DRAFT
ENVIRONMENTAL ASSESSMENT

MAINTENANCE DREDGING
US COAST GUARD STATION
EMERALD ISLE

August 2022

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1.0 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.

In the last 4 years, 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 (Nov 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 possible 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 2007 EA was used as a NEPA document 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 safely and efficiently access the Atlantic Intracoastal Waterway (AIWW) and Bogue Inlet federal channels is critical to their success in accomplishing the missions described above. Because the federal channel follows natural 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 natural 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.

3.0 INCORPORATION BY REFERENCE.

U.S. Army Corps of Engineers. *Environmental Assessment (EA), Maintenance Dredging for US Coast Guard Station at Emerald Isle. September 2007*. The 2007 EA evaluated maintenance dredging of the USCG navigation channel on an as-needed basis to ensure access to the 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.

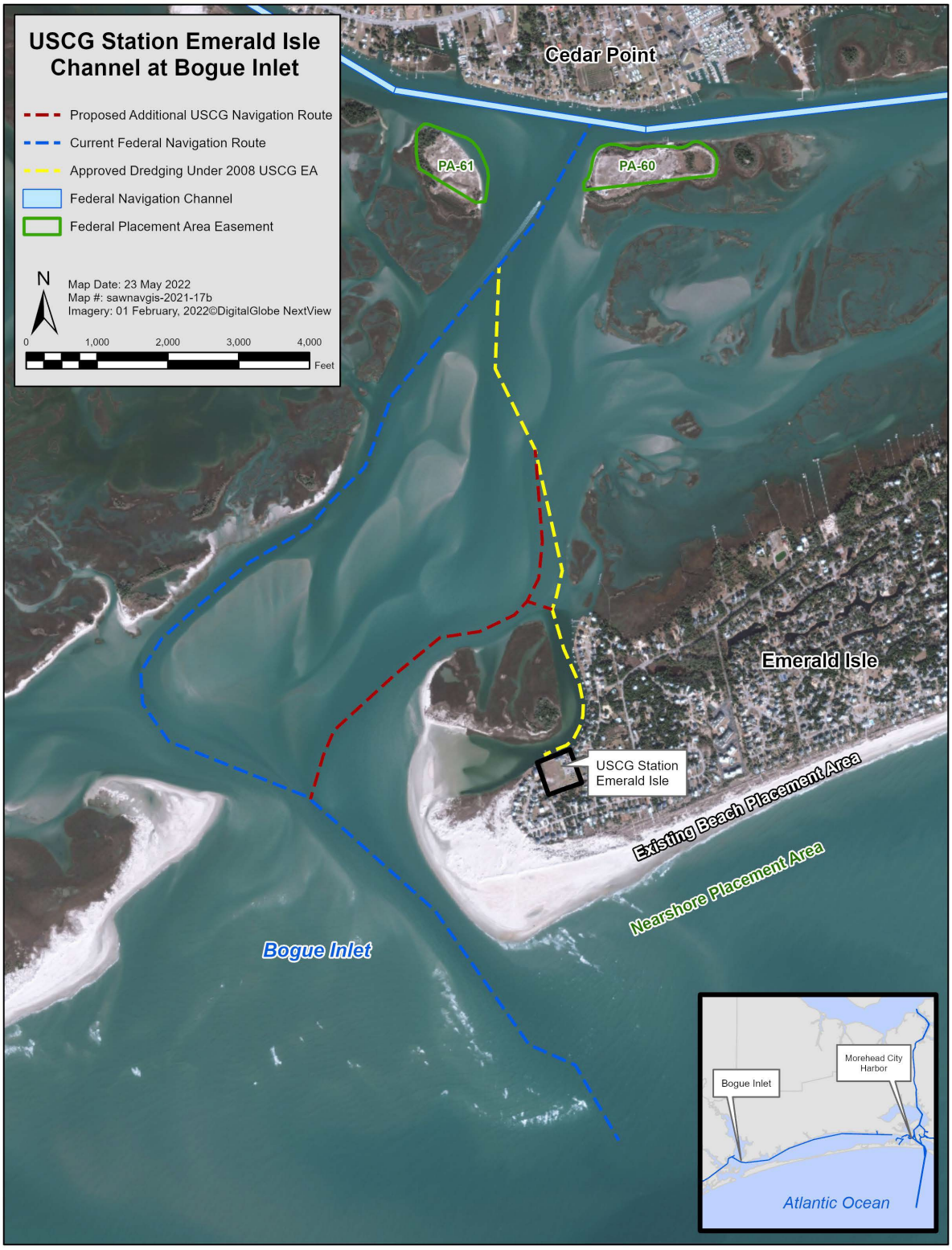

Figure 1. Currently approved USCG route from 2008 EA (yellow outline)

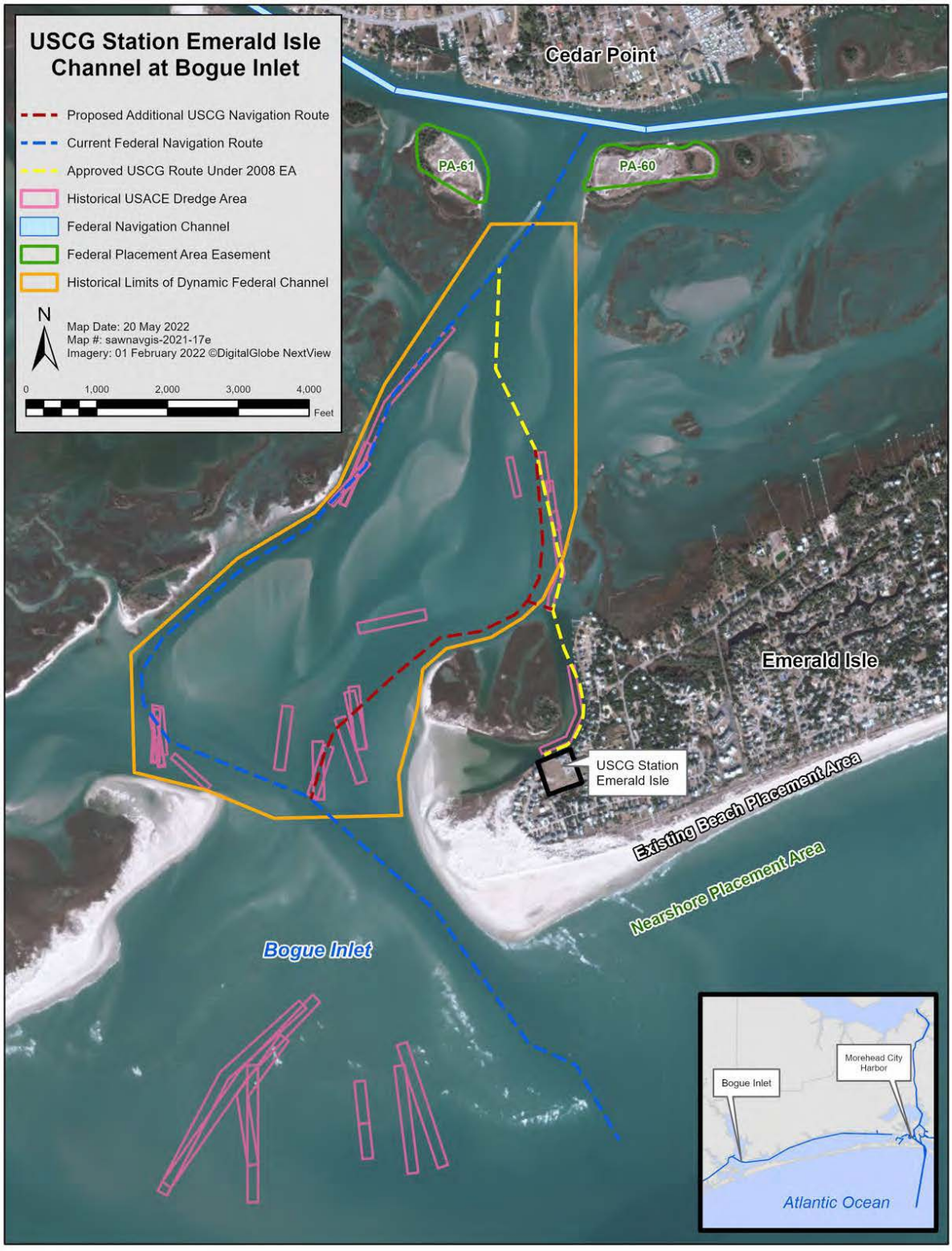

Figure 2. Past (post-2010) and Proposed Dredging Locations

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.

5.1 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.

5.1.1 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, sediments within the proposed project area were sampled. Locations of the borings and results of the testing are 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 on the western end of Emerald Isle, used by the USACE during maintenance dredging of the Bogue Inlet and AIWW for the placement of

beach quality sand. 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.

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.

5.1.2 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.

5.1.3 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.

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.

5.1.4 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.

5.2 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 would remain, and these shoals would be expected to expand, 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 CY to 6 ft (project depth) and 6,200 CY to overdepth. Dredging would typically take place over a 7-14 day period.

5.3 Alternative 2 – Proposed Action – Maintaining the North Route and Adding a New Southwest Route (with dredging window).
This alternative includes maintenance dredging a navigation route to the southwest to access the USACE federally maintained navigation channel at Bogue Inlet (Figure 1). This southwest route has been 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, one route may only be maintained at times 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 5.1, 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. Sediment sampling in the area of new dredging (300 linear-foot section) would be accomplished prior to dredging to determine sediment characteristics. 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.

5.4 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, taking into account the risk assessments that would be required under the 2020 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-grain sediment, it could not be placed on a beach or nearshore placement area or discharged into adjacent waters by sidecast dredge; rather it would be placed in a confined upland placement site (PA 60 or PA 61). 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 prevalent activities being analyzed in this EA. 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 (red dashed line) navigation channels, likely from movement of sand shoals into neighboring flood-tidal channels. Shoals within the flood-tidal delta were sampled in 2002 and indicated poorly graded sands continuously down to vibracore termination depth (>14 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 or in the nearshore. In addition, Figure 3, shows the area of new dredging (300-foot linear area), marked by a red rectangle, where additional geotechnical information is needed prior to dredging operations.

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, 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.

Prior to determining an appropriate placement area, sediments would be tested for grain size. As described above, sediments containing less than 10 percent fine-grained material would be acceptable for beach placement.

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. This alternative would also require the same testing requirements listed for 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 so as to avoid injury to the dredge crew and the public, as well as damage to property or the environment.

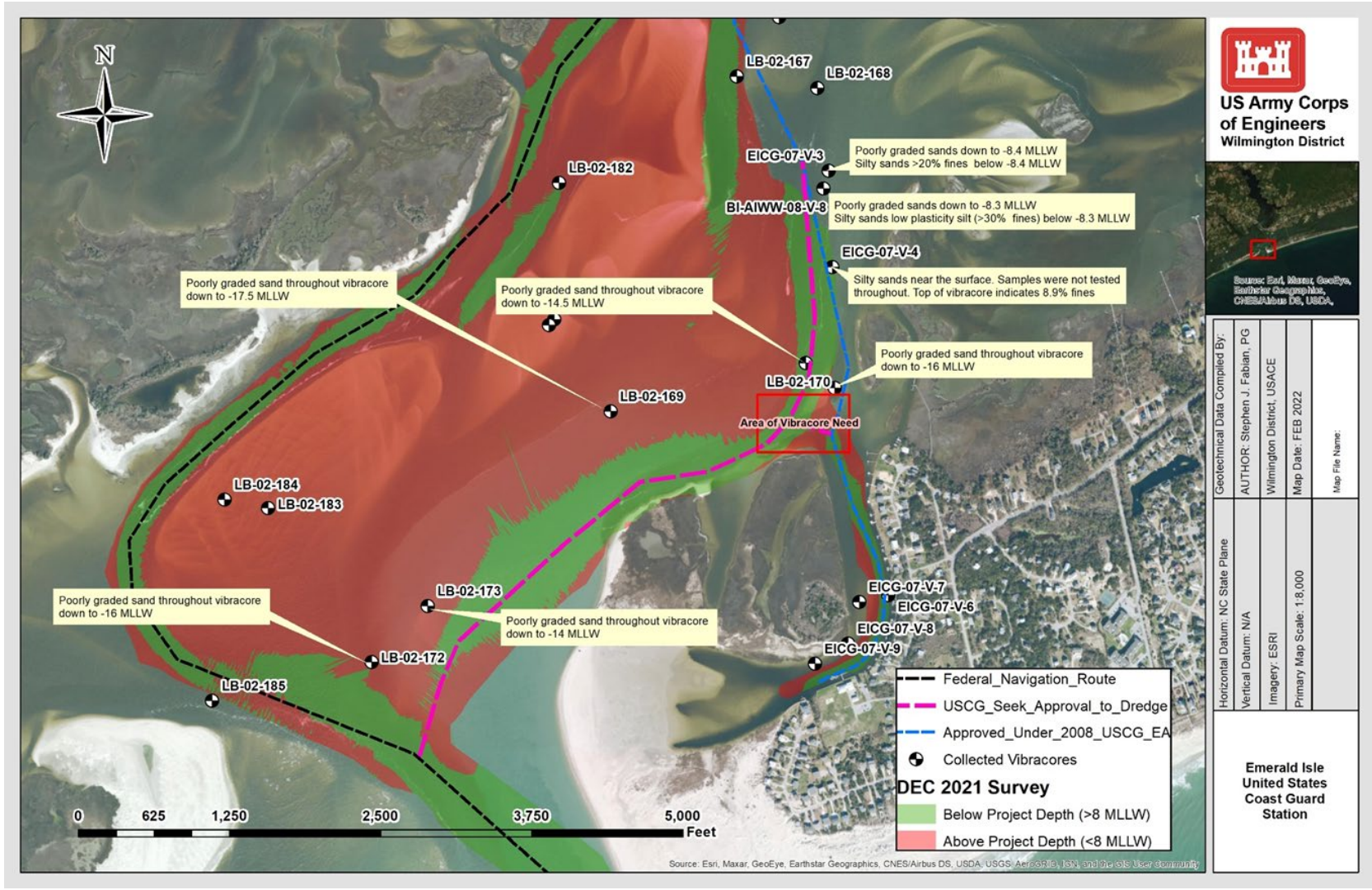

Figure 3. Overview of project area. Pink dashed line is the navigation route USCG at Emerald Isle is seeking approval to dredge. Notice the red rectangle below vibracore LB-02-170. This are needs additional geotechnical investigation to delineate subsurface sediments prior to dredging.

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 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. (NCDENR 2022).

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 copy of the WQCs can be found in Attachment C. A WQC will be obtained for the sidecasting option.

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 (Attachment C) 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 to 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 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.

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, fresh water 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 fresh water 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) (N.C. Division of Air Quality, 2022); therefore a conformity determination is not required.

The proposed action would have a negligible effect to the local and global climate. Creating an 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; however these emissions will be localized and temporary in nature and not significantly contribute to climate change

The project is in compliance with Section 176 (c) of the Clean Air Act, as amended. The direct and indirect emissions from the project fall below the prescribed de minimus levels; 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 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. (Balazik, 2020).

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. Noise levels associated with dredging and placement activities are expected to comply with Section 6-28 and Section 22-33, NC code of ordinances, thereby having little to no effects on the natural environment.

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 (1998b) conducted an experiment at Beaufort Inlet, North Carolina (approximately 25 miles to the east northeast) in order 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, 1998b).

Egg and larval transport from offshore spawning grounds to the inshore environment of Beaufort Inlet has been studied by Hettler and Hare (1998b) 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 (1998b), average weekly concentration (number per 100 m^3) for all of 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, 1998a.). 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 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 disposal 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 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 the National Marine Fisheries Service (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 3 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 5.05 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 Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (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 m deep
- Big Rock and Ten Fathom Ledge – both located about 30 miles east of the proposed project area
- 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: Bogue Sound	Water Bodies: Atlantic Ocean South of Cape Hatteras	FISH SPECIES	Water Bodies: Bogue Sound	Water Bodies: 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
Estuarine Water Column	Hard Bottoms
Intertidal Flats	Hoyt Hills
Oyster Reefs & Shell Banks	*Sargassum* Habitat
Seagrass	State-designated Areas of Importance of Managed Species
	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 each dredging event, SAVs will be identified using the latest aerial photography and GIS imagery. A 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 for any of the three alternatives analyzed. Any impacts to emergent wetlands or SAV resulting from this method of placement would be indirect and would be 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, 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, and 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^{o} F) and generally occur between 30^{o}N and 30^{o}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 (PNAs) 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 volumes estimates for the northern route (currently approved route) are 2,600 CY to 6 ft (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 each dredging event, SAVs will be identified using the latest aerial photography and GIS imagery. A 100-foot buffer will be placed around any SAVs identified to protecting them from effects of turbidity and sedimentation. No dredging or placement, including sidecasting of dredged material, will occur within 100 feet of identified SAVs. 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 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 U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (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?**
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	Both	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	Yes
Eastern Black Rail (*Laterallus jamaicensis*)	T	USFWS	Yes
West Indian manatee (*Trichechus manatus*)	E	USFWS	Rare
Sensitive joint-vetch (*Aeschynomene virginica*)	T	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
Finback whale (*Balaenoptera physalus*)	E	NMFS	No
Humpback whale (Megaptera novaeangliae)	E	NMFS	No
North Atlantic right whale (*Eubalaena glacialis*)	E	NMFS	No
Shortnose sturgeon (*Acipenser brevirostrum*)	E	NMFS	Rare
Atlantic sturgeon (*Acipenser oxyrinchus*)	E	NMFS	Yes
Smalltooth sawfish (*Pistis pectinata*)	E	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 D). 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:

Sea turtles [green (*Chelonia mydas*), loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*), Hawksbill (*Eretmochelys imbricate*), 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*); West Indian manatee (*Trichechus manatus*); Rough-leaved loosestrife (*Lysimachia asperulaefolia*); Cooley's Meadowrue (*Thalictrum cooleyi*); Pondberry (*Lindera melissifolia*); Red-cockaded woodpecker (*Picoides borealis*); Northern Long-eared Bat (*Myotis septentrionalis*) 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 1.6 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 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.

It is not anticipated that formal consultation with USFWS for this Project will be needed.

Species under the purview of NMFS.
Regarding T&E species under the purview of NMFS, the proposed project activities are covered by the South Atlantic Regional Biological Assessment (SARBO) issued by the NMFS on March 20, 2020 (NMFS 2020). The 2020 SARBO can be located at https://www.fisheries.noaa.gov/content/endangered-species-act-section-7-biologicalopinions-southeast.

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*); Finback whale (*Balaenoptera physalus*); Humpback whale (*Megaptera novaeangliae*); North Atlantic right whale (*Eubalaena glacialis*); shortnose sturgeon (*Acipenser brevirostrum*); Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*); and Smalltooth sawfish (*Pistis pectinata*).

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 possible. 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 revaluated 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 South Atlantic Regional Biological Assessment (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 (USVI).

Neither the proposed dredging nor the sidecasting of dredged material adjacent to the southwest channel and connecting channel would 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 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.

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, Alternative 2 may affect, but is not likely to adversely affect sea turtles, sturgeon, sawfish, manatee and whales, piping plover, red knot, and seabeach amaranth.

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 to occur during the spring/summer months when sidecasting or placing material in the nearshore placement area. Placement on PA 60 or 61 or beach placement would be done between November 16 and March 31 to avoid impacts to nesting birds and sea turtles.

Alternative 3 may affect, but is not likely to adversely affect sea turtles, sturgeon, sawfish, manatee and whales, piping plover, red knot, and seabeach amaranth. No adverse effects to any federally listed threatened or endangered species would be expected.

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.

Due to past dredging 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. The USACE will then 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 will only continue following completion of 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 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.

6.14 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.

6.15 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 1. 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.locations (same as Alt 2).

Table 2. Comparison of Environmental Impacts (continued)

Project Area Resource	Alternative 1 No Action Maintain Historic Route	Alternative 2 Maintain Horseshoe w/ Window	Alternative 3 (proposed action) Maintain Horseshoe w/o Window
T&E Species	May affect, not likely to adversely affect species within the historic route.	May affect, not likely to adversely affect species via increase in turbidity and noise, removal of bottom habitat/benthos.	May affect, not likely to adversely 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 affect to minority or low-income populations.	No adverse affect to minority or low-income populations.	No adverse affect to minority or low-income populations.(same as Alt 2).
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.

7.0 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

Mr. Jeremy Overstreet, CESAW-ECP-PE, U.S. Army Engineer District, Wilmington, via email: Jeremy.R.Overstreet@usace.army.mil.

8.0 STATUS OF ENVIRONMENTAL COMPLIANCE

8.1 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 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.

8.2 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 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 nearshore disposal 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. A concurrence with this determination will be requested from the NCDCM. Work would not begin until this concurrence has been obtained, and any requirements identified in the consistency concurrence would be complied with.

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. Bouge 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.

8.2.2 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."

8.3 Clean Water Act.
The proposed action will be evaluated under the Section 404(b)(1) (P.L. 95-2017). The three alternatives evaluated will not require a NCDWR 401 WQC for the dredging portion of the project since there is no regulated discharge, pursuant to the Clean Water Act. However, dredged material placed in the authorized beachfront and nearshore placement areas is covered under WQC #4500, and placement by control-of-effluent on an authorized upland placement area will be covered under WQC #4248. A copy of the WQCs can be found in Attachment C. USCG will apply for WQC authorization for the sidecasting option. USCG will apply for authorization for any work in waters of the United States which are subject to Federal permitting authority pursuant to Section 404 of the Clean Water Act of 1977 (33 USC 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403).

Pursuant to Section 404 of the Clean Water Act, the COE-Reg NWP 16 (Attachment B) authorizes the return water from upland contained placement areas.

The USCG will apply for authorization from USACE Regulatory for the proposed dredging and placement on an as-needed basis. This application will be circulated to all Federal resource agencies for review, comment, and recommendations for permit conditions. No work would begin until all necessary authorizations have been received, and all conditions of the authorizations would be met.

The proposed alternative will comply with Sections 404 and 401 of the Clean Water Act.

8.4 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://www.fisheries.noaa.gov/content/endangered-species-act-section-7-biological-opinions-southeast.

8.5 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 the National Marine Fisheries Service (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.

USACE EFH consultation with NMFS Habitat Conservation Division (HCD) will be completed prior to finalization of the EA.

8.6 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 3. The Relationship of the Proposed Action to Federal Laws and Policies

Title of Public Law	**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
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

Executive Orders	**US CODE**	*Compliance Status
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.

Table 4. The Relationship of the Proposed Action to Federal Laws and Policies (Continued)

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 "connecting" 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 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 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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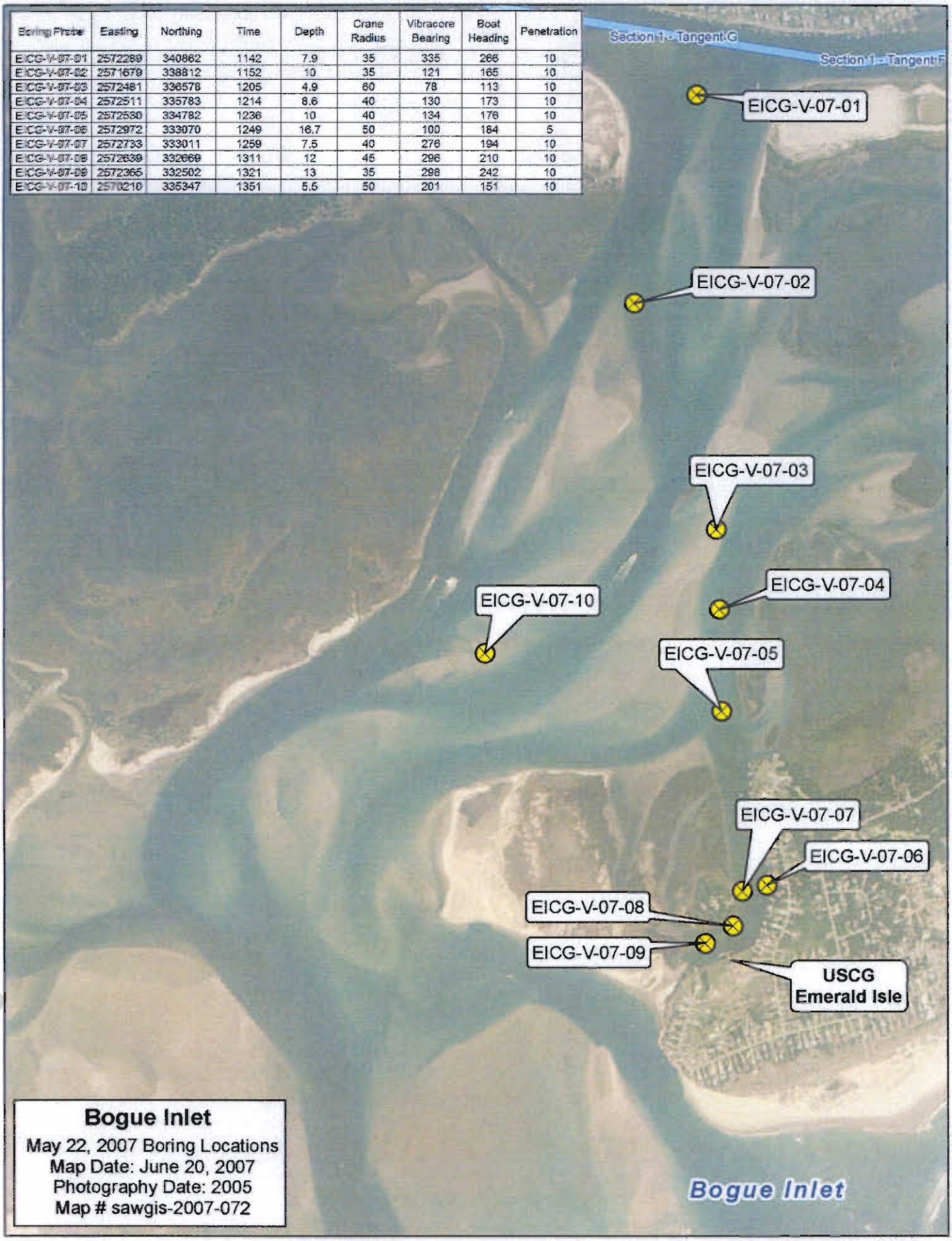
Attachment A:

Location and Results of 2007 Borings

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	2572580	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



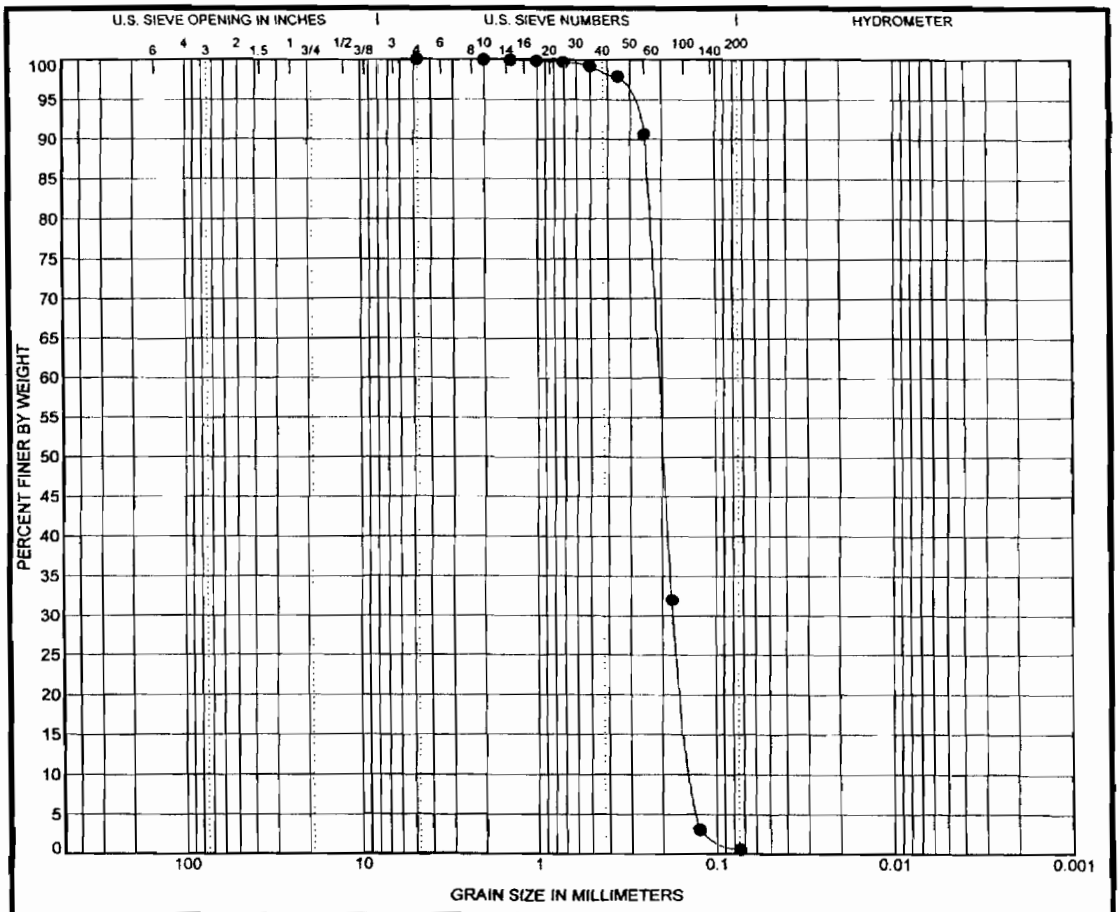
Bogue Inlet

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 (BW 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								
▲										
★										
⊙										

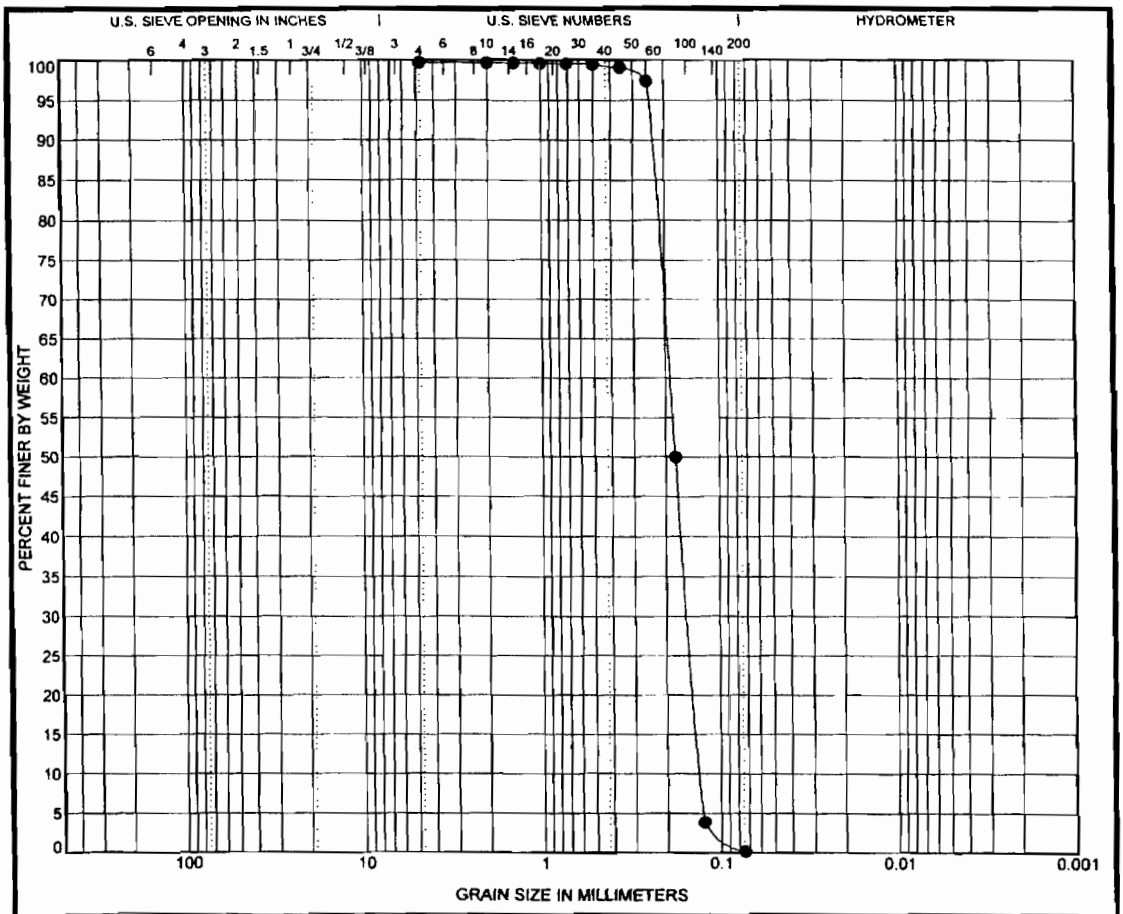
CATLIN
ENGINEERS and SCIENTISTS
GEOTECHNICAL LABORATORIES
Wilmington, NC

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



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								
▲										
★										
⊙										

CATLIN
ENGINEERS and SCIENTISTS
GEOTECHNICAL LABORATORIES
Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

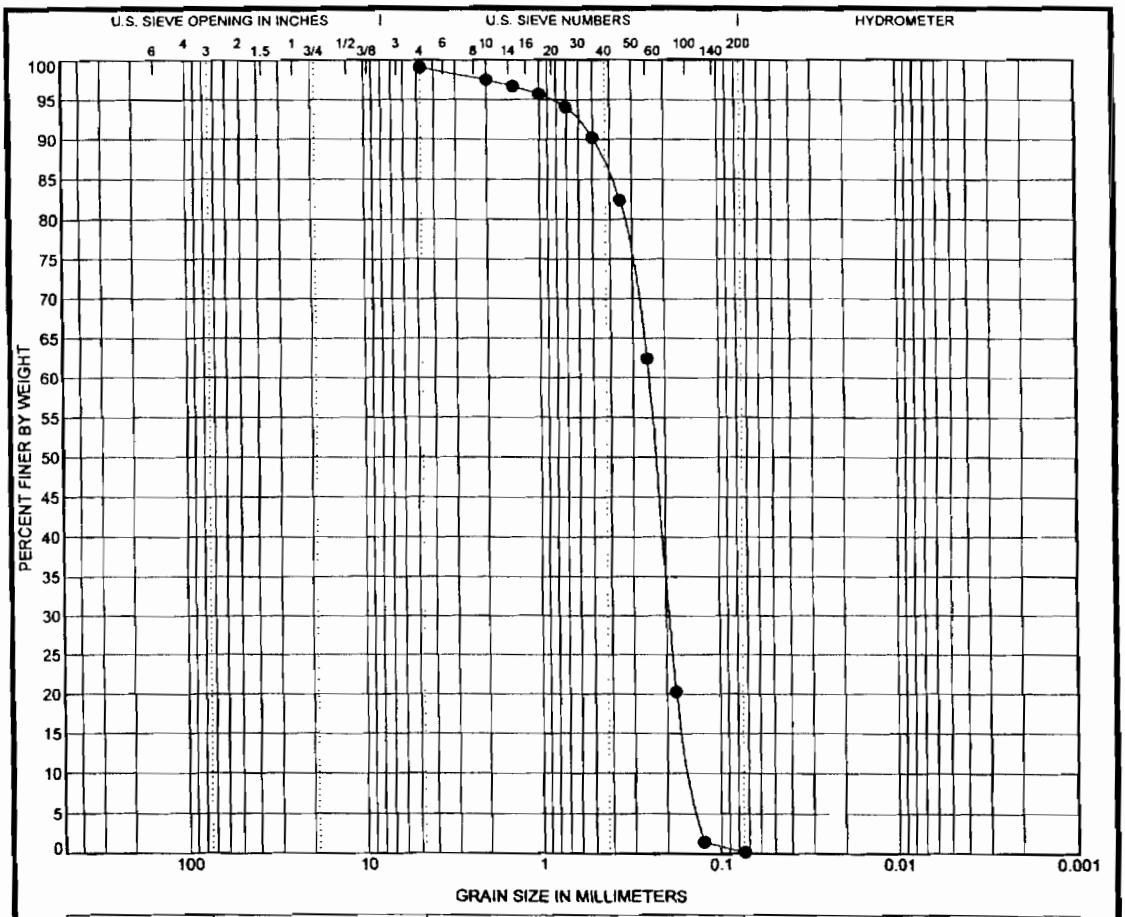
PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

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

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								
▲										
★										
⊙										

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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

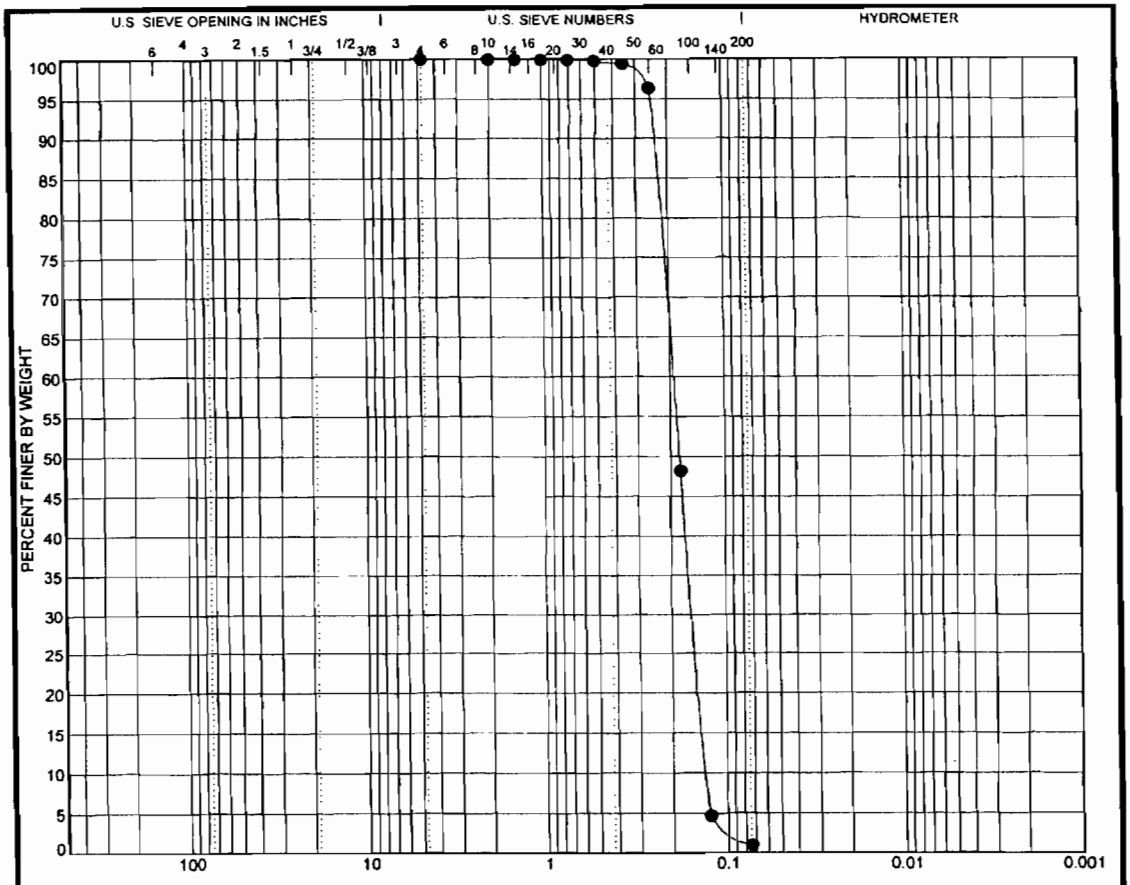
US GRAIN SIZE SINGLE 202-062.EICG.GPJ CATLIN.GDT 7/13/07

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'			
-10.8	11.0		ASSUMED NOT RECOVERED			LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SP 3 SP 4 NOT TESTED
-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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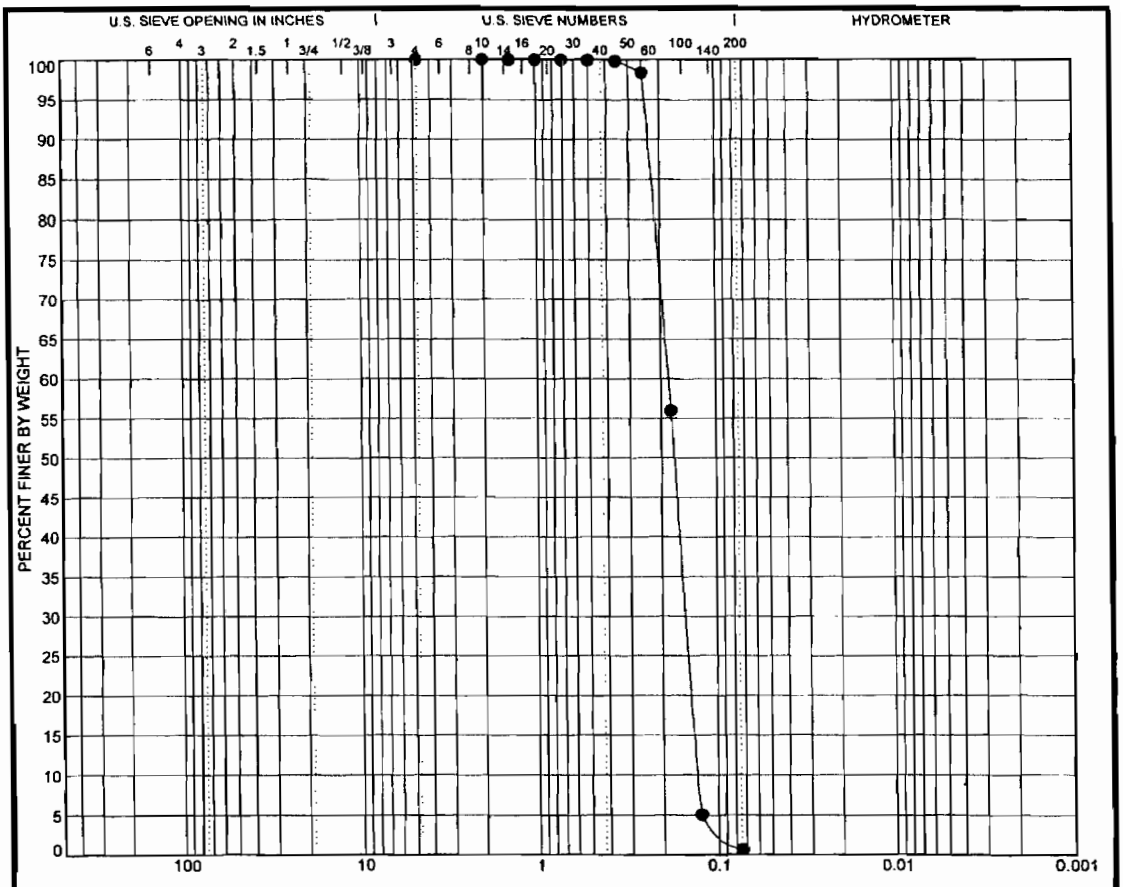
Wilmington, NC

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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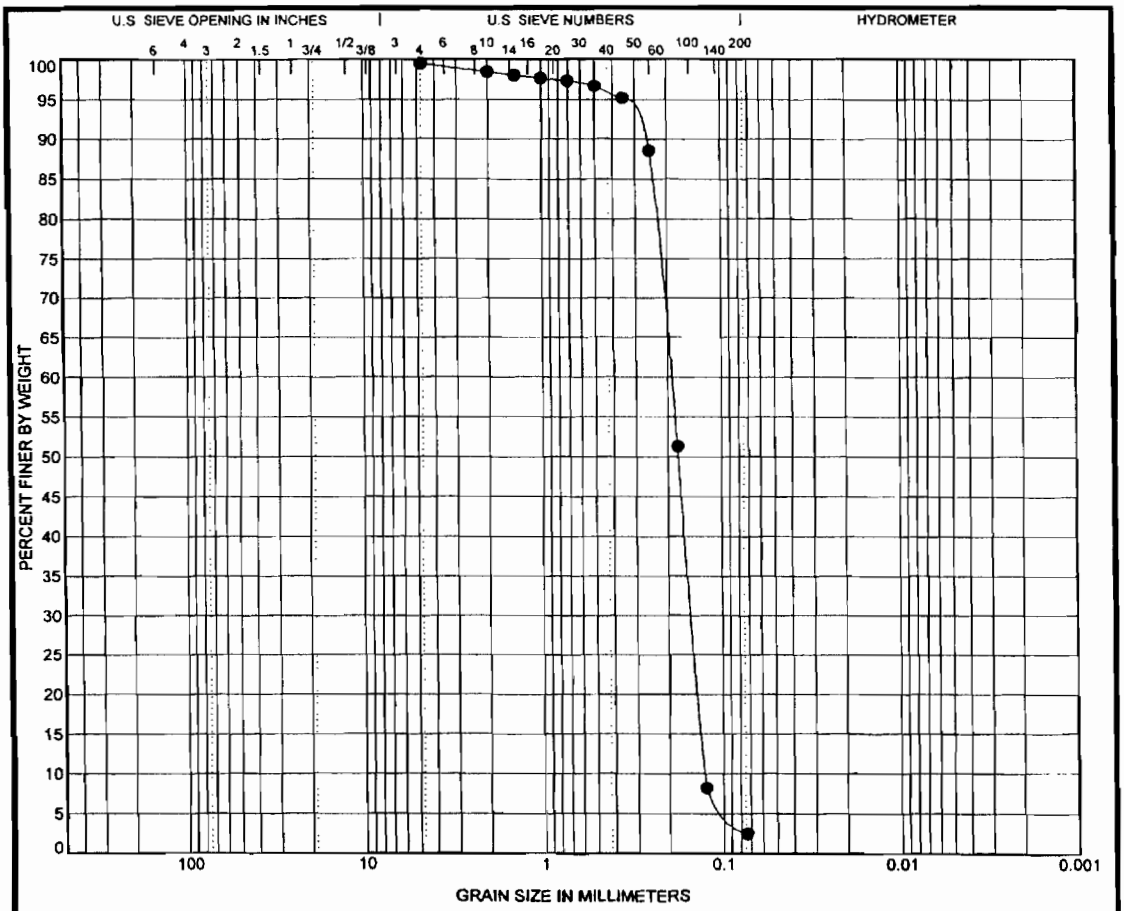
Wilmington, NC

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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Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

PROJECT NAME: USACOE

CITY: Emerald Isle Coast Guard

PREPARED FOR: USACOE

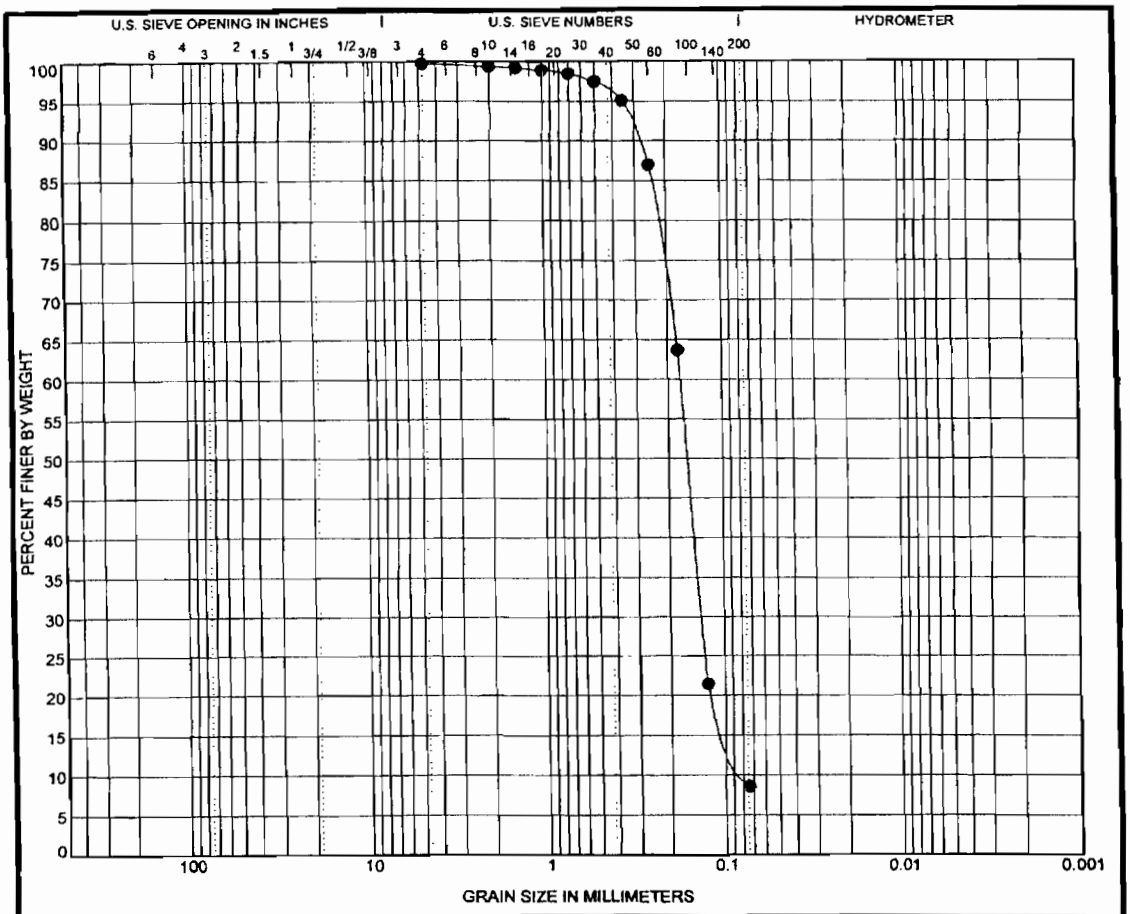
US_GRAIN_SIZE_SINGLE_202-062-EICG-GDI_CATLIN.GDT 7/13/07

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

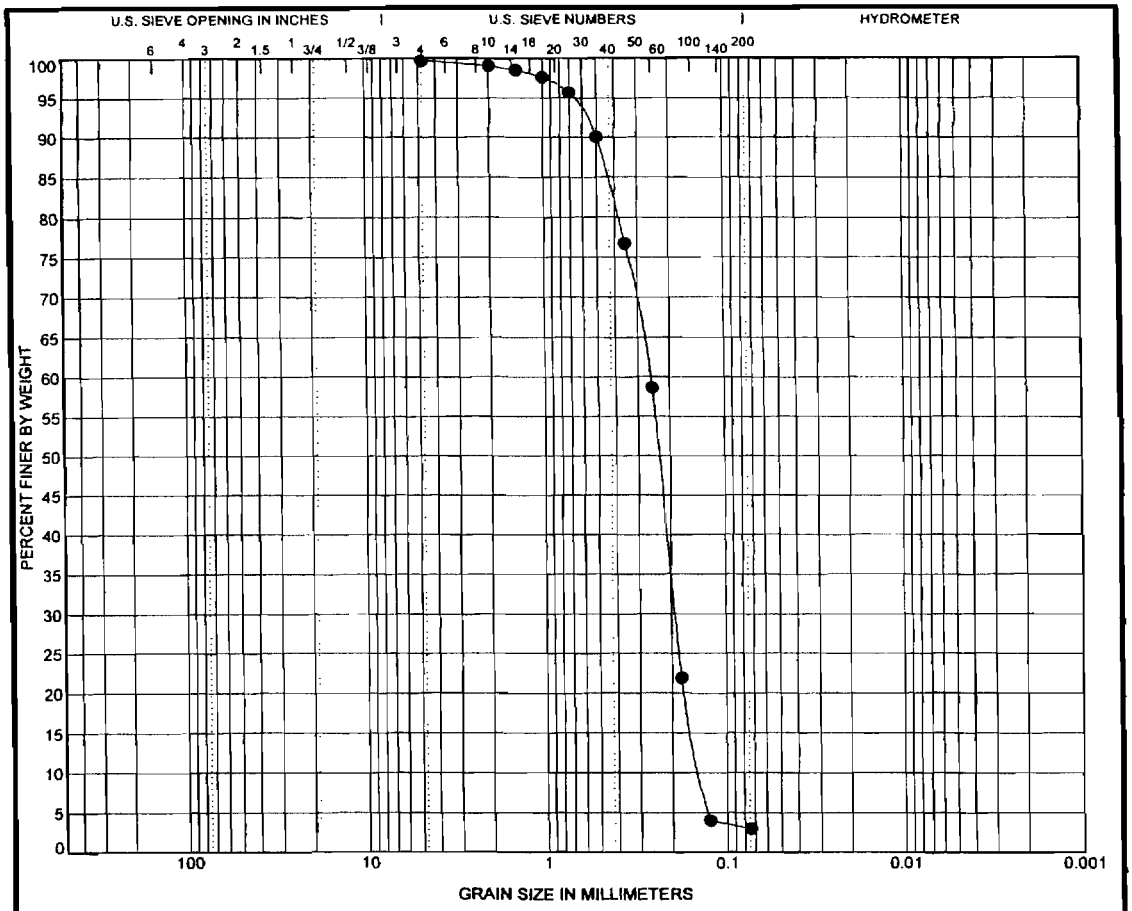
PROJECT NAME: USACOE
CITY: Emerald Isle Coast Guard
PREPARED FOR: USACOE

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.
-8.0	8.0		CHANNEL BOTTOM @ 8.0'		8.0'	
			SP- Grayish-tan, coarse poorly-graded sand		1	
					8.5'	
	10.0				10.0'	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
					2	
					10.5'	
	12.0				12.0'	
					3	
					12.5'	NOTE: Commercial soils lab classified samples according to ASTM D2457
	14.0		14.0'		14.0'	
			with shell fragments		4	LAB CLASSIFICATION Jar Number / Classification 1 SP 2 NOT TESTED 3 NOT TESTED 4 NOT TESTED
			16.0'		14.5'	
-16.0	16.0		ASSUMED NOT RECOVERED			
-18.0	18.0		BOTTOM OF HOLE AT 18.0'			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-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-SB_CATLIN.GDT 7/13/07

Hole No. EICG-07-V-6

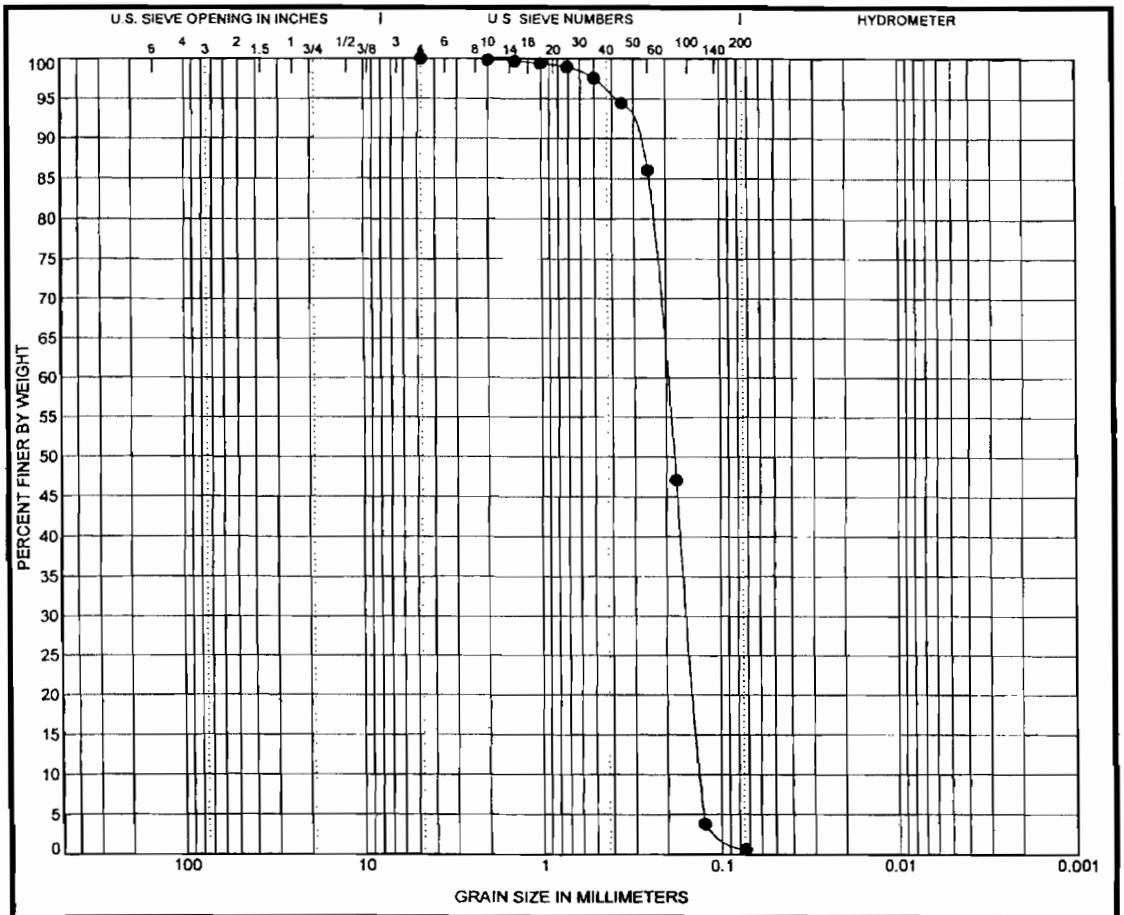
DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS
1. PROJECT EMERALD ISLE COAST GUARD STATION		10. SIZE AND TYPE OF BIT 4" Dia. Vibracore	
2. LOCATION (Coordinates or Station) E2572972 N333070 NCNAD83		11. DATUM FOR ELEVATION SHOWN (MW or MSL) MLLW	
3. DRILLING 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'	
					4	LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SP 3 NOT TESTED 4 NOT TESTED
					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

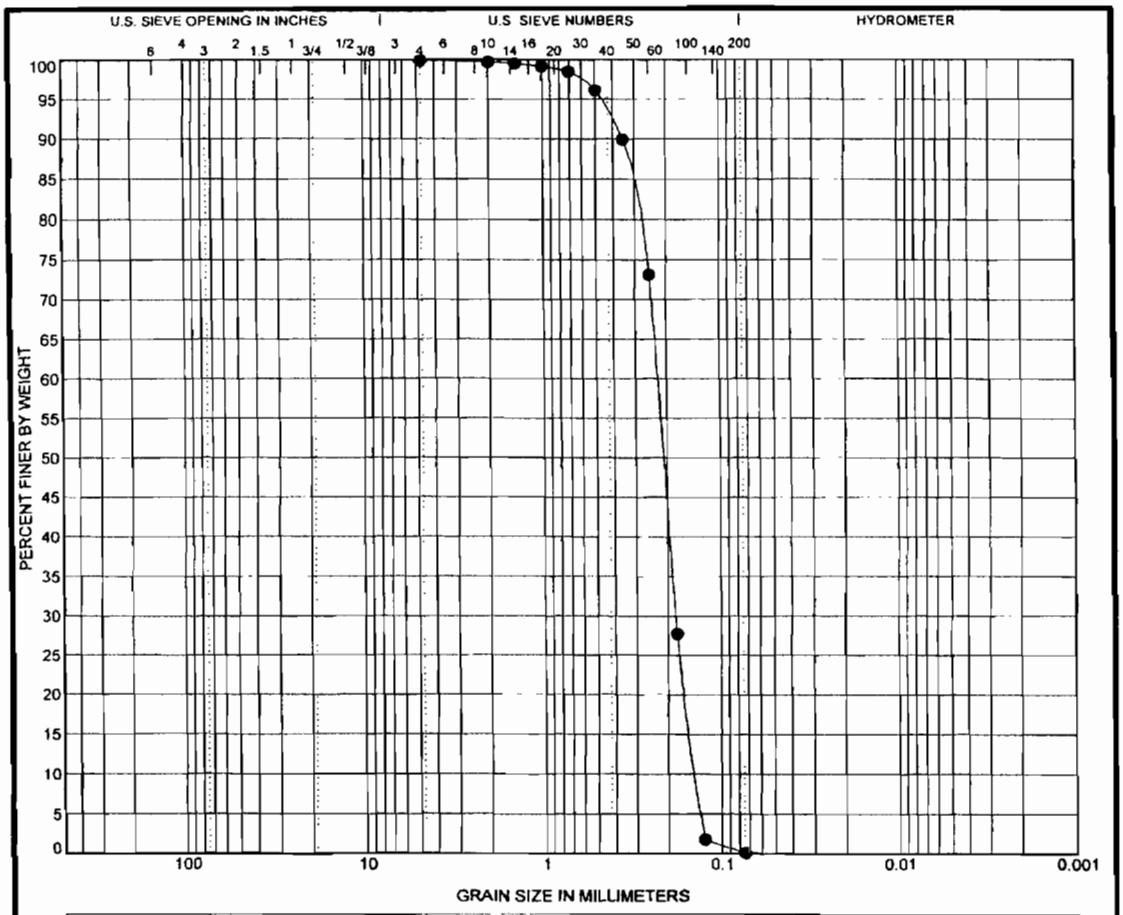
GRAIN SIZE DISTRIBUTION

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-08-V CATLIN.GDT 7/13/07

Hole No. EICG-07-V-8

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

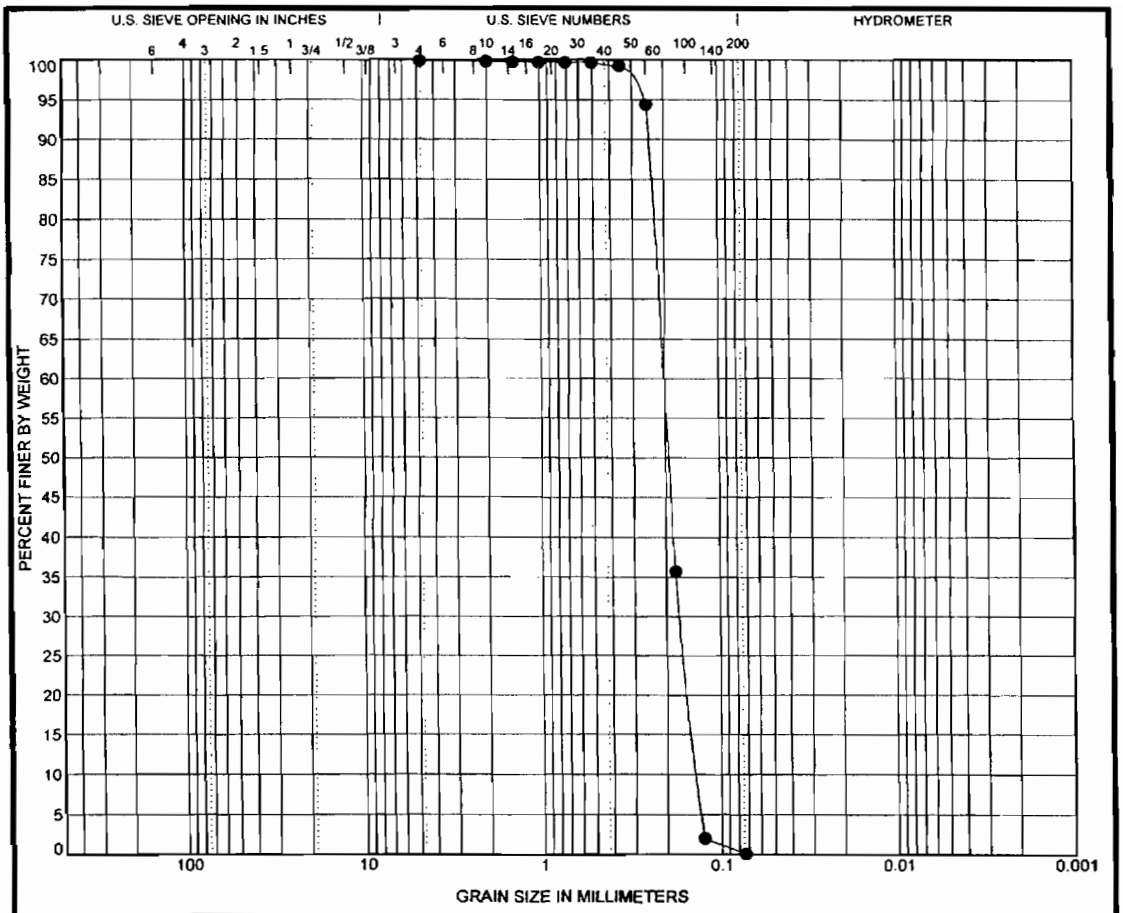
1. PROJECT EMERALD ISLE COAST GUARD STATION	10. SIZE AND TYPE OF BIT 4" Dia. Vibracore
2. LOCATION (Coordinates or Station) E2572639 N332669 NCNAD83	11. DATUM FOR ELEVATION SHOWN (BM or MSL) MLLW
3. DRILLING AGENCY WILMINGTON DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL VIBRACORE D/B SNELL
4. HOLE 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'

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.
-1.0	1.0		CHANNEL BOTTOM @ 1.0'		1.0'	
			SP-Tan, coarse, poorly-graded sand		1 1.5'	
	3.0				3.0' 2 3.5'	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
	5.0				5.0' 3 5.5'	
			7.0'			NOTE: Commercial soils lab classified samples according to ASTM D2457
-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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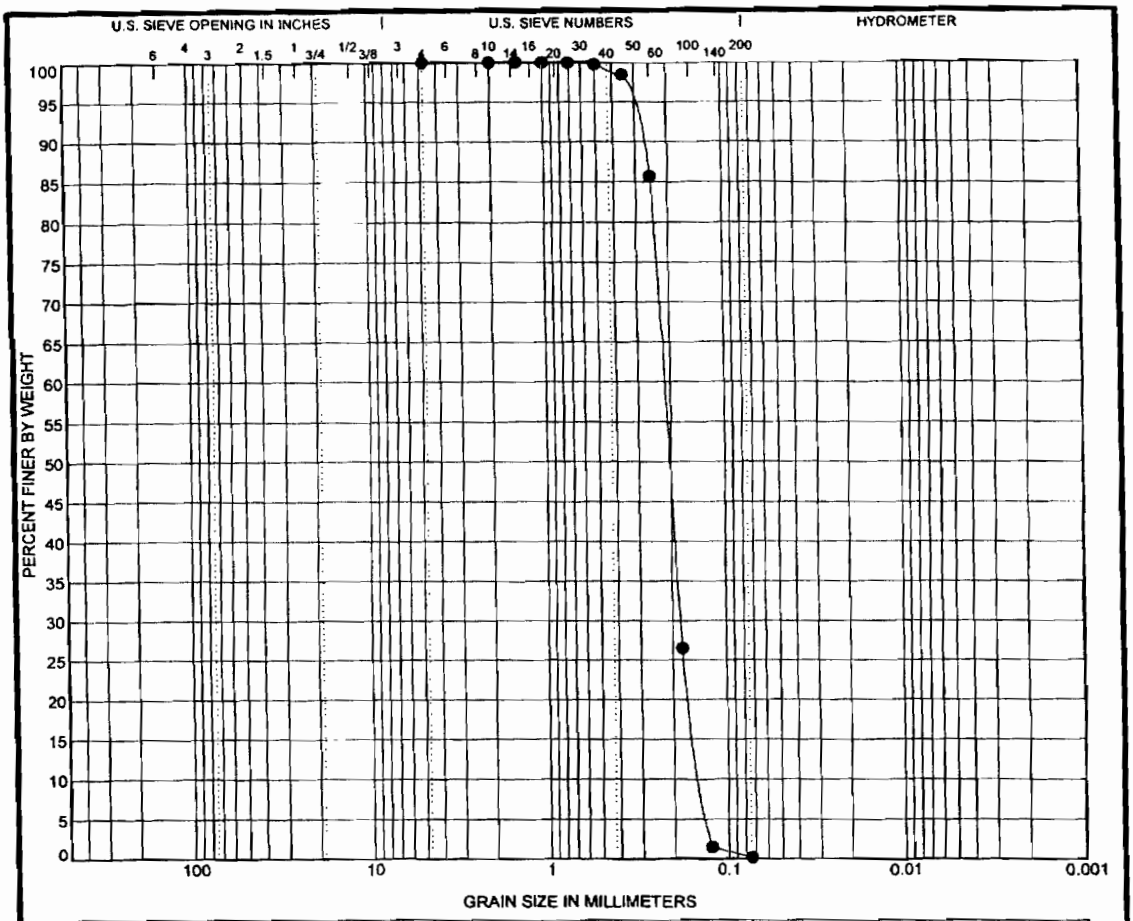
CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

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

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



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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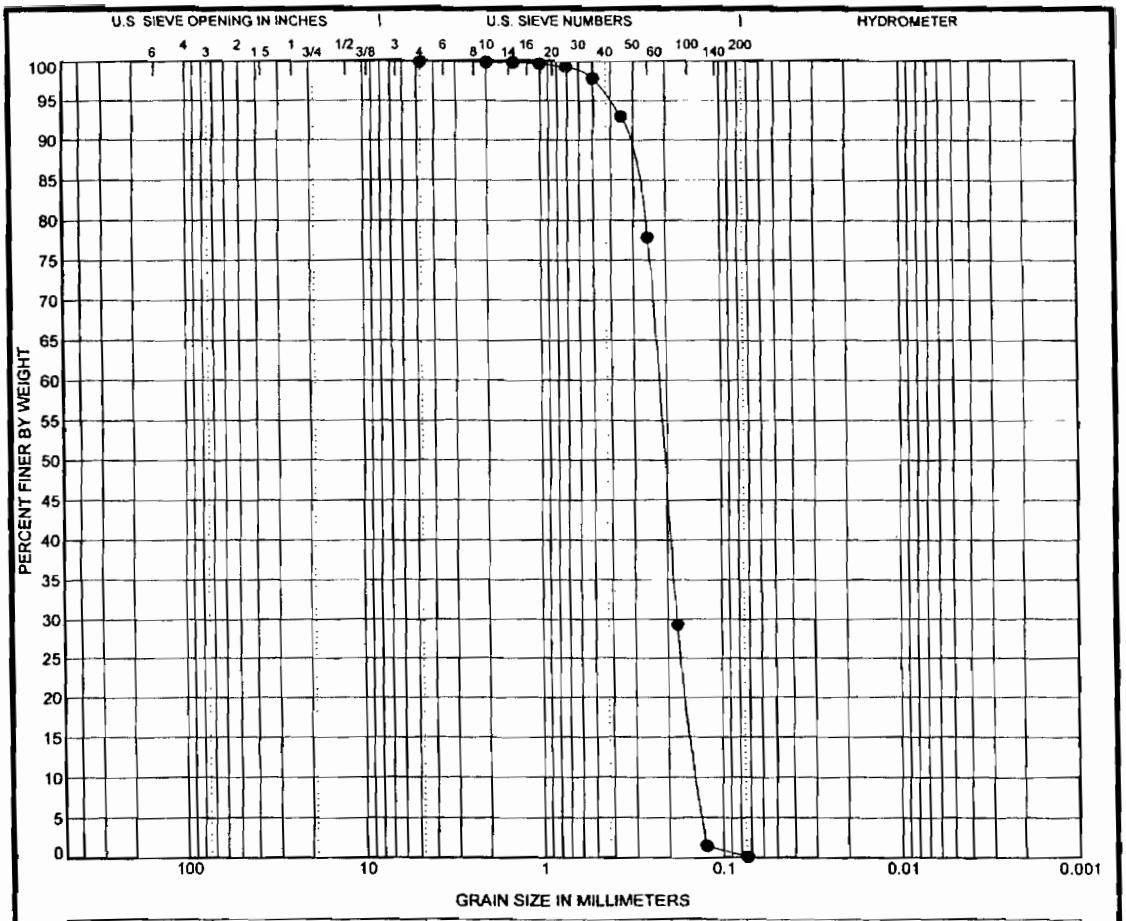
CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

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

US_GRAIN_SIZE_SINGLE_202-062-EICG-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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Wilmington, NC

CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

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

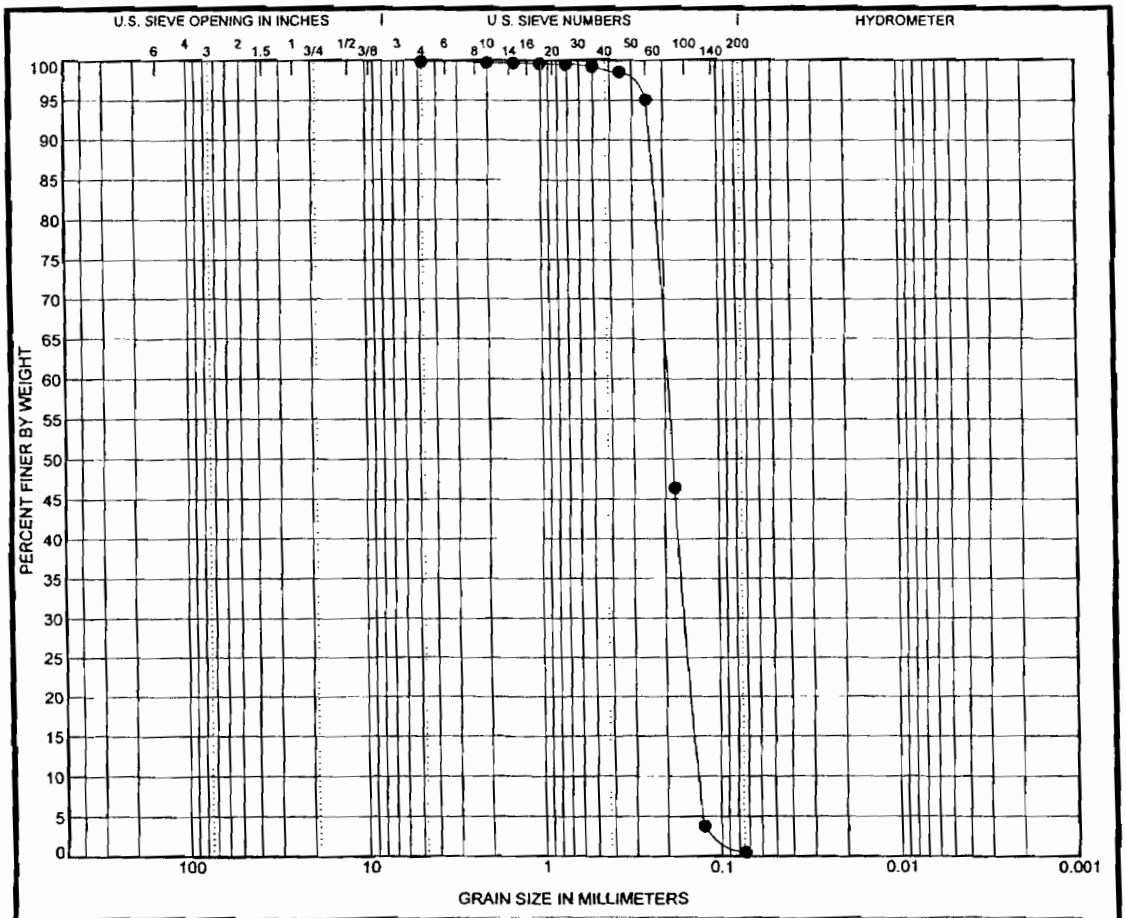
US_GRAIN_SIZE_SINGLE_202-062 EICG GPJ CATLIN GDT 7/13/07

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 (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-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 10.0'		9.5'	
					4	LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SP 3 SP 4 NOT TESTED
-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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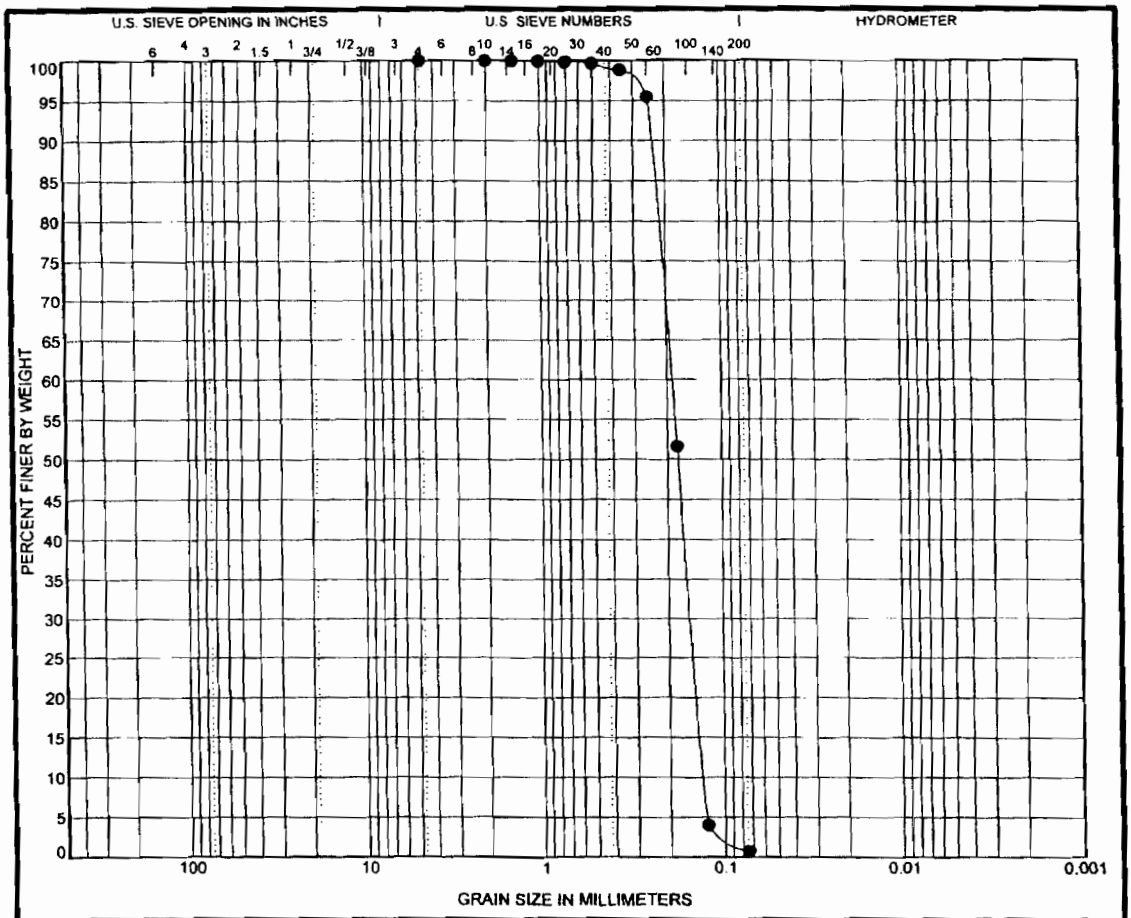
Wilmington, NC

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								
▲										
★										
⊙										

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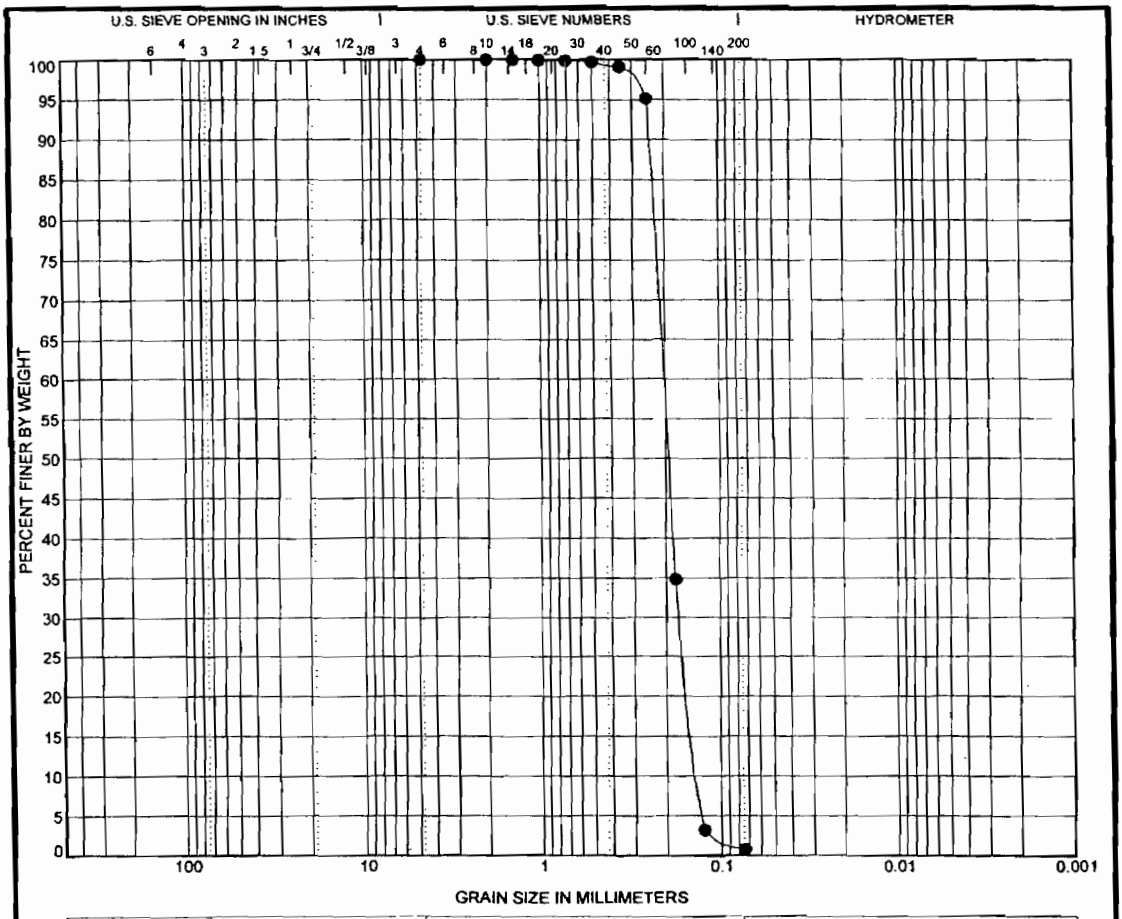
CATLIN NAME: USACOE
CATLIN NUM.: 202-062

GRAIN SIZE DISTRIBUTION

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

US GRAIN SIZE SINGLE 202-062 EICG-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								
▲										
★										
⊙										

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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

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

Attachment B:

US Army Corps of Engineers Nationwide Permit No 16

Nationwide Permit 16
Return Water From Upland Contained Disposal Areas

Effective Date: February 25, 2022 / Expiration Date: March 14, 2026
Authority: Section 404

Return water from an upland contained dredged material disposal area. The return water from a contained disposal area is administratively defined as a discharge of dredged material by 33 CFR 323.2(d), even though the disposal itself occurs in an area that has no waters of the United States and does not require a section 404 permit. This NWP satisfies the technical requirement for a section 404 permit for the return water where the quality of the return water is controlled by the state through the Clean Water Act Section 401 certification procedures. The dredging activity may require a section 404 permit (33 CFR 323.2(d)), and will require a section 10 permit if located in navigable waters of the United States.

GENERAL CONDITIONS

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. **Navigation.**

(a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee’s expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the

movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects from Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. **Removal of Structures and Fills.** Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be

removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. **Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. **Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. **Wild and Scenic Rivers.**

(a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a ''study river'' for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a ''study river'' for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. **Tribal Rights.** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. **Endangered Species.**

(a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate

documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non- Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete

pre- construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their worldwide Web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. **Migratory Birds and Bald and Golden Eagles**. The permittee is responsible for ensuring that an action authorized by NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. **Historic Properties.**

(a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district

engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. **Discovery of Previously Unknown Remains and Artifacts.** Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. **Designated Critical Resource Waters.** Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 5258 for

any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. **Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (*i.e.,* on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1⁄10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1⁄10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 1/103/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 1/103/100-acre or less that require pre- construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation since streams are difficult-to- replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be

25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee- responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (*e.g.,* resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring

requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to an herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. **Safety of Impoundment Structures.** To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. **Water Quality.**

(a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFF 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality

certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. **Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. **Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. **Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit,

including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.''

_____

(Transferee)

_____

(Date)

30. **Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. **Activities Affecting Structures or Works Built by the United States.** If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a ''USACE project''), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. **Pre-Construction Notification.**

(a) *Timing.* Where required by the terms of the NWP, the permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been

received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is ''no effect'' on listed species or ''no potential to cause effects'' on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the pr set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4)

(i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of

wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans).

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate.

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act.

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act.

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a ‘‘study river’’ for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the ‘‘study river’’ (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification:* The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination:*

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for:

(i) All NWP activities that require pre-construction notification and result in the loss of greater than 1⁄2-acre of waters of the United States;

(ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and

(iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or email that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so, contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre- construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide

whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

DISTRICT ENGINEER'S DECISION

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant

has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either:

(a) That the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit;

(b) that the activity is authorized under the NWP subject to the applicant’s submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or

(c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

FURTHER INFORMATION

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

DEFINITIONS

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term ‘‘discharge’’ means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site),

building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non- tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of ‘‘open waters’’ include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre- construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: Re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term ‘‘single and complete project’’ is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term ‘‘single and complete project’’ is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of ‘‘independent utility’’). Single and complete non-linear projects may not be ‘‘piecemealed’’ to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: (1) Held in trust by the United States for the benefit of any Indian tribe or individual; or (2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a ‘‘water of the United States.’’ If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a sing e aquatic unit (see 33 CFR 328.4(c)(2)).

REGIONAL CONDITIONS:

The following Regional Conditions have been approved by the Wilmington District for the Nationwide Permits (NWPs) published in the January 13, 2021, and December 27, 2021, *Federal Register* (86 FR 2744 and 86 FR 73522) announcing the reissuance of 52 existing (NWPs) and five new NWPs, as well as the reissuance of NWP general conditions and definitions with some modifications.

A. EXCLUDED WATER AND/OR AREAS

The Corps has identified waters that will be excluded from the use of all NWP's during certain timeframes. These waters are:

1. **Anadromous Fish Spawning Areas.** Work in waters of the U.S. designated by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are prohibited from February 15th through June 30th, without prior written approval from the Corps and the appropriate wildlife agencies (NCDMF, NCWRC and/or the National Marine Fisheries Service (NMFS)). Work in waters of the U.S. designated by NCWRC as primary nursery areas in inland waters are prohibited from February 15th through September 30th, without prior written approval from the Corps and the appropriate wildlife agencies. Work in waters of the U.S. designated by NCDMF as primary nursery areas shall be coordinated with NCDMF prior to being authorized by this NWP. Coordination with NCDMF may result in a required construction moratorium during periods of significant biological productivity or critical life stages.

2. **Trout Waters Moratorium.** Work in waters of the U.S. in the designated trout watersheds of North Carolina are prohibited from October 15th through April 15th without prior written approval from the NCWRC, or from the Eastern Band of Cherokee Indians (EBCI) Fisheries and Wildlife Management (FWM) office if the project is located on EBCI trust land. (See Section C.3. below for information on the designated trout watersheds).

3. **Sturgeon Spawning Areas.** No in-water work shall be conducted in waters of the U.S. designated by the National Marine Fisheries Service as Atlantic sturgeon critical habitat from February 1st through June 30th. No in-water work shall be conducted in waters of the U.S. in the Roanoke River designated as Atlantic sturgeon critical habitat from February 1st through June 30th, and August 1st through October 31st, without prior written approval from NMFS.

4. **Submerged Aquatic Vegetation.** Impacts to Submerged Aquatic Vegetation (SAV) are not authorized by any NWP, except NWP 48, NWP 55 and NWP 56, unless Essential Fish Habitat (EFH) consultation has been completed pursuant to the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act). Permittees shall submit a PCN (See NWP General Condition 32) to the District Engineer prior to commencing the activity if the project would affect SAV. The permittee may not begin work until notified by the Corps that the requirements of the Magnuson-Stevens Act have been satisfied and that the activity is verified.

B. REGIONAL CONDITIONS APPLICABLE TO ALL NWP's

1. **Critical Habitat in Western NC.** For proposed activities within waters of the U.S. that require a Pre-Construction Notification (PCN) and are located in the thirteen counties listed below, permittees must provide a copy of the PCN to the U.S. Fish and Wildlife Service (USFWS), 160 Zillicoa Street, Asheville, North Carolina 28801 and the Corps Asheville Regulatory Field Office. Please see General Condition 18 for specific PCN requirements

related to the Endangered Species Act and the below website for information on the location of designated critical habitat.

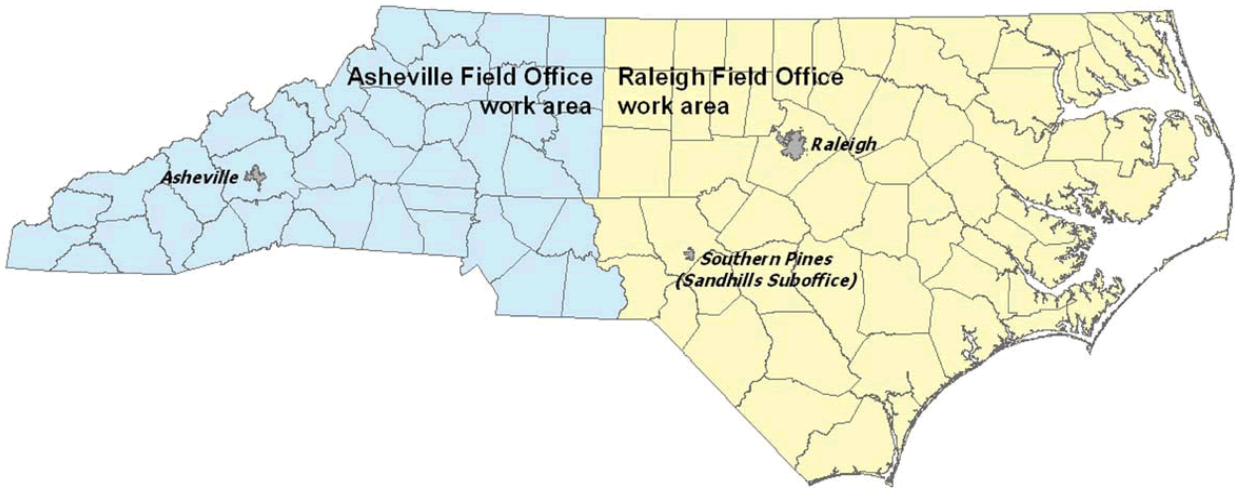
Counties with tributaries that drain to designated critical habitat that require notification to the Asheville U.S. Fish and Wildlife Service: Avery, Cherokee, Graham, Haywood, Henderson, Jackson, Macon, Mecklenburg, Mitchell, Swain, Transylvania, Union and Yancey.

Website and office addresses for Endangered Species Act Information:

The Wilmington District has developed the following website for permittees which provides guidelines on how to review linked websites and maps in order to fulfill NWP General Condition 18 (Endangered Species) requirements: http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram/AgencyCoordination/ESA.aspx.

Permittees who do not have internet access may contact the appropriate U.S. Fish and Wildlife Service offices listed below or Corps at (910) 251-4850.

Below is a map of the USFWS Field Office Boundaries:



Asheville U.S. Fish and Wildlife Service Office counties: All counties west of and including Anson, Stanly, Davidson, Forsythe and Stokes Counties.

U.S. Fish and Wildlife Service
Asheville Field Office
160 Zillicoa Street
Asheville, NC 28801
Telephone: (828) 258-3939

Raleigh U.S. Fish and Wildlife Service Office counties: All counties east of and including Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

U.S. Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Telephone: (919) 856-4520

2. **Special Designation Waters.** Prior to the use of any NWP that involves a discharge of dredged or fill material in any of the following identified waters and/or adjacent wetlands in North Carolina, permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). The North Carolina waters and wetlands that require additional PCN requirements are:

"Primary Nursery Areas" (PNA), including inland PNA, as designated by the North Carolina Marine Fisheries Commission and/or the North Carolina Wildlife Resources Commission. The definition of and designated PNA waters can be found in the North Carolina State Administrative Code at Title 15A, Subchapters 3R and 10C (15A NCAC 03R .0103; 15A NCAC 10C .0502; and 15A NCAC 10C .0503) and at the following web pages:

- http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2003%20-%20marine%20fisheries/subchapter%20r/15a%20ncac%2003r%20.0103.pdf

- http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2010%20-%20wildlife%20resources%20and%20water%20safety/subchapter%20c/15a%20ncac%2010c%20.0502.pdf

- http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2010%20-%20wildlife%20resources%20and%20water%20safety/subchapter%20c/15a%20ncac%2010c%20.0503.pdf

3. **Trout Waters.** Prior to any discharge of dredge or fill material into streams, waterbodies or wetlands within the 294 designated trout watersheds of North Carolina, the permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity. The permittee shall also provide a copy of the PCN to the appropriate NCWRC office, or to the EBCI FWM Office (if the project is located on EBCI trust land), to facilitate the determination of any potential impacts to designated Trout Waters.

NCWRC and NC Trout Watersheds:

NCWRC Contact**	Counties that are entirely within Trout Watersheds*	Counties that are partially within Trout Watersheds*

Mountain Coordinator 645 Fish Hatchery Rd., Building B Marion, NC 28752 828-803-6054 For NCDOT Projects: NCDOT Coordinator 12275 Swift Rd. Oakboro, NC 28129 704-984-1070	Alleghany Ashe Avery Graham Haywood Jackson Macon Swain Transylvania Watauga	Burke Buncombe Caldwell Cherokee Clay Henderson Madison McDowell Mitchell Polk Rutherford Surry Wilkes Yancey
EBCI Contact**	**Counties that are within Trout Watersheds***	
Office of Natural Resources P.O. Box 1747, Cherokee, NC 28719 (828) 359-6113	Qualla Boundary and non-contiguous tracts of trust land located in portions of Swain, Jackson, Haywood, Graham and Cherokee Counties.	

*NOTE: To determine PCN requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps showing trout watersheds in each County at the following webpage: http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout/.

**If a project is located on EBCI trust land, submit the PCN in accordance with Regional Condition C.16. Contact the Corps Asheville Regulatory Field Office at (828) 271-7980 with questions.

4. **Western NC Waters and Corridors.** The permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity in waters of the U.S. if the activity will occur within any of the following identified waters in western North Carolina, within 0.5 mile on either side of these waters, or within 0.75 mile of the Little Tennessee River, as measured from the top of the bank of the respective water (i.e., river, stream, or creek):

Brasstown Creek
Burningtown Creek

Cane River
Caney Fork
Cartoogechaye Creek
Chattooga River
Cheoah River
Cowee Creek
Cullasaja River
Deep Creek
Ellijay Creek
French Broad River
Garden Creek
Hiwassee River
Hominy Creek
Iotla Creek
Little Tennessee River (within the river or within 0.75 mile on either side of this river)
Nantahala River
Nolichucky River
North Fork French Broad River
North Toe River
Nottley River
Oconaluftee River (portion not located on trust/EBCI land)
Peachtree Creek
Shooting Creek
Snowbird Creek
South Toe River
Stecoah Creek
Swannanoa River
Sweetwater Creek
Tuckasegee River (also spelled Tuckaseegee or Tuckaseigee)
Valley River
Watauga Creek
Watauga River
Wayah Creek
West Fork French Broad River

To determine PCN requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps for all corridors at the following webpage: http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Designated-Special-Waters.aspx .

5. **Limitation of Loss of Stream Bed.** NWPs may not be used for activities that may result in the loss of more than 0.05 acres of stream bed, except for NWP 32.

6. **Pre-Construction Notification for Loss of Stream Bed Exceeding 0.02 acres.** The permittee shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32) prior to the use of any NWP for any activity that results in the loss of more than 0.02 acres of stream bed. This applies to NWPs that do not have PCN requirements as well as those NWPs that require a PCN.

7. **Mitigation for Loss of Stream Bed.** For any NWP that results in a loss of more than 0.02 acres of stream bed, the permittee shall provide a mitigation proposal to compensate for more than minimal individual and cumulative adverse impacts to the aquatic environment, unless the

District Engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal. For stream bed losses of 0.02 acres or less that require a PCN, the District Engineer may determine, on a case-by-case basis, that compensatory mitigation is required to ensure that the activity results in minimal adverse effect on the aquatic environment.

8. **Riprap.** For all NWPs that allow for the use of riprap material for bank stabilization, the following conditions shall be applied:

a. Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters. The placement of filter fabric is not required if the riprap will be pushed or “keyed” into the bank of the waterbody. A waiver from the specifications in this Regional Condition must be requested in writing.

b. Riprap shall be placed only on the stream banks, or, if it is necessary to be placed in the stream bed, the finished top elevation of the riprap should not exceed that of the original stream bed.

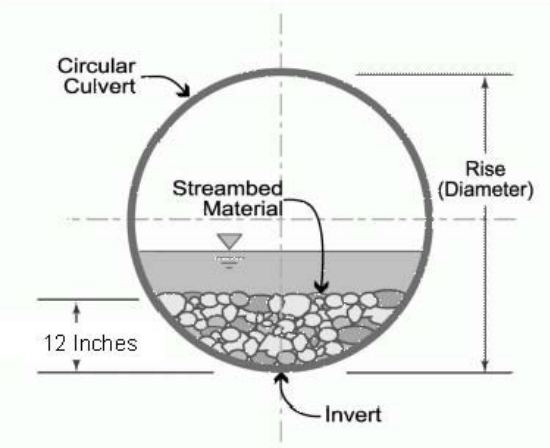
9. **Culvert Placement.** For all NWPs that allow for culvert placement, the following conditions shall be applied:

a. For all NWPs that involve the construction/installation of culverts, measures shall be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms

Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches. If the culvert outlet is submerged within a pool or scour hole and designed to provide for aquatic passage, then culvert burial into the streambed is not required.

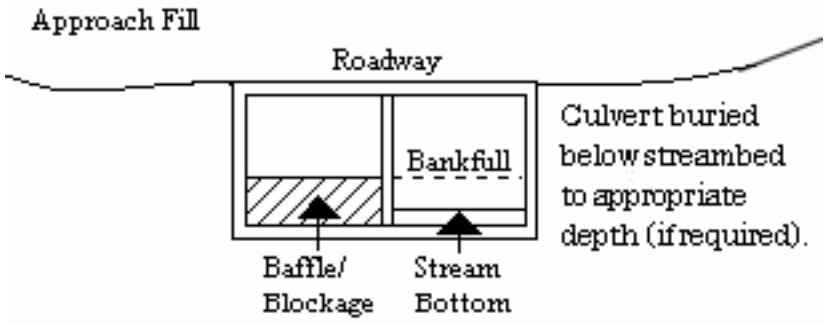
Culvert burial is not required for structures less than 72 inch diameter/width, where the slope of the culvert will be greater than 2.5%, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/connectivity has been provided when possible (e.g., rock ladders, cross vanes, sills, baffles etc.). Culvert burial is not required when bedrock is present in culvert locations.

Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.



A waiver from the depth specifications in this condition may be requested, in writing, by the permittee and issued by the Corp. This waiver request must be specific as to the reasons(s) for the request. The waiver will be issued if it can be demonstrated that the proposed design would result in less impacts to the aquatic environment. Culverts placed across wetland fills purely for the purposes of equalizing surface water do not have to be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

b. Bank-full flows (or less) shall be accommodated through maintenance of the existing bank-full channel cross sectional area. Additional culverts or culvert barrels at such crossings shall be allowed only to receive bank-full flows.



c. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. If the width of the culvert is wider than the stream channel, the culvert shall include multiple boxes/pipes, baffles, benches and/or sills to maintain the natural width of the stream channel. If multiple culverts/pipes/barrels are used, low flows shall be accommodated in one culvert/pipe and additional culverts/pipes shall be installed such that they receive only flows above bankfull.

10. **Utility Lines.** For all NWPs that allow for the construction and installation of utility lines, the following conditions shall be applied:

a. Utility lines consisting of aerial electric power transmission lines crossing navigable waters of the U.S. (which are defined at 33 CFR part 329) must comply with the applicable minimum clearances specified in 33 CFR 322.5(i).

b. The work area authorized by this permit, including temporary and/or permanent fills, will be minimized to the greatest extent practicable. Justification for work corridors exceeding forty (40) feet in width is required and will be based on pipeline diameter and length, size of equipment required to construct the utility line, and other construction information deemed necessary to support the request. The permittee is required to provide this information to the Corps with the initial PCN package.

c. A plan to restore and re-vegetate wetland areas cleared for construction must be submitted with the required PCN. Cleared wetland areas shall be re-vegetated, as appropriate, with species of canopy, shrub, and herbaceous species. The permittee shall not use fescue grass or any other species identified as invasive or exotic species by the NC Native Plant Society (NCNPS): https://ncwildflower.org/invasive-exotic-species-list/.

d. Any permanently maintained corridor along the utility right of way within forested wetlands shall be considered a loss of aquatic function. A compensatory mitigation plan will be required for all such impacts associated with the requested activity if the activity requires a PCN and the cumulative total of permanent conversion of forested wetlands exceeds 0.1 acres, unless the District Engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal.

Where permanently maintained corridor within forested wetlands is 0.1 acres or less, the District Engineer may determine, on a case-by-case basis, that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment.

e. When directional boring or horizontal directional drilling (HDD) under waters of the U.S., including wetlands, permittees shall closely monitor the project for hydraulic fracturing or “fracking.” Any discharge from hydraulic fracturing or “fracking” into waters of the U.S., including wetlands, shall be reported to the appropriate Corps Regulatory Field Office within 48 hours. Restoration and/or compensatory mitigation may be required as a result of any unintended discharges.

11. **Temporary Access Fills.** The permittee shall submit a PCN to the District Engineer prior to commencing the activity if the activity will involve the discharge of dredged or fill material into more than 0.1 acres of wetlands or 0.02 acres of stream channel for the construction of temporary access fills and/or temporary road crossings. The PCN must include a restoration plan that thoroughly describes how all temporary fills will be removed, how pre-project conditions will be restored, and include a timetable for all restoration activities.

12. **Federal Navigation Channel Setbacks.** Authorized structures and fills located in or adjacent to Federally authorized waterways must be constructed in accordance with the latest setback criteria established by the Wilmington District Engineer. You may review the setback policy at http://www.saw.usace.army.mil/Missions/Navigation/Setbacks.aspx. This general permit does not authorize the construction of hardened or permanently fixed structures within the Federally Authorized Channel Setback, unless the activity is approved by the Corps. The permittee shall submit a PCN (see General Condition 32) to the District Engineer to obtain a written verification prior to the construction of any structures or fills within the Federally Authorized Channel Setback.

13. **Northern Long-eared Bat – Endangered Species Act Compliance.** The Wilmington District, U.S. Army Corps of Engineers has consulted with the United States Fish and Wildlife

Service (USFWS) in regard to the threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*) and Standard Local Operating Procedures for Endangered Species (SLOPES) have been approved by the Corps and the USFWS. This condition concerns effects to the NLEB only and does not address effects to other federally listed species and/or federally designated critical habitat.

a. Procedures when the Corps is the lead federal* agency for a project:

The permittee must comply with (1) and (2) below when:

• the project is located in the western 41 counties of North Carolina, to include non-federal aid North Carolina Department of Transportation (NCDOT) projects, OR;

• the project is located in the 59 eastern counties of North Carolina and is a non-NCDOT project.

*Generally, if a project is located on private property or on non-federal land, and the project is not being funded by a federal entity, the Corps will be the lead federal agency due to the requirement to obtain Department of the Army authorization to impact waters of the U.S. If the project is located on federal land, contact the Corps to determine the lead federal agency.

(1) A permittee using an NWP must check to see if their project is located in the range of the NLEB by using the following website: http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf. If the project is within the range of the NLEB, or if the project includes percussive activities (e.g., blasting, pile driving, etc.), the permittee is then required to check the appropriate website in the paragraph below to discover if their project:

• is located in a 12-digit Hydrologic Unit Code area (“red HUC” - shown as red areas on the map), AND/OR;

• involves percussive activities within 0.25 mile of a red HUC.

Red HUC maps - for the western 41 counties in NC (covered by the Asheville Ecological Services Field Office), check the project location against the electronic maps found at: http://www.fws.gov/asheville/htmls/project_review/NLEB_in_WNC.html. For the eastern 59 counties in NC (covered by the Raleigh Ecological Services Field Office), check the project location against the electronic maps found at: https://www.fws.gov/raleigh/NLEB_RFO.html.

(2) A permittee must submit a PCN to the District Engineer, and receive written verification from the District Engineer, prior to commencing the activity, if the activity will involve any of the following:

• tree clearing/removal and/or, construction/installation of wind turbines in a red HUC, AND/OR;

• bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, (applies anywhere in the range of the NLEB), AND/OR:

• percussive activities in a red HUC, or within 0.25 mile of a red HUC.

The permittee may proceed with the activity without submitting a PCN to either the Corps or the USFWS, provided the activity complies with all applicable NWP terms and general and regional conditions, if the permittee's review under A.(1) and A.(2) above shows that the project is:

- located outside of a red HUC (and there are no percussive activities), and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;
- located outside of a red HUC and there are percussive activities, but the percussive activities will not occur within 0.25-mile of a red HUC boundary, and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;
- located in a red HUC, but the activity will NOT include tree clearing/removal; construction/installation of wind turbines; bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, and/or; any percussive activities.

b. Procedures when the USACE is not the lead federal agency:

For projects where another federal agency is the lead federal agency - if that other federal agency has completed project-specific ESA Section 7(a)(2) consultation for the NLEB, and has (1) determined that the project would not cause prohibited incidental take of the NLEB, and (2) completed coordination/consultation that is required by the USFWS (per the directions on the respective USFWS office's website), that project may proceed without PCN to either the USACE or the USFWS, provided all General and Regional Permit Conditions are met.

The NLEB SLOPES can be viewed on the USACE website at: http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/. Permittees who do not have internet access may contact the USACE at (910) 251- 4633.

14. **West Indian Manatee Protection.** In order to protect the endangered West Indian manatee (*Trichechus manatus*) the Permittee shall implement the USFWS' Manatee Guidelines, and strictly adhere to all requirements therein. The guidelines can be found at https://www.fws.gov/raleigh/pdfs/ManateeGuidelines2017.pdf.

15. **ESA Programmatic Biological Opinions.** The Wilmington District, USFWS, NCDOT, and the FHWA have conducted programmatic Section 7(a)(2) consultation for a number of federally listed species and designated critical habitat (DCH), and programmatic consultation concerning other federally listed species and/or DCH may occur in the future. The result of completed programmatic consultation is a Programmatic Biological Opinion (PBO) issued by the USFWS. These PBOs contain mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" of whichever species or critical habitat is covered by a specific PBO. Authorization under NWPs is conditional upon the permittee's compliance with all the mandatory terms and conditions associated with incidental take of the applicable PBO (or PBOs), which are incorporated by reference in the NWPs. Failure to comply with the terms and conditions associated with incidental take of an applicable PBO, where a take of the federally listed species occurs, would constitute an unauthorized take by the permittee, and would also constitute permittee non-compliance with the authorization under the NWPs. If the terms and conditions of a specific PBO (or PBOs) apply to a project, the Corps will include this/these requirements in any NWP verification that may be issued for a project. For an activity/project that does not require a PCN, the terms and conditions of the applicable PBO(s) also apply to that non-notifying

activity/project. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PBO and the ESA. All PBOs can be found on our website at: https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/.

16. **Work on Eastern Band of Cherokee Indian Land.**

Notifying NWPs - All PCNs submitted for activities in waters of the U.S. on Eastern Band of Cherokee Indians (EBCI) trust land (i.e., Qualla Boundary and non-contiguous tracts of trust land located in portions of Swain, Jackson, Haywood, Graham and Cherokee Counties), must comply with the requirements of the latest MOU between the Wilmington District and the EBCI.

Non-notifying NWPs - Prior to the use of any non-notifying NWP for activities in waters of the U.S. on EBCI trust land (i.e., Qualla Boundary and non-contiguous tracts of trust land located in portions of Swain, Jackson, Haywood, Graham and Cherokee Counties), all prospective permittees must comply with the requirements of the latest MOU between the Wilmington District and the EBCI; this includes coordinating the proposed project with the EBCI Natural Resources Program and obtaining a Tribal Approval Letter from the Tribe.

The EBCI MOU can be found at the following URL: http://saw-reg.usace.army.mil/FO/Final-MOU-EBCI-USACE.pdf

17. **Sedimentation and Erosion Control Structures and Measures.**

All PCNs will identify and describe sedimentation and erosion control structures and measures proposed for placement in waters of the U.S. The structures and measures should be depicted on maps, surveys or drawings showing location and impacts to jurisdictional wetlands and streams.

C. SECTION 401 WATER QUALITY CERTIFICATION (WQC) AND/OR COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION SUMMARY AND APPLICABLE CONDITIONS

The CZMA Consistency Determination and all Water Quality Certifications for the NWPs can be found at: https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Permits/2017-Nationwide-Permits/

Attachment C:

NCDEQ-DWR Approval Use of General Certificates #4248, 4500, and #4153

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES

WATER QUALITY GENERAL CERTIFICATION NO. 4153

GENERAL CERTIFICATION FOR EMERGENCY DREDGING

Water Quality Certification Number 4153 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Regulations in 15A NCAC 02H .0500 and 15A NCAC 02B .0200.

The category of activities is limited to emergency maintenance dredging activities in the coastal navigable waters of the state when authorized by the Rivers and Harbors Act of 1899, and which are initiated by the District Engineer of the Wilmington District of the US Army Corps of Engineers or the Governor of North Carolina.

This General Certification is applicable *only* when the District Engineer of the US Army Corps of Engineers *or* the Governor of North Carolina makes the determination that a rapid response is required for frequent and unpredictable sand shoals forming in an authorized channel such that it poses an immediate threat to navigation.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Effective date: December 1, 2017

Signed this day: December 1, 2017

By

for Linda Culpepper
Interim Director

Activities meeting any one (1) of the following thresholds or circumstances require *written approval* for a 401 Water Quality Certification from the Division of Water Resources (DWR):

a) If any of the conditions of this Certification (listed below) cannot be met; or
b) Any stream relocation or stream restoration; or
c) Any permanent impacts to Unique Wetlands (UWL); or
d) Any impact associated with a Notice of Violation or an enforcement action for violation(s) of NC Wetland Rules (15A NCAC 02H .0500), NC Isolated Wetland Rules (15A NCAC 02H .1300), NC Surface Water or Wetland Standards (15A NCAC 02B .0200), or State Regulated Riparian Buffer Rules (15A NCAC 02B .0200); or
e) Any impacts to subject water bodies and/or state regulated riparian buffers along subject water bodies in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman Lake, Jordan Lake or Goose Creek Watersheds (or any other basin or watershed with State Regulated Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) *unless:*
    i. The activities are listed as "EXEMPT" from these rules; or
    ii. A Buffer Authorization Certificate is issued by the NC Division of Coastal Management (DCM); or
    iii. A Buffer Authorization Certificate or a Minor Variance is issued by a delegated or designated local government implementing a state riparian buffer program pursuant to 143-215.23.

Activities included in this General Certification that do not meet one of the thresholds listed above do not require written approval from the DWR.

I. ACTIVITY SPECIFIC CONDITIONS:

1. When written approval from the DWR is not required, two (2) copies of the Pre-Construction Notification that include a written report to document the need for the dredging, post-depth soundings, and placement of dredged material, shall be sent electronically to the DWR—one copy to the Central Office in Raleigh, and the other copy to the appropriate DWR Regional Office—within 60 calendar days of completion of the dredging activity. [15A NCAC 02H .0502]

2. The appropriate turbidity water quality standard shall not be exceeded or be above natural background conditions as stipulated in 15A NCAC 02B .0211(21) or 02B .0220(19) beyond an appropriate mixing zone if one is established for a project by DWR. Methods of control may include silt curtains, reducing dredging intensity, or other practicable methods to ensure minimization of turbidity during project construction. [15A NCAC 02B .0200]

3. The US Army Corps of Engineers shall dredge by side-casting or other means most readily available and shall dispose of the dredged material in open water adjacent to the channel, in a suitable diked upland disposal basin or along the ocean beaches. [15A NCAC 02H .0506 (b)(4) and (c)(4)]

4. The spoil material shall be predominately sand. The turbidity plume shall not impede the free passage of fish adjacent to or downstream from the project. This General Certification does not relieve the US Army Corps of Engineers or their contractors from potential liability with respect to any kills of fish or other aquatic life which may result. [15A NCAC 02H .0506 (b)(4) and (c)(4)]

II. GENERAL CONDITIONS:

1. When written authorization is required, the plans and specifications for the project are incorporated into the authorization by reference and are an enforceable part of the Certification. Any modifications to the project require notification to DWR and may require an application submittal to DWR with the appropriate fee. [15A NCAC 02H .0501 and .0502]

2. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the impacts (including temporary impacts) as authorized in the written approval from DWR; or beyond the thresholds established for use of this Certification without written authorization. [15A NCAC 02H .0501 and .0502]

   No removal of vegetation or other impacts of any kind shall occur to state regulated riparian buffers beyond the footprint of impacts approved in a Buffer Authorization or Variance or as listed as an exempt activity in the applicable riparian buffer rules. [15A NCAC 02B .0200]

3. In accordance with 15A NCAC 02H .0506(h) and Session Law 2017-10, compensatory mitigation may be required for losses of greater than 300 linear feet of perennial streams and/or greater than one (1) acre of wetlands. Impacts associated with the removal of a dam shall not require mitigation when the removal complies with the requirements of Part 3 of Article 21 in Chapter 143 of the North Carolina General Statutes. Impacts to isolated and other non-404 jurisdictional wetlands shall not be combined with 404 jurisdictional wetlands for the purpose of determining when impact thresholds trigger a mitigation requirement. For linear publicly owned and maintained transportation projects that are not determined to be part of a larger common plan of development by the US Army Corps of Engineers, compensatory mitigation may be required for losses of greater than 300 linear feet per perennial stream.

   Compensatory stream and/or wetland mitigation shall be proposed and completed in compliance with G.S. 143-214.11. For applicants proposing to conduct mitigation within a project site, a complete mitigation proposal developed in accordance with the most recent guidance issued by the US Army Corps of Engineers Wilmington District shall be submitted for review and approval with the application for impacts.

4. All activities shall be in compliance with any applicable State Regulated Riparian Buffer Rules in Chapter 2 of Title 15A.

5. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506(b)(3) and (c)(3) and 15A NCAC 02B .0200]

   Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*.

   All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

   For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

   If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

6. Sediment and erosion control measures shall not be placed in wetlands or waters except within the footprint of temporary or permanent impacts authorized under this Certification. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0501 and .0502]

7. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within wetlands. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02B .0201]

8. An NPDES Construction Stormwater Permit (NCG010000) is required for construction projects that disturb one (1) or more acres of land. The NCG010000 Permit allows stormwater to be discharged during land disturbing construction activities as stipulated in the conditions of the permit. If the project is covered by this permit, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required. [15A NCAC 02H .0506(b)(5) and (c)(5)]

The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit. [15A NCAC 02H .0506(b)(5) and (c)(5)]

9. All work in or adjacent to streams shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the *NC Sediment and Erosion Control Manual*, or the *NC DOT Construction and Maintenance Activities Manual*, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(3) and (c)(3)]

10. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. [15A NCAC 02H .0506(b)(2) and 15A NCAC 04B .0125]

    All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium. A copy of the approval from the resource agency shall be forwarded to DWR.

    Work within a designated trout watershed of North Carolina (as identified by the Wilmington District of the US Army Corps of Engineers) or identified state or federal endangered or threatened species habitat, shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

11. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. [15A NCAC 02H .0506(b)(2) and (c)(2)]

    Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life.

If multiple pipes or barrels are required, they shall be designed to mimic the existing stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided.

When topographic constraints indicate culvert slopes of greater than 5%, culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/connectivity has been provided when possible (e.g. rock ladders, cross vanes, etc.). Notification, including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations, shall be provided to DWR 60 calendar days prior to the installation of the culvert.

When bedrock is present in culvert locations, culvert burial is not required provided that there is sufficient documentation of the presence of bedrock. Notification, including supporting documentation such as a location map of the culvert, geotechnical reports, photographs, etc. shall be provided to DWR a minimum of 60 calendar days prior to the installation of the culvert. If bedrock is discovered during construction, then DWR shall be notified by phone or email within 24 hours of discovery.

If other site-specific topographic constraints preclude the ability to bury the culverts as described above and/or it can be demonstrated that burying the culvert would result in destabilization of the channel, then exceptions to this condition require application to and written approval from DWR.

Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native woody vegetation and other soft stream bank stabilization techniques shall be used where practicable instead of rip-rap or other bank hardening methods.

12. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means to the maximum extent practicable (e.g. grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(5)]

13. Application of fertilizer to establish planted/seeded vegetation within disturbed riparian areas and/or wetlands shall be conducted at agronomic rates and shall comply with all other Federal, State and Local regulations. Fertilizer application shall be accomplished in a manner that minimizes the risk of contact between the fertilizer and surface waters. [15A NCAC 02B .0200 and 15A NCAC 02B .0231]

14. If concrete is used during construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state. [15A NCAC 02B .0200]

15. All proposed and approved temporary fill and culverts shall be removed and the impacted area shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross sectional dimensions, planform pattern, and longitudinal bed profile. For projects that receive written approval, no temporary impacts are allowed beyond those included in the application and authorization. All temporarily impacted sites shall be restored and stabilized with native vegetation. [15A NCAC 02H .0506(b)(2) and (c)(2)]

16. All proposed and approved temporary pipes/culverts/rip-rap pads etc.in streams shall be installed as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* or the *North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities* so as not to restrict stream flow or cause dis-equilibrium during use of this Certification. [15A NCAC 02H .0506(b)(2) and (c)(2)]

17. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original stream elevation and streambank contours are restored and maintained. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or in a manner that precludes aquatic life passage. [15A NCAC 02H .0506(b)(2)]

18. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. [15A NCAC 02H .0506(b)(2)]

19. Applications for rip-rap groins proposed in accordance with 15A NCAC 07H .1401 (NC Division of Coastal Management General Permit for construction of Wooden and Rip-rap Groins in Estuarine and Public Trust Waters) shall meet all the specific conditions for design and construction specified in 15A NCAC 07H .1405.

20. All mechanized equipment operated near surface waters shall be inspected and maintained regularly to prevent contamination of surface waters from fuels, lubricants, hydraulic fluids, or other toxic materials. Construction shall be staged in order to minimize the exposure of equipment to surface waters to the maximum extent practicable. Fueling, lubrication and general equipment maintenance shall be performed in a manner to prevent, to the maximum extent practicable, contamination of surface waters by fuels and oils. [15A NCAC 02H .0506(b)(3) and (c)(3) and 15A NCAC 02B .0211(12)]

21. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance. [15A NCAC 02H .0506(b)(3) and (c)(3)]

22. In accordance with 143-215.85(b), the applicant shall report any petroleum spill of 25 gallons or more; any spill regardless of amount that causes a sheen on surface waters; any petroleum spill regardless of amount occurring within 100 feet of surface waters; and any petroleum spill less than 25 gallons that cannot be cleaned up within 24 hours.

23. If an environmental document is required under the State Environmental Policy Act (SEPA), then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse. If an environmental document is required under the National Environmental Policy Act (NEPA), then this General Certification is not valid until a Categorical Exclusion, the Final Environmental Assessment, or Final Environmental Impact Statement is published by the lead agency. [15A NCAC 01C .0107(a)]

24. This General Certification does not relieve the applicant of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

25. The applicant and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If DWR determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then DWR may revoke or modify a written authorization associated with this General Water Quality Certification. [15A NCAC 02H .0507(d)]

26. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this Certification. A copy of this Certification, including all conditions shall be available at the project site during the construction and maintenance of this project. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

27. When written authorization is required for use of this Certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return a certificate of completion (available on the DWR website: https://edocs.deq.nc.gov/Forms/Certificate-of-Completion). [15A NCAC 02H .0502(f)]

28. Additional site-specific conditions, including monitoring and/or modeling requirements, may be added to the written approval letter for projects proposed under this Water Quality Certification in order to ensure compliance with all applicable water quality and effluent standards. [15A NCAC 02H .0507(c)]

29. If the property or project is sold or transferred, the new permittee shall be given a copy of this Certification (and written authorization if applicable) and is responsible for complying with all conditions. [15A NCAC 02H .0501 and .0502]

III. GENERAL CERTIFICATION ADMINISTRATION:

1. In accordance with North Carolina General Statute 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. An applicant for a CAMA permit under Article 7 of Chapter 113A of the General Statutes for which a water quality Certification is required shall only make one payment to satisfy both agencies; the fee shall be as established by the Secretary in accordance with 143-215.3D(e)(7).

2. This Certification neither grants nor affirms any property right, license, or privilege in any waters, or any right of use in any waters. This Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and this Certification does not create any prescriptive right or any right of priority regarding any usage of water. This Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded.

3. This Certification grants permission to the Director, an authorized representative of the Director, or DWR staff, upon the presentation of proper credentials, to enter the property during normal business hours. [15A NCAC 02H .0502(e)]

4. This General Certification shall expire on the same day as the expiration date of the corresponding Nationwide Permit and/or Regional General Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. This General Certification is rescinded when the US Army Corps of Engineers reauthorizes any of the corresponding Nationwide Permits and/or Regional General Permits or when deemed appropriate by the Director of the Division of Water Resources.

5. Non-compliance with or violation of the conditions herein set forth by a specific project may result in revocation of this General Certification for the project and may also result in criminal and/or civil penalties.

6. The Director of the North Carolina Division of Water Resources may require submission of a formal application for Individual Certification for any project in this category of activity if it is deemed in the public's best interest or determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or degrade the waters so that existing uses of the water or downstream waters are precluded.

History Note: Water Quality Certification Number 4153 issued December 1, 2017 replaces WQC 4106 issued March 3, 2017; WQC Number 3905 issued March 19, 2012 replaces WQC Number 3691 issued November 1, 2007; WQC Number 3650 issued March 19, 2007; WQC Number 3369 issued March 18, 2002; WQC Number 3123 issued February 11, 1997; and WQC Numbers 1333 and 1322 issued June 12, 1987.

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES

WATER QUALITY GENERAL CERTIFICATION NO. 4248

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR US ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 16 (RETURN WATER FROM UPLAND CONTAINED DISPOSAL AREAS)

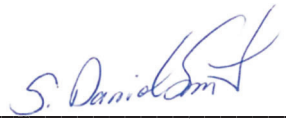
Water Quality General Certification Number 4248 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Regulations in 15A NCAC 02H .0500 and 15A NCAC 02B .0200 for the discharge of fill material to surface waters and wetland areas as described in 33 CFR 330 Appendix A (B) (16) of the US Army Corps of Engineers regulations.

The State of North Carolina certifies that the specified category of activity will comply with water quality requirements and applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Effective date: February 25, 2022

Signed this day: December 18, 2020

By



S. Daniel Smith
Director

GENERAL CERTIFICATION COVERAGE:

Activities that are eligible for US Army Corps of Engineers Nationwide Permit 16 qualify for coverage under this General Certification unless they meet one of the thresholds listed below. Activities meeting any one (1) of the thresholds or circumstances listed below are not eligible for coverage under this General Certification and require *an Individual* 401 Water Quality Certification from the Division of Water Resources (DWR):

a) If any of the conditions of this General Certification cannot be met; or
b) When the return water will be discharged to a waterbody other than the location where the dredge spoil came from; or
c) Any permanent impacts to waters, or to wetlands adjacent to waters, designated as: ORW (including SAV), HQW (including PNA), SA, WS-I, WS-II, Trout, or North Carolina or National Wild and Scenic River; or
d) Any permanent impacts to coastal wetlands [15A NCAC 07H .0205], or Unique Wetlands (UWL) [15A NCAC 02B .0231]; or
e) Any impacts to subject water bodies and/or state regulated riparian buffers along subject water bodies in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman Lake, Jordan Lake or Goose Creek Watersheds (or any other basin or watershed with State Regulated Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) *unless*:
    i. The activities are listed as "EXEMPT" or "DEEMED ALLOWABLE" from these rules; or
    ii. A Buffer Authorization Certificate is issued by the NC Division of Coastal Management (DCM); or
    iii. A Buffer Authorization Certificate, Certificate with Exception, or Minor Variance is issued by a delegated or designated local government implementing a state riparian buffer program pursuant to 143-215.23.

In accordance with 15A NCAC 02H .0503(f), the Director of the North Carolina Division of Water Resources may require submission of a formal application for Individual Certification for any project if it is deemed in the public's best interest or determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or will degrade the waters so that existing uses of the waters or downstream waters are precluded.

This General Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

This General Certification neither grants nor affirms any property right, license, or privilege in any waters, or any right of use in any waters. This General Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of

water. This General Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this General Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded.

Upon the presentation of proper credentials, DWR may inspect the property.

This General Certification shall expire on the same day as the expiration date of the corresponding Nationwide Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this General Certification. This General Certification is rescinded when the US Army Corps of Engineers reauthorizes the corresponding Nationwide Permit or when deemed appropriate by the Director of the Division of Water Resources.

Non-compliance with or violation of the conditions herein set forth by a specific project may result in revocation of this General Certification for the project and may also result in criminal and/or civil penalties.

I. ACTIVITY SPECIFIC CONDITIONS:

1. The discharge of waste [as defined in G.S. 143-213(9)] is not authorized under this Certification.

   Citation: 15A NCAC 02B .0211(2) and (12)
   Justification: In order to protect against impairment of water quality standards and best usage of receiving and downstream waters, water quality based management practices must be employed to protect against direct or indirect discharge of waste or other sources of water pollution. Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity, wildlife, secondary contact recreation, agriculture) and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

2. The discharge shall not contain levels of pollutant(s) that cause or contribute to a violation of state surface water quality standards, wetland standards, or groundwater standards.

   Citation: 15A NCAC 02B .0200 and 15A NCAC 02L .0200
   Justification: In order to protect against impairment of water quality standards and best usage of receiving and downstream waters, water quality based management practices must be employed to protect against direct or indirect discharge of waste or other sources of water pollution. Water quality standards require that conditions of waters be suitable for all best uses provided for in state rule and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

3. The terminal end of the pipeline from the dredge into the retention area shall be positioned at a maximum distance from spillways to allow adequate settling of suspended solids and a sufficient distance from any part of the dike so as to preclude dike erosion by the pipeline discharge. Effluent shall be released waterward of emergent marsh or tidal flats when located within these systems.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife: secondary contact recreation: agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

4. The effluent water from the dredge spoil shall not be released into open shellfish waters unless Shellfish Sanitation and the DWR Washington (252-946-6481) or Wilmington (910-796-7215) Regional Office, as applicable, are notified and provide approval prior to the release.

   Citation: 15A NCAC 02B .0221; 15A NCAC 02H .0507(c)
   Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife; secondary contact recreation; agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

5. A water control structure shall be installed at the intake end of the effluent leading from the retention area in order to insure maximum settling of suspended solids and control of discharge volumes.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife: secondary contact recreation: agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

6. The flow from any diked retention area shall be contained by pipe, metal or wooden trough, or similar device to a point waterward of any emergent vegetation along the shoreline unless it can be clearly shown by the permittee that a different design will result in less environmental impact.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife: secondary contact recreation: agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

7. Sufficient freeboard shall be maintained within the diked disposal area during the dredging operation to assure the integrity of the dike structure and the containment of the dredged material.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife: secondary contact recreation: agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

8. Hydraulic dredging in piedmont and mountain lakes (as well as some locations in the coastal plain when specified by DWR) which utilize an upland diked disposal basin with a return pipe for the return water shall utilize the "two basin" design.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife: secondary contact recreation: agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

9. The appropriate turbidity water quality standard shall not be exceeded or be above natural background conditions as stipulated in 15A NCAC 02B .0211(21) or 02B .0220(19).

   Citation: 15A NCAC 02H .0507(c); 15A NCAC 02B .0200
   Justification: Water quality standards require that conditions of waters be suitable for all best uses provided for in state rule and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

10. Disposal area dikes shall be stabilized with vegetative cover within one (1) day after construction to minimize erosion.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife: secondary contact recreation: agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

II. GENERAL CONDITIONS:

1. The permittee shall report to the DWR Regional Office any noncompliance with, and/or any violation of, stream or wetland standards [15A NCAC 02B .0200], including but not limited to sediment impacts to streams or wetlands. Information shall be provided orally within 24 hours (or the next business day if a weekend or holiday) from the time the permittee became

aware of the non-compliance circumstances.

Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
Justification: Timely reporting of non-compliance is important in identifying and minimizing detrimental impacts to water quality and avoiding impacts due to water pollution that precludes any best use on a short-term or long-term basis.

2. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the impacts (including temporary impacts); or beyond the thresholds established for use of this General Certification and Nationwide Permit.

   Citation: 15A NCAC 02H .0506; 15A NCAC 02H .0507(c)
   Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife; secondary contact recreation; agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

3. All activities shall be in compliance with any applicable State Regulated Riparian Buffer Rules in Chapter 2B of Title 15A in the North Carolina Administrative Code.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: The referenced Riparian Buffer rules were adopted to address water quality impairments and further protect existing uses.

4. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur.

   Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *North Caroline Department of Transportation Sediment and Erosion Control Manual*.

   All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

   For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

Citation: 15A NCAC 02H .0506(b)(2); 15A NCAC 02H .0507(c); 15A NCAC02B .0200; 15A NCAC 02B .0231
Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (12) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. As cited in Wetland Standards: (1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.

5. Sediment and erosion control measures shall not be installed in wetland or waters except within the footprint of temporary or permanent impacts otherwise authorized by this Certification. If placed within authorized impact areas, then placement of such measures shall not be conducted in a manner that results in dis-equilibrium of any wetlands, streambeds, or streambanks. Any silt fence installed within wetlands shall be removed from wetlands and the natural grade restored within two (2) months of the date that DEMLR or locally delegated program has released the specific area within the project to ensure wetland standards are maintained upon completion of the project.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC02B .0200; 15A NCAC 02B .0231
   Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (12) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be

increased. As cited in Wetland Standards: (1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.

6. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within wetlands.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: A project that affects waters shall not be permitted unless the existing uses (including aquatic life propagation and biological integrity), and the water quality to protect such uses, are protected. Protections are necessary to ensure any remaining surface waters or wetlands, and any surface waters or wetlands downstream, continue to support existing uses during and after project completion. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

7. If the project is covered by NPDES Construction Stormwater Permit Number NCG010000 or NPDES Construction Stormwater Permit Number NCG250000, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required.

   The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their Individual NPDES Stormwater Permit Number NCS000250.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200; 15A NCAC 02B .0231
   Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (12) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. As cited in Wetland Standards: (1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.

8. All work in or adjacent to streams shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the

most current version of the *NC Sediment and Erosion Control Manual*, or the *NC Department of Transportation Construction and Maintenance Activities Manual*, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water.

Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200 Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (12) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.

9. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities.

   All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium.

   Work within a designated trout watershed of North Carolina (as identified by the Wilmington District of the US Army Corps of Engineers), or identified state or federal endangered or threatened species habitat, shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 04B .0125 Justification: In order to protect against impairment of water quality standards and best usage of receiving and downstream waters, water quality based management practices must be employed to protect against direct or indirect discharge of waste or other sources of water pollution. Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity, wildlife, secondary contact recreation, agriculture), and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

10. In-stream structures installed to mimic natural channel geomorphology such as cross-vanes, sills, step-pool structures, etc. shall be designed and installed in such a manner that allow for continued aquatic life movement.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that in-stream structures are installed properly will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.

11. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. If the width of the culvert is wider than the stream channel, the culvert shall include multiple boxes/pipes, baffles, benches and/or sills to maintain the natural width of the stream channel. If multiple culverts/pipes/barrels are used, low flows shall be accommodated in one culvert/pipe and additional culverts/pipes shall be installed such that they receive only flows above bankfull.

    Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life. If the culvert outlet is submerged within a pool or scour hole and designed to provide for aquatic passage, then culvert burial into the streambed is not required.

    For structures less than 72” in diameter/width, and topographic constraints indicate culvert slopes of greater than 2.5% culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/connectivity has been provided when possible (e.g. rock ladders, cross-vanes, sills, baffles etc.). Notification, including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations, shall be provided to DWR 30 calendar days prior to the installation of the culvert.

    When bedrock is present in culvert locations, culvert burial is not required, provided that there is sufficient documentation of the presence of bedrock. Notification, including supporting documentation such as a location map of the culvert, geotechnical reports, photographs, etc. shall be provided to DWR a minimum of 30 calendar days prior to the installation of the culvert. If bedrock is discovered during construction, then DWR shall be notified by phone or email within 24 hours of discovery.

Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native woody vegetation and other soft stream bank stabilization techniques shall be used where practicable instead of rip-rap or other bank hardening methods.

Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that in-stream structures are installed properly will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.

12. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means to the maximum extent practicable (e.g. grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that in-stream structures are installed properly will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.

13. Application of fertilizer to establish planted/seeded vegetation within disturbed riparian areas and/or wetlands shall be conducted at agronomic rates and shall comply with all other Federal, State and Local regulations. Fertilizer application shall be accomplished in a manner that minimizes the risk of contact between the fertilizer and surface waters.

    Citation: 15A 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0231
    Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses.

14. If concrete is used during construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state.

    Citation: 15A 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200
    Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses.

15. All proposed and approved temporary fill and culverts shall be removed and the impacted area shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross-sectional dimensions, planform pattern, and longitudinal bed profile. All temporarily impacted sites shall be restored and stabilized with native vegetation.

    Citation: 15A NCAC 02H.0506(b); 15A NCAC 02H .0507(c)
    Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Protections are necessary to ensure any remaining surface waters or wetlands, and any surface waters or wetlands downstream, continue to support existing uses after project completion.

16. All proposed and approved temporary pipes/culverts/rip-rap pads etc. in streams shall be installed as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* or the *North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities* so as not to restrict stream flow or cause dis-equilibrium during use of this General Certification.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that in-stream structures are installed properly will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.

17. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original streambed elevation and streambank contours are restored and maintained and shall consist of clean rock or masonry material free of debris or toxic pollutants. Placement of rip-rap or other

approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or be installed in a manner that precludes aquatic life passage.

Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

18. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows, and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0201
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

19. Rip-rap groins proposed in accordance with 15A NCAC 07H .1401 (NC Division of Coastal Management General Permit for construction of Wooden and Rip-rap Groins in Estuarine and Public Trust Waters) shall meet all the specific conditions for design and construction specified in 15A NCAC 07H .1405.

    Citation: 15A NCAC 02H .0507(c); 15A NCAC 07H .1400 et seq.
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

20. All mechanized equipment operated near surface waters shall be inspected and maintained regularly to prevent contamination of surface waters from fuels, lubricants, hydraulic fluids, or other toxic materials. Construction shall be staged in order to minimize the exposure of equipment to surface waters to the maximum extent practicable. Fueling, lubrication, and general equipment maintenance shall be performed in a manner to prevent, to the maximum extent practicable, contamination of surface waters by fuels and oils.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200
    Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream

Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses.

21. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance and compaction.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0231
    Justification: Wetland standards require maintenance or enhancement of existing uses of wetlands such that hydrologic conditions necessary to support natural biological and physical characteristics are protected; populations of wetland flora and fauna are maintained to protect biological integrity of the wetland; and materials or substances are not present in amounts that may cause adverse impact on existing wetland uses.

22. In accordance with 143-215.85(b), the permittee shall report any petroleum spill of 25 gallons or more; any spill regardless of amount that causes a sheen on surface waters; any petroleum spill regardless of amount occurring within 100 feet of surface waters; and any petroleum spill less than 25 gallons that cannot be cleaned up within 24 hours.

    Citation: 15A NCAC 02H .0507(c); N.C.G.S 143-215.85(b)
    Justification: Person(s) owning or having control over oil or other substances upon notice of discharge must immediately notify the Department, or any of its agents or employees, of the nature, location, and time of the discharge and of the measures which are being taken or are proposed to be taken to contain and remove the discharge. This action is required in order to contain or divert the substances to prevent entry into the surface waters. Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife; secondary contact recreation; agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

23. The permittee and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

24. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall

provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this General Certification. A copy of this General Certification shall be available at the project site during the construction and maintenance of this project.

Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
Justification: Those actually performing the work should be aware of the requirements of this 401 Water Quality General Certification to minimize water quality impacts.

History Note: Water Quality Certification (WQC) Number 4248 issued December 18, 2020 replaces WQC 4137 issued December 1, 2017 for activities eligible for USACE NWP16; WQC 4090 issued March 3, 2017; WQC 3888 issued March 19, 2012; WQC 3700 issued November 1, 2007; WQC 3629 issued March 19, 2007; WQC 3363 issued March 18, 2002; WQC 3105 issued February 11, 1997; WQC 2668 issued January 21, 1992; and WQC 1273 issued November 10, 1978.

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES

WATER QUALITY GENERAL CERTIFICATION NO. 4500

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR US ARMY CORPS OF ENGINEERS REGIONAL GENERAL PERMIT 198000048 (EMERGENCY ACTIVITIES ON OCEAN BEACHES)

Water Quality Certification Number 4500 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina in 15A NCAC 02H .0500 and 15A NCAC 02B .0200 for the discharge of fill material to surface waters and wetland areas as described in the US Army Corps of Engineers Wilmington District's Regional General Permit 198000048.

The State of North Carolina certifies that the specified category of activity will comply with water quality requirements and applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Effective date: January 3, 2022

Signed this day: October 28, 2021

By

DocuSigned by:
Jeff Poupart
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for

S. Daniel Smith
Director

GENERAL CERTIFICATION COVERAGE:

Activities that are eligible for US Army Corps of Engineers Wilmington District's Regional General Permit 198000048 qualify for coverage under this General Certification unless they meet one of the thresholds listed below. Activities meeting any one (1) of the thresholds or circumstances listed below are not eligible for coverage under this General Certification and require *an Individual* 401 Water Quality Certification from the Division of Water Resources (DWR):

a) If any of the Conditions of this General Certification cannot be met; or
b) Any permanent fill into, or modification of, wetlands and/or waters; or
c) Any impacts to streams from excavation or dredging other than excavation that is conducted as preparation for installing permanent fill or structures; or
d) Any stream relocation or stream restoration; or
e) Any permanent impacts to waters, or to wetlands adjacent to waters, designated as: ORW (including SAV), HQW (including PNA), SA, WS-I, WS-II, Trout, or North Carolina or National Wild and Scenic River; or
f) Any impacts to coastal wetlands [15A NCAC 07H .0205], or Unique Wetlands (UWL); or
g) Any impacts to subject water bodies and/or state regulated riparian buffers along subject water bodies in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman Lake, Jordan Lake or Goose Creek Watersheds (or any other basin or watershed with State Regulated Riparian Area Protection Rules in Chapter 2B of Title 15A in the North Carolina Administrative Code in effect at the time of application) *unless:*
    i. The activities are listed as “EXEMPT” or “DEEMED ALLOWABLE” from these rules; or
    ii. A Buffer Authorization Certificate is issued by the NC Division of Coastal Management (DCM); or
    iii. A Buffer Authorization Certificate, Certificate with Exception, or a Minor Variance is issued by a delegated or designated local government implementing a state riparian buffer program pursuant to 143-214.23.

In accordance with 15A NCAC 02H .0503(f), the Director of the North Carolina Division of Water Resources may require submission of a formal application for Individual Certification for any project if it is deemed in the public’s best interest or determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or will degrade the waters so that existing uses of the waters or downstream waters are precluded.

This General Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

This General Certification neither grants nor affirms any property right, license, or privilege in any waters, or any right of use in any waters. This General Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of water. This General Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this General Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded.

Upon the presentation of proper credentials, DWR may inspect the property.

This General Certification shall expire on the same day as the expiration date of the corresponding Regional General Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this General Certification. This General Certification is rescinded when the US Army Corps of Engineers reauthorizes the corresponding Regional General Permit or when deemed appropriate by the Director of the Division of Water Resources.

Non-compliance with or violation of the conditions herein set forth by a specific project may result in revocation of this General Certification for the project and may also result in criminal and/or civil penalties.

I. ACTIVITY SPECIFIC CONDITIONS:

1. The discharge of waste [as defined in G.S. 143-213(9)] is not authorized under this Certification.

   Citation: 15A NCAC 02B .0200
   Justification: In order to protect against impairment of water quality standards and best usage of receiving and downstream waters, water quality based management practices must be employed to protect against direct or indirect discharge of waste or other sources of water pollution. Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity, wildlife, secondary contact recreation, agriculture) and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

2. The discharge shall not contain levels of pollutant(s) that cause or contribute to a violation of state surface water quality standards, wetland standards, or groundwater standards.

   Citation: 15A NCAC 02B .0200 and 15A NCAC 02L .0200
   Justification: In order to protect against impairment of water quality standards and best usage of receiving and downstream waters, water quality based management practices must be employed to protect against direct or indirect discharge of waste or other sources of

water pollution. Water quality standards require that conditions of waters be suitable for all best uses provided for in state rule and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

II. GENERAL CONDITIONS:

1. The permittee shall report to the appropriate DWR Regional Office any noncompliance with, and/or any violation of, stream or wetland standards [15A NCAC 02B .0200], including but not limited to sediment impacts to streams or wetlands. Information shall be provided orally within 24 hours (or the next business day if a weekend or holiday) from the time the permittee became aware of the non-compliance circumstances.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: Timely reporting of non-compliance is important in identifying and minimizing detrimental impacts to water quality and avoiding impacts due to water pollution that precludes any best use on a short-term or long-term basis.

2. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the impacts (including temporary impacts); or beyond the thresholds established for use of this General Certification and Regional General Permit.

   Citation: 15A NCAC 02H .0506; 15A NCAC 02H .0507(c)
   Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife; secondary contact recreation; agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

3. All activities shall be in compliance with any applicable State Regulated Riparian Buffer Rules in Chapter 2B of Title 15A in the North Carolina Administrative Code.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: The referenced Riparian Buffer rules were adopted to address water quality impairments and further protect existing uses.

4. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur.

   Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation

projects, the *North Caroline Department of Transportation Sediment and Erosion Control Manual*.

All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

Citation: 15A NCAC 02H .0506(b)(2); 15A NCAC 02H .0507(c); 15A NCAC02B .0200; 15A NCAC 02B .0231
Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (12) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. As cited in Wetland Standards: (1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.

5. Sediment and erosion control measures shall not be installed in wetland or waters except within the footprint of temporary or permanent impacts otherwise authorized by this Certification. If placed within authorized impact areas, then placement of such measures shall not be conducted in a manner that results in dis-equilibrium of any wetlands, streambeds, or streambanks. Any silt fence installed within wetlands shall be removed from wetlands and the natural grade restored within two (2) months of the date that DEMLR or locally delegated program has released the specific area within the project to ensure wetland standards are maintained upon completion of the project.

Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC02B .0200; 15A NCAC 02B .0231
Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (12) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. As cited in Wetland Standards: (1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.

6. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within wetlands.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
   Justification: A project that affects waters shall not be permitted unless the existing uses (including aquatic life propagation and biological integrity), and the water quality to protect such uses, are protected. Protections are necessary to ensure any remaining surface waters or wetlands, and any surface waters or wetlands downstream, continue to support existing uses during and after project completion. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

7. If the project is covered by NPDES Construction Stormwater Permit Number NCG010000 or NPDES Construction Stormwater Permit Number NCG250000, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required.

   The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their Individual NPDES Stormwater Permit Number NCS000250.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200; 15A NCAC 02B .0231
   Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as

shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (12) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. As cited in Wetland Standards: (1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.

8. All work in or adjacent to streams shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the *NC Sediment and Erosion Control Manual*, or the *NC Department of Transportation Construction and Maintenance Activities Manual*, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water.

   Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200 Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (12) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.

9. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities.

   All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium.

   Work within a designated trout watershed of North Carolina (as identified by the Wilmington District of the US Army Corps of Engineers), or identified state or federal

endangered or threatened species habitat, shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 04B .0125
Justification: In order to protect against impairment of water quality standards and best usage of receiving and downstream waters, water quality based management practices must be employed to protect against direct or indirect discharge of waste or other sources of water pollution. Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity, wildlife, secondary contact recreation, agriculture), and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

10. In-stream structures installed to mimic natural channel geomorphology such as cross-vanes, sills, step-pool structures, etc. shall be designed and installed in such a manner that allow for continued aquatic life movement.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that in-stream structures are installed properly will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.

11. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. If the width of the culvert is wider than the stream channel, the culvert shall include multiple boxes/pipes, baffles, benches and/or sills to maintain the natural width of the stream channel. If multiple culverts/pipes/barrels are used, low flows shall be accommodated in one culvert/pipe and additional culverts/pipes shall be installed such that they receive only flows above bankfull.

    Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life. If the culvert outlet is submerged within a pool or scour hole and designed to provide for aquatic passage, then culvert burial into the streambed is not required.

    For structures less than 72” in diameter/width and in area where topographic constraints dictate culvert slopes will be greater than 2.5%, culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life

movement/connectivity has been provided when possible (e.g. rock ladders, cross-vanes, sills, baffles etc.). Notification, including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations, shall be provided to DWR 30 calendar days prior to the installation of the culvert.

When bedrock is present in culvert locations, culvert burial is not required, provided that there is sufficient documentation of the presence of bedrock. Notification, including supporting documentation such as a location map of the culvert, geotechnical reports, photographs, etc. shall be provided to DWR a minimum of 30 calendar days prior to the installation of the culvert. If bedrock is discovered during construction, then DWR shall be notified by phone or email within 24 hours of discovery.

Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native woody vegetation and other soft stream bank stabilization techniques shall be used where practicable instead of rip-rap or other bank hardening methods.

Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that in-stream structures are installed properly will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.

12. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means to the maximum extent practicable (e.g. grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that in-stream structures are installed properly will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.

13. Application of fertilizer to establish planted/seeded vegetation within disturbed riparian areas and/or wetlands shall be conducted at agronomic rates and shall comply with all other Federal, State and Local regulations. Fertilizer application shall be accomplished in a manner that minimizes the risk of contact between the fertilizer and surface waters.

Citation: 15A 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200
Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses.

14. If concrete is used during construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state.

    Citation: 15A 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200
    Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses.

15. All proposed and approved temporary fill and culverts shall be removed and the impacted area shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross-sectional dimensions, planform pattern, and longitudinal bed profile. All temporarily impacted sites shall be restored and stabilized with native vegetation.

    Citation: 15A NCAC 02H.0506(b); 15A NCAC 02H .0507(c)
    Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Protections are necessary to ensure any remaining surface waters or wetlands, and any surface waters or wetlands downstream, continue to support existing uses after project completion.

16. All proposed and approved temporary pipes/culverts/rip-rap pads etc. in streams shall be installed as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* or the *North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities* so as not to restrict stream flow or cause dis-equilibrium during use of this General Certification.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that in-stream

structures are installed properly will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.

17. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original streambed elevation and streambank contours are restored and maintained and shall consist of clean rock or masonry material free of debris or toxic pollutants. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or be installed in a manner that precludes aquatic life passage.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

18. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows, and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0201
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

19. Rip-rap groins proposed in accordance with 15A NCAC 07H .1401 (NC Division of Coastal Management General Permit for construction of Groins in Estuarine and Public Trust Waters and Ocean Hazard Areas) shall meet all the specific conditions for design and construction specified in 15A NCAC 07H .1405.

    Citation: 15A NCAC 02H .0507(c); 15A NCAC 07H .1400 et seq.
    Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

20. All mechanized equipment operated near surface waters shall be inspected and maintained regularly to prevent contamination of surface waters from fuels, lubricants, hydraulic fluids, or other toxic materials. Construction shall be staged in order to minimize the exposure of

equipment to surface waters to the maximum extent practicable. Fueling, lubrication, and general equipment maintenance shall be performed in a manner to prevent, to the maximum extent practicable, contamination of surface waters by fuels and oils.

Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200
Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (2) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses.

21. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance and compaction.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0231
    Justification: Wetland standards require maintenance or enhancement of existing uses of wetlands such that hydrologic conditions necessary to support natural biological and physical characteristics are protected; populations of wetland flora and fauna are maintained to protect biological integrity of the wetland; and materials or substances are not present in amounts that may cause adverse impact on existing wetland uses.

22. In accordance with G.S 143-215.85(b), the permittee shall report any petroleum spill of 25 gallons or more; any spill regardless of amount that causes a sheen on surface waters; any petroleum spill regardless of amount occurring within 100 feet of surface waters; and any petroleum spill less than 25 gallons that cannot be cleaned up within 24 hours.

    Citation: 15A NCAC 02H .0507(c); N.C.G.S 143-215.85(b)
    Justification: Person(s) owning or having control over oil or other substances upon notice of discharge must immediately notify the Department, or any of its agents or employees, of the nature, location, and time of the discharge and of the measures which are being taken or are proposed to be taken to contain and remove the discharge. This action is required in order to contain or divert the substances to prevent entry into the surface waters. Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife; secondary contact recreation; agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.

23. The permittee and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)

Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.

24. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this General Certification. A copy of this General Certification shall be available at the project site during the construction and maintenance of this project.

    Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)
    Justification: Those actually performing the work should be aware of the requirements of this 401 Water Quality General Certification to minimize water quality impacts.

History Note: Water Quality Certification (WQC) Number 4500 issued October 28, 2021 replaces WQC 4146 issued December 1, 2017; WQC4099 issued March 3, 2017; WQC 3908 issued March 19, 2012; WQC 3703 issued November 1, 2007; WQC 3640 issued March 2007; WQC 3493 issued December 2004; and WQC 3372 issued March 18, 2002.

Attachment D:

Updated List of ESA Species (IPAC)

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 E:

List of Draft EA Recipients

EMERALD ISLE COAST GUARD EA EMAIL LISTING			
Line No.	Organization / Title	POC Name	POC Email
	ELECTED OFFICIALS		
01	U.S. Senator	Richard Burr	Richard.Burr@ncleg.net
02	U.S. Senator	Thom Tillis	Thom.Tillis@ncleg.net
03	Representative	Gregory Murphy	Gregory.Murphy@ncleg.net
04	Representative	Pat McElraft	Pat.McElraft@ncleg.gov
05	N.C. Senator	Norman W. Sanderson	Norman.Sanderson@ncleg.gov
06	Shoreline Protection Manager	Ryan Davenport	ryan.davenport@carteretcountync.gov
07	Town Manager	Matt Zapp	Mzapp@emeraldisle-nc.org
	NON-PROFIT ORGANIZATIONS		
08	Audubon, North Carolina	Lindsay Addison	laddison@audubon.org
09	N.C. Coastal Federation	Kerri Allen	kerria@nccoast.org
10	N.C. Coastal Federation	Ana Zivanovic-Nenadovic	anaz@nccoast.org
11	N.C. Wildlife Federation	Manley Fuller	manley@ncwf.org
12	Southern Environmental Law Center	Melissa Whaling	mwhaling@selcnc.org
13	Southern Environmental Law Center	Ramona McGee	rmcgee@selcnc.org
14	Outer Banks Visitors Bureau	NA	information@outerbanks.org
	RESOURCE AGENCIES		
15	Atlantic States Marine Fisheries Commission	Toni Kerns	Tkerns@asmfc.org
16	Environmental Protection Agency (EPA)	Ntale Kajumba	kajumba.ntale@epa.gov
17	N.C. Division of Coastal Management (NCDCM)	Braxton Davis	Braxton.Davis@NCDENR.Gov
18	N.C. Division of Coastal Management (NCDCM)	Dan Govoni	daniel.govoni@ncdenr.gov
19	N.C. Division of Marine Fisheries (NCDMF)	Anne Deaton	anne.deaton@ncdenr.gov
20	N.C. Division of Marine Fisheries (NCDMF)	Jimmy Harrison	James.Harrison@ncdenr.gov
21	N.C. Division of Water Resources (NCDWR)	Paul Wojoski	paul.wojoski@ncdenr.gov
22	N.C. Wildlife Resources Commission (NCWRC)	Maria Dunn	Maria.Dunn@ncwildlife.org
23	National Marine Fisheries Service (NMFS)	Andy Herndon	andrew.herndon@noaa.gov
24	National Marine Fisheries Service (NMFS)	Pace Wilber	pace.wilber@noaa.gov
25	National Marine Fisheries Service (NMFS)	Fritz Rohde	fritz.rohde@noaa.gov
26	National Park Service, CAHA	David Hallac	david_hallac@nps.gov
27	National Park Service, CAHA	Sabrina Henry	sabrina_henry@nps.gov
28	N.C. State Historical Preservation Officer	Renee Gledhill-Earley	Environmental.Review@ncdcr.gov
29	NC State Historical Arch	Chris Southerly	Chris.southerly@ncdcr.gov
30	NC State Historical Arch	Stephen Atkinson	Stephen.atkinson@ncdcr.gov
31	U.S. Fish and Wildlife Service (USFWS)	Pete Benjamin	Pete_Benjamin@fws.gov
32	U.S. Fish and Wildlife Service (USFWS)	John Ellis	john_ellis@fws.gov
33	U.S. Fish and Wildlife Service (USFWS)	Kathy Matthews	kathryn_matthews@fws.gov
34	USACE, Wilmington Regulatory	Tommy Fennel	Tommy.E.Fennel@usace.army.mil
35	USACE, Wilmington Regulatory	Tyler Crumbley	Tyler.A.Crumbley@usace.army.mil
	OTHER		
36	U.S. Coast Guard	Greg Kennerley	Gregory.M.Kennerley@uscg.mil
37	U.S. Coast Guard	Clint Spivey	Clint.S.Spivey@uscg.mil
38	Carteret County Shoreline Protection Manager	Ryan Davenport	ryan.davenport@carteretcountync.gov