbance activities. OSA's Archaeological Standards and Guidelines for Background Research, Field Methodologies, Technical Reports, and Curation can be found online at: https://files.nc.gov/dncr-arch/OSA_Guidelines_Dec2017.pdf.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comments, please contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above-referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

September 12, 2022

Jeremy Overstreet Jeremy.r.overstreet@usace.army.mil
Biologist, U.S. Army Corps of Engineers

RE: Maintenance Dredging, USCG Facility, Emerald Isle, Carteret County, ER 07-2129

Dear Mr. Overstreet:

Thank you for your August 18, 2022, submission concerning the above-referenced project. We have reviewed the project and offer the following comments.

As stated in your project submission, The Area of Potential Effect (APE) of Bogue Inlet has been an area of maritime cultural significance since the 1720's and has been in use through the American War for Independence, Civil War, and has played an important role in fishing and recreation industries. Our records indicate one potential site in proximity, the Blockade Runner York (lost 1862) as well as 40 other historically reported wrecks in or near the inlet. Due to this, we recommend a comprehensive maritime archaeological survey be undertaken prior to any ground disturbing activities in the proposed additional USCG navigational route.

The purpose of this survey is to identify archaeological sites and make recommendations regarding their eligibility status for the National Register of Historic Places. The work should be conducted by an experienced archaeologist who meets the *Secretary of the Interior Professional Qualifications Standards*. A list of archaeological consultants who have conducted or expressed an interest in contract work in North Carolina is available at: https://archaeology.ncdcr.gov/archaeological-consultant-list. The archaeologists listed, or any other experienced archaeologist, may be contacted to conduct the recommended survey. ***Please note that our office requests consultation with the Office of State Archaeology Review Archaeologist to discuss appropriate field methodologies prior to the archaeological field investigation.***

One paper copy and one digital copy (PDF) of all resulting archaeological reports, as well as a digital copy (PDF) of the North Carolina Site Form for each site recorded, should be forwarded to the Office of State Archaeology (OSA) through this office, for review and comment as soon as they are available and in advance of any construction or ground disturbance activities. OSA's Archaeological Standards and Guidelines for Background Research, Field Methodologies, Technical Reports, and Curation can be found online at: https://files.nc.gov/dncr-arch/OSA_Guidelines_Dec2017.pdf.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comments, please contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above-referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

From:	DCR - Environmental_Review
To:	Overstreet, Jeremy R CIV USARMY CESAW (USA)
Subject:	[URL Verdict: Neutral][Non-DoD Source] Re: [External] Consistency Request for Station Emerald Isle
Date:	Wednesday, September 28, 2022 9:23:04 AM
Attachments:	image001.png ER-07-2129_2.pdf

Our response is attached. Thank you.

Best,
Devon L. Borgardt
Environmental Review Assistant
State Historic Preservation Office
109 E. Jones Street MSC 4603 Raleigh, NC 27699

***Please Note:** Requests for project review or responses to our review comments should be sent to the Environmental Review emailbox at environmental.review@ncdcr.gov. Otherwise, your request will be returned and you will be asked to send it to the proper mailbox. This will cause delays in your project. Information on email project submittal is at: NCHPO ER Project Review Checklist*

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From: Gledhill-earley, Renee <renee.gledhill-earley@ncdcr.gov>
Sent: Thursday, September 1, 2022 3:39 PM
To: DCR - Environmental_Review <Environmental.Review@ncdcr.gov>
Cc: Henry, Nathan <nathan.henry@ncdcr.gov>
Subject: FW: [External] Consistency Request for Station Emerald Isle

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Renee Gledhill-Earley
Environmental Review Coordinator
State Historic Preservation Office
109 E Jones St MSC 4617 Raleigh, NC 27699
919 814 6579 *office*

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And don't forget your Ws! Wear. Wait. Wash.
WEAR a face covering.
WAIT 6 feet apart from other people.

WASH your hands often.

****COVID-19 has changed the way we accept non-electronic mail . See below.****

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Couriered items from USPS, FedEx, UPS AND hand delivered items will only be accepted at the loading bay door located on Wilmington St. between the hours of 8AM-Noon M-F.Applicants should knock/ring the door bell at the loading bay entrance door. No packages should be left outside the stated hours. We CANNOT be responsible for them.

From: Coats, Heather <heather.coats@ncdenr.gov>
Sent: Thursday, September 1, 2022 1:12 PM
To: Wojoski, Paul A <Paul.Wojoski@ncdenr.gov>; Dunn, Maria T. <maria.dunn@ncwildlife.org>; Harrison, James A <James.Harrison@ncdenr.gov>; Gledhill-earley, Renee <renee.gledhill-earley@ncdcr.gov>; Walton, Tim <tim.walton@doa.nc.gov>; ryan.davenport@carteretcountync.gov
Cc: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Subject: FW: [External] Consistency Request for Station Emerald Isle

Hello everyone,

The US Coast Guard is requesting a consistency determination for dredging of an additional navigation channel at Bogue Inlet for their station in Emerald Isle.

As proposed, dredging may be accomplished by pipeline dredge, mechanical (clamshell) dredge, government-owned sidecast dredge, and/or by government-owned special purpose (hopper). I have asked for some additional information regarding sediment sampling and material disposal and will pass that along when I receive it.

Please review the attached request and let me know if you have any questions, comments or concerns by October 1.

Thanks,

Heather

Heather Coats
Beach & Inlet Management Project Coordinator
Division of Coastal Management
North Carolina Department of Environmental Quality

910 796 7302 office
heather.coats@ncdenr.gov

127 Cardinal Drive Extension
Wilmington, NC 28405

From: Devan, Gregory A CIV USCG (USA) <Gregory.A.DeVan@uscg.mil>
Sent: Wednesday, August 31, 2022 9:14 AM
To: Govoni, Daniel <daniel.govoni@ncdenr.gov>
Cc: Overstreet, Jeremy R CIV USARMY CESAW (USA) <Jeremy.R.Overstreet@usace.army.mil>
Subject: [External] Consistency Request for Station Emerald Isle

Mr. Govoni,

The U.S. Coast Guard is requesting a consistency review under the North Carolina Coastal Area Management Program for maintenance dredging an additional navigation route to access the USACE federally maintained navigation channel at Bogue Inlet for our Station Emerald Isle. Please see attached request letter from the USCG. If you have any comments or questions please contact me and cc Mr. Jeremy Overstreet.

Thank you,

Greg DeVan, P.E.
U.S. Coast Guard
Civil Engineering Unit Cleveland
Phone (216) 902-6252
Email gregory.a.devan@uscg.mil

Shore Protection Manager

James Ryan Davenport
Tel: (252) 222.5835
Fax: (252) 222.5826
Ryan.davenport@carteretcountync.gov

carteret county Shore protection office
protectthebeach.com

August 31, 2022

Mr. Jeremy Overstreet
USACE-Wilmington District
Environmental Resources Section
69 Darlington Rd.
Wilmington, North Carolina 28403-1343

Subject: Public Notice-Maintenance Dredging US Coast Guard Station Emerald Isle Environmental Assessment (EA).

Dear Mr. Overstreet,

The Carteret County Beach Commission is in receipt of the Public Notice dated August 17, 2022. This Public Notice concerns the Emerald Isle Channel Dredging and Maintenance Draft Environmental Assessment (EA), dated August 2022. This EA evaluates dredging an additional Southwest route to provide the USCG with two options to exit the Emerald Isle facility.

The mission of the Carteret County Beach Commission is to identify and develop plans, strategies, and programs to restore and maintain wide sandy beaches and dunes through environmentally sensitive beach nourishment, dune management, vegetation management, and sand management principles. As an example of the Beach Commission's efforts at maintaining Carteret County beaches, since 2019 the County has contracted for the placement of over 5 million cubic yards of material along the beaches of Bogue Banks. This effort has cost the County over 26 million dollars, in addition to cost shares provided by the State of North Carolina (over 20 million dollars) and the Federal Emergency Management Agency (over 32 million dollars). To ensure that the Commission's mission is accomplished, we actively support and encourage any and all efforts that help to ensure the beneficial use of beach quality sand resources. This mission can be complicated by limited resources that can be utilized for beach nourishment purposes. Given the location of the proposed new dredge areas, it would be expected that the majority of the dredged material would consist of beach-quality sand.

With regards to the current project proposal, the Commission requests that the option of the placement of beach quality material within Placement Areas 60 and 61 be eliminated from further consideration. The placement of beach quality sand within these Placement Areas would effectively eliminate the ability to beneficially utilize this sand for beach nourishment. The use of Placement Areas 60 and 61 would also potentially be inconsistent with the North Carolina Dredge and Fill Law. Specifically, NCGS 113-229 (h1) states"...*beach-quality sand may be placed on the affected downdrift ocean beaches or, if placed elsewhere, an equivalent quality and quantity of sand from another location shall be placed on the downdrift ocean beaches".* NCHS 113-229 (h2) continues by mandating beach quality sand must be maintained within the littoral system. The referenced statue states "*Clean, beach quality material dredged from*

navigational channels within the active nearshore, beach or inlet shoal systems shall not be removed permanently from the active nearshore, beach or inlet shoal system. This dredged material shall be disposed of on the ocean beach or shallow active nearshore areas where it is environmentally acceptable and compatible with other uses of the beach". As was stated above, the placement of beach-quality material within the two Placement Areas would not seem to be consistent with the intent of this Law.

Additionally, while the project proposal indicates that the use of Placement Areas 60 and 61 would only be considered in situations where dredging must be performed during times of sea turtle nesting season, this statement does not fully acknowledge that in many cases, regulatory agency relief from these environmental moratoria windows can be negotiated. Such relief has been granted several times for Bogue Banks nourishment projects, and it would seem likely that similar opportunities would be available to the USACE in the future. The Commission therefore further encourages the USACE to schedule the proposed projects in a manner that would eliminate the need to utilize Placement Areas 60 and 61.

In closing, the Beach Commission would like to reiterate our support for the important functions carried out by both the USACE and USCG, and we look forward to maintaining and expanding our partnership with your agency on this and other area projects. If you should have any questions concerning these comments, please feel free to contact us.

Sincerely,

Danny Navey
Chairman, Carteret County Beach Commission