

APPENDIX G

MONITORING & MITIGATION MEASURES

US ARMY CORPS OF ENGINEERS

**US DEPARTMENT OF INTERIOR
NATIONAL PARK SERVICE**

**CAPE HATTERAS NATIONAL SEASHORE
NORTH CAROLINA**

ENVIRONMENTAL ASSESSMENT

**BEACH RESTORATION TO PROTECT NC HIGHWAY 12
CLEAN WATER ACT 404 AND NPS SPECIAL USE PERMITS
AT BUXTON, DARE COUNTY, NORTH CAROLINA**

SEPTEMBER 2015

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BEACH RESTORATION TO PROTECT NC HIGHWAY 12 AT BUXTON, DARE COUNTY, NORTH CAROLINA

APPENDIX G

DRAFT MONITORING & SPECIAL CONDITIONS FOR THE APPLICANT'S PREFERRED ACTION SUMMER CONSTRUCTION

The Applicant's (Dare County) Proposed Action–Summer Construction, involving placement of offshore sand via dredge along the Buxton (North Carolina) beach on Cape Hatteras National Seashore property, would be subject to certain special conditions, if permitted. This Appendix G is a supplement to the Environmental Assessment (EA) for the project which describes the anticipated monitoring and protection measures for the Proposed Action. It is based on similar special conditions prescribed for beach nourishment during summer months in North Carolina at Nags Head (USACE 2010–Action ID SAW 2006-40282) and Rodanthe (USACE 2013–Action ID SAW-2013-01129).

The Applicant has proposed dredging from offshore borrow areas by hopper dredge or suction-cutterhead dredge. Because work would potentially occur outside designated periods for construction under the South Atlantic Regional Biological Opinion (SARBO) (NMFS 1997), there would be numerous provisions and special conditions for operations. The conditions detailed herein should not be construed as all special provisions that may apply to the Proposed Action. The final special conditions would be prescribed in permits for the project should federal and state regulatory agencies and the National Park Service determine that the Proposed Action can proceed.

If the following Draft Special Conditions are retained in the federal permit for the project, the word “would” should be changed to “shall” or “will” as appropriate. Further, where reference is made to a point of contact, a specific person should be named as applicable using up-to-date personal contact information.

In accordance with 33 U.S.C. 1341(d), all conditions of the North Carolina Division of Coastal Management consistency determination and the North Carolina Division of Water Quality 401 Water Quality Certification (*date to be determined*) would be incorporated as part of the Department of the Army permit. Therefore they are not listed here as special conditions.

1. All work authorized by the permit would be performed in strict compliance with the plans illustrated on the permit application, which would be part of the permit. Any modification to the plans would have to be approved by the U.S. Army Corps of Engineers, Wilmington District (Corps) prior to implementation.

2. Endangered Species Protection.

a. Hopper dredging would be approved under the South Atlantic Regional Biological Opinion (SARBO) dated 1997, which can be viewed on the ERDC web site at the following link: <http://el.erdc.usace.army.mil/seaturtles/refs-bo.cfm>. The SARBO includes an Incidental Take Statement (ITS) issued to the Corps. Under the SARBO/ITS, incidental takes are authorized on a Fiscal Year (FY) (October 1 to September 30) basis to be metered out by the Division Commander, South Atlantic Division, U.S. Army Corps of Engineers for the southeastern United States for Corps civil and military

DRAFT

projects. The Permittee (Dare County) would be required to avoid any incidental take in that such take may trigger the cessation of hopper dredging for the remainder of that FY. The Permittee would acknowledge this and agree that, even where it is in full compliance with the terms and conditions of the SARBO/ITS, incidental take by the Permittee may require suspension of the permit by the Corps. The amount of incidental take that would trigger suspension, and the need for any such suspension, would be determined at the discretion of the Corps. The Permittee would have to agree on behalf of itself, its agents, contractors, and other representatives, that no claim, legal action in equity or for damages, adjustment, or other entitlement against the Corps would arise as a result of such suspension or related action.

b. The Permittee would immediately notify the Corps Regulatory Project Manager that an incidental take has occurred. The Regulatory Project Manager responsible for the project would be identified in the final Special Conditions and contacted at the Washington Regulatory Field Office, 2407 West Fifth Street, Washington, North Carolina 27889, by telephone at (910) 251-4610 (general number), or by e-mail (*address to follow*). Dredging operations would immediately cease upon incidental take of any sea turtle species or Atlantic Sturgeon until the District Commander, or his designee, notifies the Permittee to resume dredging. The sea turtle or Atlantic sturgeon incidental take data form would be filled out by the Observer within six (6) hours of the take event and e-mailed in pdf format to takereport.nmfsser@noaa.gov and the Regulatory Project Manager. In accordance with the SARBO, all hopper dredges would have an Observer on board who meets the guidelines as established on the website listed in Special Condition 15 below.

3. Pre-Dredging Submittals.

a. No dredging would be performed by a hopper dredge without the inclusion of a rigid sea turtle deflector device. The Permittee would electronically submit drawings to the Regulatory Project Manager prior to commencement of dredging, showing the proposed device and its attachment. These drawings would include the approach angle for any and all depths to be dredged during the dredging. The Permittee would not commence hopper dredging until approval of the sea turtle deflector device has been granted by the Corps.

b. The Permittee would electronically submit detailed drawings showing the proposed drag head grating system(s) and drag head(s), and documentation that supports grate sizing such as dredge pump manufacturer's recommended maximum particle size dimension(s), etc.

c. The Permittee would electronically submit an operational plan to achieve protection of sea turtles during the hopper dredging operation. These operational procedures are intended to stress the importance of balancing the suction pipe densities and velocities in order to keep from taking sea turtles.

d. During turning operations the pumps would either be shut off or reduced in speed to the point where no suction velocity or vacuum exists. No dredging work would be allowed to commence until approval of the turtle deflector device has been granted by the U.S. Army Corps of Engineers, Wilmington District. Sample Turtle Deflector Design Details are available on the website listed in Special Condition 15. A copy of the approved drawings and calculations would be available on the vessel during dredging operations.

DRAFT

4. Pre-Dredging Inspection. Within three (3) days from the date of initiating the authorized work, the Permittee would provide to the Corps the completed Hopper Dredge Startup Inspection Checklist form with a written notification of the date of commencement of work authorized by the permit. An inspection of the hopper dredge would be scheduled and performed by the Wilmington District inspector after receipt of the notification of commencement. Inspection checklists are located on the website listed in Special Condition 15 below.

5. Hopper Dredge Equipment. Hopper dredge drag heads would be equipped with sea turtle deflectors which are rigidly attached. Deflectors would be solid with no openings in the face. No dredging would be performed by a hopper dredge without an installed turtle deflector device approved by the District inspector. Sample Turtle Deflector Design Details are on the web site indicated in Special Condition number 15 below.

a. Deflector Design.

(1) The leading V-shaped portion of the deflector would have an included angle of <90 degrees. Internal reinforcement would be installed in the deflector to prevent structural failure of the device. The leading edge of the deflector would be designed to have a plowing effect of at least 6 inches in depth when the drag head is being operated. Appropriate instrumentation or indicator would be used and kept in proper calibration to insure the critical "approach angle." (Information Only Note: The design "approach angle," or the angle of lower drag head pipe relative to the average sediment plane, is very important to the proper operation of a deflector. If the lower drag head pipe angle in actual dredging conditions varies tremendously from the design angle of approach used in the development of the deflector, the 6-inch plowing effect does not occur. Therefore, every effort should be made to insure this design "approach angle" is maintained with the lower drag pipe.)

(2) If adjustable depth deflectors are installed, they would be solidly attached to the drag head using either a hinged aft attachment point or an aft trunnion attachment point in association with an adjustable pin front attachment point or cable front attachment point with a stop set to obtain the 6-inch plowing effect. This arrangement allows fine-tuning the 6-inch plowing effect for varying depths. After the deflector is properly adjusted there would be no openings between the deflector and the drag head that are more than 4-inches by 4-inches.

b. In-flow Baskets and Overflow Screening.

(1) The Permittee would ensure that baskets or screening are installed over the hopper inflow(s) and overflow(s) with no greater than 4-inch by 4-inch openings. The method selected would depend on the construction of the dredge used and would be approved by the District inspector prior to commencement of dredging. The screening would provide 100 percent screening of the hopper inflow(s) and overflow(s). The screens and/or baskets would remain in place throughout the performance of the work. The turtle deflector device and inflow/overflow screens would be maintained in operational condition for the entire dredging operation. If during dredging operations, the Permittee cannot meet the requirements of the inflow and overflow screening, the Regulatory Project Manager would be contacted immediately.

(2) The Permittee would install and maintain floodlights suitable for illumination of the baskets or screening to allow the Observer to safely monitor the hopper baskets or screening during non-daylight

DRAFT

hours or other periods of poor visibility. Safe access would be provided to the inflow and overflow baskets or screens to allow the Observer to inspect for turtles and Atlantic sturgeons, or parts thereof, clean the baskets or screens for the next loading cycle, and document any screening deficiencies. During periods of time when observers are performing inspections of inflow and overflow baskets or screening, proper lockout/tagout procedures and fall protection would be implemented.

c. Drag Head Grating.

(1) Drag head grating may be used to prevent over-sized objects (relative to respective pump and distribution system designs) from reaching and becoming lodged or damaging, the dredge pump and/or slurry distribution system. The Permittee may not use a drag head grating system that would prevent turtle remains from entering the hopper inflow screening. Detailed drawings showing the proposed drag head grating system(s) and drag head(s), and documentation that supports grate sizing [such as dredge pump manufacturer's recommended maximum particle size dimension(s), etc.] would be submitted. No dredging would begin until the District inspector has approved all grating and screening.

6. Hopper Dredge Operation.

a. The Permittee would operate the hopper dredge to minimize the possibility of taking sea turtles and to comply with the requirements stated in the Incidental Take Statement provided by the NMFS in its SARBO.

b. The turtle deflector device and inflow/overflow screens would be maintained in operational condition for the entire dredging operation.

c. When initiating dredging, suction through the drag heads would be allowed just long enough to prime the pumps, and then the drag heads would be placed firmly on the bottom. When lifting the drag heads from the bottom, suction through the drag heads would be allowed just long enough to clear the lines, and then would cease. Pumping water through the drag heads would cease while maneuvering or during travel to/from the disposal area. If the required dredging section includes compacted fine sands or stiff clays, a properly configured arrangement of teeth may enhance dredge efficiency, which reduces total dredging hours, and turtle takes. The operation of a drag head with teeth would be monitored for each dredged section to insure that excessive material is not forced into the suction line. When excess high-density material enters the suction line, suction velocities drop to extremely low levels causing conditions for plugging of the suction pipe. Dredge operators should configure and operate their equipment to eliminate all low-level suction velocities. Pipe plugging in the past was easily corrected, when low suction velocities occurred, by raising the drag head off the bottom until the suction velocities increased to an appropriate level. Pipe plugging cannot be corrected by raising the drag head off the bottom. Arrangements of teeth and/or the reconfiguration of teeth should be made during the dredging process to optimize the suction velocities.

d. Raising the drag head off the bottom to increase suction velocities is not acceptable. The primary adjustment for providing additional mixing water to the suction line should be through water ports. To insure that suction velocities do not drop below appropriate levels, the Permittee would monitor production meters throughout the job and adjust primarily the number and opening sizes of water ports. Water port openings on top of the drag head or on raised standpipes above the drag head would be screened before they are utilized on the dredging project. If a dredge section includes sandy shoals

DRAFT

on one end of a tract line and mud sediments on the other end of the tract line, the equipment would be adjusted to eliminate drag head pick-ups to clear the suction line.

e. The drag head would be buried a minimum of six (6) inches in the sediment at all times to maintain drag-head efficacy in reducing incidental takes. Maximum borrow area dredge depths identified in the attached plans would not be exceeded to achieve this effective plowing depth.

f. During turning operations the pumps would either be shut off or reduced in speed to the point where no suction velocity or vacuum exists.

7. Dredging Quality Management. Dredging and dredged material disposal and monitoring of dredging projects using the Dredging Quality Management (DQM) system would be implemented for the project. The Permittee would ensure that each hopper dredge assigned to the work authorized by the permit is equipped with DQM, previously known as 'Silent Inspector', for hopper dredge monitoring. The Permittee's DQM system must have been certified by the DQM Support Team within one calendar year prior to the initiation of the dredging/disposal. Questions regarding certification should be addressed to the DQM Support Center at 251-690-3011. Additional information about the DQM System can be found at <http://dqm.usace.army.mil>. The Permittee is responsible for insuring that the DQM system is operational throughout the dredging and disposal project and that project data are submitted to the DQM National Support Center in accordance with the specifications provided at the aforementioned website. The Permittee would contact the National Dredging Quality Management (DQM) program (<http://dc|m.iisace.army.mil/>) (to assure that project information is loaded and data is being appropriately transferred prior to project commencement.

8. Sea Turtle Non-Capture Trawl Sweeping. In order to minimize or reduce taking of turtles during dredging, non-capture trawling may be required if the Corps determines that it is necessary to reduce entrainment risk. This type of trawling is designed to use non-capture type trawling equipment to sweep in the proximity of the dredging operations in order to stimulate sea turtles to move out of the dredge path. No sea turtles would be captured using this trawling technique. Non-capture trawl sweeping may be performed 48 hours prior to initiating dredging and may continue throughout dredging operations. Conduct non-capture trawl sweeping operations in the vicinity of active dredge operations, but maintain a safe distance from the dredge. Trawl equipment used (e.g. trawling nets) and trawl sweeping operations would be conducted such that no sea turtles or other marine organism by-catch are captured. As much as possible, non-capture trawl sweeping would be conducted to maximize the amount of time that the trawl equipment (e.g. trawling nets) sweeps the bottom sediment in the vicinity of the dredging operation (i.e. maximize the bottom time with the trawling equipment). Such trawling in the vicinity of the dredge would be conducted during active dredging operations during daylight hours, stopping after every four (4) hours or more frequently to check the condition of the trawl equipment and assure that no turtles have been captured.

a. Non-capture Trawl Sweeping Period. Non-capture trawl sweeping would be conducted as described below:

DRAFT

(1) A day of non-capture trawl sweeping would be defined as 12 hours of continuous trawling during daylight hours.

(2) Non-capture trawl sweeping may be conducted as 24-hours of trawling as a continuous trawl; however, two separate crews would be available on board to work two 12-hour shifts.

(3) Night-time trawl sweeping may not be conducted if the Corps determines that such trawling poses an unacceptable safety risk to trawling personnel operating in the vicinity of active dredging operations.

b. Turtle Handling and Endangered Species Permits. No sea turtles are to be intentionally captured during non-capture trawl sweeping operations. No endangered species permits to handle sea turtles are required for non-capture trawl sweeping. Should a sea turtle become entangled in the trawling nets; the nearest marine facility would be notified for arrangements to be made to transfer the animal as needed.

c. Reporting. A daily log would be kept for each non-capture trawl sweeping operations. The non-capture trawl sweeping log would be submitted to the Regulatory Project Manager at the completion of the project. Data to be included with this log daily would include:

(1) GIS coordinates of trawl locations at the start and end of each sweep.

(2) Times recorded for the duration of each trawl sweep.

(3) Description of dredge proximity during each sweep.

(4) General notes as appropriate (e.g. condition of equipment at the end of each sweep, snags occurring during each sweep, incidental debris, etc.).

(5) Water Quality and Physical Measurements: Water temperature measurements would be taken at the water surface each day using a laboratory thermometer. Weather conditions would be recorded from visual observations and instruments on the trawler. Weather conditions, air temperature, wind velocity and direction, high and low tides, sea state-wave height, and precipitation would be recorded on the Trawling Form on the web site indicated in Special Condition 15 below.

d. Non-Capture Trawl Sweeping Equipment: To reduce the chances of sea turtles becoming entangled and caught in the net webbing during non-capture trawl sweeping, the Contractor would use standard flat-style shrimp trawling nets. Nets would have one to two-inch webbing holes, the webbing should be made of nylon material (preferably dipped.)

(1) The bag end of these nets would be completely cut out so that the nets remaining on the rigging are approximately 30 to 50-feet long. The nets would be long enough to provide a trailing length of net in the water to "stimulate turtles" to move but not be long enough to be able to twist when: (1) being pulled in the water; (2) being pulled up and onto the deck; (3) the vessel is stationary; or (4) the trawl vessel turns while trawling. This net length may be shorter or longer depending on the specific configurations of the trawler and its rigging, but would be set up to specifically prevent the twisting of the net. The nets should be installed and adjusted such that organisms are not being collected (turtles and other by-catch).

DRAFT

(2) The bag end of the nets would be cut away to create a large open end on the nets. The webbing would be monitored so that tears and rips do not occur in the remaining webbing that might entangle and capture organisms (particularly turtles).

(3) To ensure that the lead line and mouth of the trawl nets maintain contact with the seafloor as best as possible, the lead line of each net would be rigged with weights, mud rollers, tickler chains and/or trawling cookies (as appropriate for the environmental conditions and sediment type).

(4) For the first 48 hours after beginning non-capture trawling operations, pull and check the nets every hour to evaluate and document the (a) status of the nets (particularly twisting of the tail end), and (b) net contents (turtles and other bycatch); and after the first 48 hours and appropriate net configuration has been established, gradually increase trawling times to a maximum of four (4) hours.

e. Trawler Equipment Breakdown: Should there be a breakdown of trawler equipment that would cause the trawler to leave the area where dredging is underway during any period of time when non-capture trawl sweeping is required, the dredge may continue to operate for up to 48 hours, as long as no turtles are taken, and subject to the discretion of the Regulatory Project Manager. Should there be dangerously high seas that would cause the trawler to leave the dredging area when non-capture trawl sweeping is required, the dredge may continue to operate, as long as no turtles are taken; subject to the discretion of the Project Manager.

9. Endangered Species Observers: During dredging operations, observers approved by the NMFS for sea turtles, Atlantic sturgeon and whales would be aboard to monitor for the presence of the species. Observer coverage would be 100 percent (24 hr/day) and would be conducted year round. During transit to and from the disposal area, the observer would monitor from the bridge during daylight hours for the presence of endangered species, especially the Northern right whale, during the period December through March. Records would be kept of the date, time, and approximate location of all marine mammal sightings. Care would be taken not to closely approach any whales or manatees observed during dredging. The observer would serve as a lookout to alert the vessel pilot of the occurrence of these animals. If any are observed, collisions would be avoided either through reduced vessel speed, course alteration, or both. During the evening hours, when there is limited visibility due to fog, or when there are sea states of greater than Beaufort 3, the dredge would slow down to 5 knots or less when transiting between areas if whales have been spotted within 15 nm of the vessel's path within 24 previous hours. If a right whale is sighted, the dredge operator would maintain a 500-yard buffer between the vessel and any whale.

During dredging operations, while drag heads are submerged, the observer would continuously monitor the inflow and/or overflow screening for turtles and/or turtle parts and Atlantic sturgeon and/or Atlantic sturgeon parts. Upon completion of each load cycle, drag heads should be monitored as the drag head is lifted from the sea surface and is placed on the saddle in order to assure that sea turtles that may be impinged within the drag head are not lost and un-accounted for. Observers would physically inspect drag heads and inflow and overflow screening/boxes for threatened and endangered species take. Other abiotic and biotic debris found in the screens during their examination for sea turtle or sturgeon parts would be recorded and then disposed of so as not to impede the functioning of the screens during the next load cycle.

a. Monitoring Reports. The results of the monitoring would be recorded on the appropriate observation sheets. There is a sheet for each load, a daily summary sheet, and a weekly summary sheet. In addition, there would be a post dredging summary sheet. Observations sheets would be completed

DRAFT

regardless of whether any takes of Atlantic sturgeon, whales, or sea turtles occur. In the event of any sea turtle or Atlantic Sturgeon take by the dredge, appropriate incident reporting forms would be completed. Additionally, all specimens would be photographed with a digital camera. These photographs would be attached to respective reports for documentation. Dredging of subsequent loads would not commence until all appropriate reports are completed from the previous dredging load to ensure completeness and thoroughness of documentation associated with the incidental take. Reports would be submitted to the Corps within 24-hours of the take. Copies of the forms would be legible. Observer forms may be accessed on the web site indicated in Special Condition 15 below.

b. Endangered Species Observer(s). A list of endangered species observer-biologists (ESOs) that have been NMFS-approved to monitor threatened/endangered species takes by hopper dredges can be obtained by contacting NOAA Fisheries' Northeast Region, Protected Resources Division. The main contact is 978-281-9300.

c. The Permittee would provide a digital camera, with an image resolution capability of at least 300 dpi, in order to photographically report all incidental takes, without regard to species, during dredging operations. Immediately following the incidental take of any threatened or endangered species, images would be provided, via email, CD, DVD, or USB (thumb/flash/jump drive) to the Contracting Officer's Representative in a JPG or .TIF format and would accompany incidental take forms. The nature of findings would be fully described in the incidental take forms including references to photographs.

10. Manatee, Sea Turtle, Atlantic Sturgeon and Whale Sighting Reports. Any take concerning a manatee, sea turtle, Atlantic sturgeon, or whale; or sighting of any injured or incapacitated manatees, sea turtles, or whales would be reported immediately to the Corps by notifying the personnel indicated in the list in Condition 12 below. A copy of the incidental take report would be provided within 24 hours of the incident. The Permittee would also immediately report any collision with and/or injury to a manatee to the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and North Carolina Wildlife Resources Commission. If a sea turtle and/or Atlantic sturgeon is taken by the dredge (live or dead), the Permittee would email a PDF version of the incidental take report to NOAA-Fisheries Southeast Region at the following email address within 24 hours of the take: takereport.nmfsser@noaa.gov, also providing a copy to the Regulatory Project Manager.

11. Disposition of Sea Turtles or Turtle Parts.

a. Turtles taken by hopper dredge.

(1) Dead turtles - Upon removal of sea turtle and/or parts from the drag head or screening, observers would take photographs to sufficiently document major characteristics of the turtle or turtle parts including but not limited to dorsal, ventral, anterior, and posterior views. For all photographs taken, a backdrop would be prepared to document the dredge name, observer company name, contract title, time, date, species, load number, location of dredging, and specific location taken (drag head, screening, etc.). Carcass/turtle parts would also be scanned for flipper and Passive Integrated Transponder (PIT) tags. Any identified tags would be recorded on the "Sea Turtle Incidental Take Form" that is included in the "Endangered Species Observer Program Forms" located on the web site indicated in Special Condition number 15 below. Turtle parts which cannot be positively identified to species would be preserved by the observer(s) for later identification. A tissue sample would be collected from any lethally taken sea turtle and submitted under the process stated in the Protocol for

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Collecting Tissue Samples from Turtles for Genetic Analysis found in the website listed in Special Condition 15 below. All genetic samples collected would be submitted to NMFS within 30-days of collection and verification of submittal to NMFS would be provided to the Regulatory Project Manager. After all data collection is complete, the sea turtle parts would be placed in plastic bags, labeled as to the time, date, and dredged reach of collection, kept frozen and transported to the National Marine Fisheries Service Laboratory in Beaufort, North Carolina. If no local facility is capable of receiving the sea turtle/parts, they should be marked (spray paint works well), weighted down and disposed of under the direction of the Regulatory Project Manager.

(2) Live Turtles - Observer(s) would measure, weigh, scan for Passive Integrated Transponder (PIT) tags, and photograph any live turtle(s) incidentally taken by the dredge. If no tagging was identified, observers would tag the turtle using Inconel flipper and PIT tags if they are qualified to do so. Observer(s) or their authorized representative would coordinate with the Regulatory Project Manager to transport, as soon as possible, the live turtle(s) taken by the dredge to an approved rehabilitation facility in the project area.

12. Report Submission, The Permittee would maintain a log detailing all incidents, including sightings, collisions with, injuries, or killing of manatees, sea turtles, Atlantic sturgeon, or whales occurring during the contract period. The data would be recorded on forms available on the website as indicated in Special Condition number 15. All data in original form would be forwarded directly to Wilmington District within 10 days of collection. Following project completion, a report summarizing the above incidents and sightings would be submitted to the following:

- a. Wilmington District Regulatory Contact: *to be determined*
- b. South Atlantic Dredging Projects: *to be determined*
- c. National Marine Fisheries Service
Protected Species Management Branch
263 13th Avenue South
St. Petersburg, Florida 33701
- d. North Carolina Wildlife Resources Commission
Matthew Godfrey
307 Live Oak Street
Beaufort, North Carolina 28516

13. All necessary precautions and measures would be implemented so that any activity would not kill, injure, capture, pursue, harass, or otherwise harm any protected federally listed species (sea turtles, whales, manatee, Atlantic sturgeon, and piping plover). While accomplishing the authorized work, if the Permittee discovers or observes a damaged or hurt listed endangered or threatened species, the Corps would be immediately notified so that required coordination can be initiated with the US Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS).

14. The Permittee would conduct routine beach surveillance during construction to prevent unintentional damage to sea turtles and their nesting areas. If a nest or a turtle crawl is identified in the project area, the Permittee would immediately stop all beach disposal activities and contact the Corps to determine

DRAFT

appropriate action. Specific night time and morning monitoring requirements are anticipated in the National Park Service–Cape Hatteras National Seashore Special Use Permit.

15. Reporting Forms. In order to avoid use of outdated forms, the Permittee would utilize the following website for forms and attachments required under the permit. Links to these forms are under the heading Turtle Information, <http://el.erdc.usace.army.mil/seaturtles>. (List of forms anticipated under the permit include: Sea Turtle/Pre and Post-Hopper Dredging Project Checklist, Endangered Species Observer Program Forms and Sea Turtle Trawling Report.)

16. Dredging activities authorized by the permit would not in any way interfere with those operations of the Wilmington District Civil Works dredging and navigation projects.

17. The Permittee would require its contractors and/or agents to comply with the terms and conditions of the permit in the construction and maintenance of the project, and would provide each of its contractors and/or agents associated with the construction or maintenance of the project with a copy of the permit. A copy of the permit, including all conditions, would be present and available at the project site during construction and maintenance of the project.

18. The Permittee would schedule a preconstruction meeting between its representatives, the contractor's representatives and the Corps prior to undertaking any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained within the Department of the Army permit. The Permittee would contact the Corps a minimum of thirty (30) days in advance of the scheduled meeting in order to provide that individual with ample opportunity to schedule and participate in the required meeting. Meeting participants may include, but are not limited to, representatives from the US Fish and Wildlife Service, the National Park Service, National Marine Fisheries Service, NC Division of Coastal Management, NC Division of Water Resources, NC Wildlife Resource Commission, and the US Coast Guard.

19. The Permittee would advise the Corps in writing prior to beginning the work authorized by the permit. The contractors name, phone number, and address, including any inspectors contact name and phone number would be provided to the Corps prior to undertaking any work.

20. The permit would authorize beach fill activities to be undertaken only one (1) time along the entire project area. Any request to undertake additional maintenance beach fill activities within the project area where nourishment activities have already been completed under the permit would require prior written authorization from the Corps.

21. All beach fill material would be obtained from within the approved borrow source area as depicted in the plans. The dredging contractor would use dredge positioning software to ensure that no dredging occurs outside the boundaries of the approved borrow areas.

22. Visual surveys to detect escarpments would be made along the beach fill area immediately after the completion of construction. All escarpments in the newly placed beach fill that exceed 18 inches in height would be graded to match adjacent beach contours immediately upon completion of each project reach. Removal of escarpments during the sea turtle hatching season (May 1 through November 15) would be coordinated with the National Park Service–Cape Hatteras National Seashore and the North Carolina Wildlife Resources Commission.

DRAFT

23. No dredged material would be placed at any time in waters outside the permitted beach nourishment disposal area. Material would be placed on the beach via pipeline.
24. The Permittee would coordinate the placement of all dredge pipeline along the beach with the National Park Service–Cape Hatteras National Seashore and the NC Division of Coastal Management.
25. All material used for the beach nourishment would be beach compatible, clean, free of debris and clay, and free of any pollutants except in trace quantities. The Permittee would ensure that an inspector is present during all beach disposal activities and immediately report to the Corp should any potentially incompatible material be placed on the beach.
26. If submerged cultural resources are encountered during the operation, the Permittee would immediately notify the Corps so that coordination can be initiated with the Underwater Archeology Unit (UAU) of the Department of Cultural Resources.
27. In issuing the permit, the federal government would not assume any liability for: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future federal activities initiated on behalf of the general public; (c) damages to other permitted or unpermitted activities or structures caused by the authorized activity; (d) design and construction deficiencies associated with the permitted work; or (e) damage claims associated with any future modification, suspension, or revocation of the permit.
28. Except as authorized by the permit or any Corps approved modification to the permit, no excavation, fill or mechanized land-clearing activities would take place at any time in the construction or maintenance of the project, within waters or wetlands. The permit does not authorize temporary placement or double handling of excavated or fill material within wetlands outside the permitted area. The prohibition applies to all borrow and fill activities connected with the project.
29. All mechanized equipment would be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the Permittee would immediately report it to the N.C. Division of Water Quality at (919) 733-5083, extension 526, or (800) 662-7956, and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act would be followed.
30. The Permittee would employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. Additionally, the project would remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).
31. Violations of the conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act would be reported in writing within 24 hours of the Permittee's discovery of the violation to the Washington Regulatory Field Office, 2407 West Fifth Street, Washington, North Carolina 27889, telephone (910-251-4610).
32. The Permittee, upon receipt of a notice of revocation of the permit or upon its expiration before completion of the work would, without expense to the United States and in such time and manner as the

DRAFT

Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

33. The Permittee would provide the Corps with written notification immediately upon completion of the work authorized by the permit.

34. The Department of the Army permit would not obviate the need to obtain other federal, state, or local authorizations required by law.

35. The Permittee would understand and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work would cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee would be required, upon due notice from the US Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim would be made against the United States on account of any such removal, relocation, or alteration. The Permittee would notify NOAA/NATIONAL OCEAN SERVICE Chief Source Data Unit N CS261, 1315 E West HWY- RM 7316, Silver Spring, MD 20910-3282 at least two (2) weeks prior to beginning work and upon completion of work.

36. The authorized project would not interfere with the public's right to free navigation on all navigable waters of the United States. No attempt would be made by the Permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work for reason other than safety.

37. The Permittee would comply with all U.S. Coast Guard regulations for dredging operations and contact the US Coast Guard, District 5 Waterways at telephone (757) 398-6229, at least thirty (30) days prior to construction. Contact with the US Coast Guard would initiate the Local Notice for Mariners procedures to ensure all safety precautions for aids to navigation are implemented. The Permittee would notify the Corps when this coordination with the US Coast Guard has commenced and would provide updates as requested,

38. The Permittee would install and maintain, at his expense, any signal lights and signals prescribed by the US Coast Guard, through regulations or otherwise, on authorized facilities. For further information, the Permittee should contact the US Coast Guard Marine Safety Office at telephone (910) 772-2200.

39. The Permittee would comply with all Special Use Permit conditions required by the National Park Service.

40. The Permittee would not impact the anomalies identified in the "Phase I Remote-Sensing Archaeological Survey of a Proposed Borrow Site off Buxton, Dare County, North Carolina" (Appendix F of the EA for the project). In order to do this, the Permittee would not perform any dredging activities within 200 feet of these anomalies.

41. Minimizing impacts to the borrow areas. The Permittee would not dredge within 500 meters of live/hard bottom areas within the project borrow site.

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BEACH RESTORATION TO PROTECT NC HIGHWAY 12 AT BUXTON, DARE COUNTY, NORTH CAROLINA

APPENDIX G

DRAFT MONITORING & SPECIAL CONDITIONS FOR THE APPLICANT'S PREFERRED ACTION SUMMER CONSTRUCTION

The Applicant's (Dare County) Proposed Action–Summer Construction, involving placement of offshore sand via dredge along the Buxton (North Carolina) beach on Cape Hatteras National Seashore property, would be subject to certain special conditions, if permitted. This Appendix G is a supplement to the Environmental Assessment (EA) for the project which describes the anticipated monitoring and protection measures for the Proposed Action. It is based on similar special conditions prescribed for beach nourishment during summer months in North Carolina at Nags Head (USACE 2010–Action ID SAW 2006-40282) and Rodanthe (USACE 2013–Action ID SAW-2013-01129).

The Applicant has proposed dredging from offshore borrow areas by hopper dredge or suction-cutterhead dredge. Because work would potentially occur outside designated periods for construction under the South Atlantic Regional Biological Opinion (SARBO) (NMFS 1997), there would be numerous provisions and special conditions for operations. The conditions detailed herein should not be construed as all special provisions that may apply to the Proposed Action. The final special conditions would be prescribed in permits for the project should federal and state regulatory agencies and the National Park Service determine that the Proposed Action can proceed.

If the following Draft Special Conditions are retained in the federal permit for the project, the word “would” should be changed to “shall” or “will” as appropriate. Further, where reference is made to a point of contact, a specific person should be named as applicable using up-to-date personal contact information.

In accordance with 33 U.S.C. 1341(d), all conditions of the North Carolina Division of Coastal Management consistency determination and the North Carolina Division of Water Quality 401 Water Quality Certification (*date to be determined*) would be incorporated as part of the Department of the Army permit. Therefore they are not listed here as special conditions.

1. All work authorized by the permit would be performed in strict compliance with the plans illustrated on the permit application, which would be part of the permit. Any modification to the plans would have to be approved by the U.S. Army Corps of Engineers, Wilmington District (Corps) prior to implementation.

2. Endangered Species Protection.

a. Hopper dredging would be approved under the South Atlantic Regional Biological Opinion (SARBO) dated 1997, which can be viewed on the ERDC web site at the following link: <http://el.erdc.usace.army.mil/seaturtles/refs-bo.cfm>. The SARBO includes an Incidental Take Statement (ITS) issued to the Corps. Under the SARBO/ITS, incidental takes are authorized on a Fiscal Year (FY) (October 1 to September 30) basis to be metered out by the Division Commander, South Atlantic Division, U.S. Army Corps of Engineers for the southeastern United States for Corps civil and military

DRAFT

projects. The Permittee (Dare County) would be required to avoid any incidental take in that such take may trigger the cessation of hopper dredging for the remainder of that FY. The Permittee would acknowledge this and agree that, even where it is in full compliance with the terms and conditions of the SARBO/ITS, incidental take by the Permittee may require suspension of the permit by the Corps. The amount of incidental take that would trigger suspension, and the need for any such suspension, would be determined at the discretion of the Corps. The Permittee would have to agree on behalf of itself, its agents, contractors, and other representatives, that no claim, legal action in equity or for damages, adjustment, or other entitlement against the Corps would arise as a result of such suspension or related action.

b. The Permittee would immediately notify the Corps Regulatory Project Manager that an incidental take has occurred. The Regulatory Project Manager responsible for the project would be identified in the final Special Conditions and contacted at the Washington Regulatory Field Office, 2407 West Fifth Street, Washington, North Carolina 27889, by telephone at (910) 251-4610 (general number), or by e-mail (*address to follow*). Dredging operations would immediately cease upon incidental take of any sea turtle species or Atlantic Sturgeon until the District Commander, or his designee, notifies the Permittee to resume dredging. The sea turtle or Atlantic sturgeon incidental take data form would be filled out by the Observer within six (6) hours of the take event and e-mailed in pdf format to takereport.nmfsser@noaa.gov and the Regulatory Project Manager. In accordance with the SARBO, all hopper dredges would have an Observer on board who meets the guidelines as established on the website listed in Special Condition 15 below.

3. Pre-Dredging Submittals.

a. No dredging would be performed by a hopper dredge without the inclusion of a rigid sea turtle deflector device. The Permittee would electronically submit drawings to the Regulatory Project Manager prior to commencement of dredging, showing the proposed device and its attachment. These drawings would include the approach angle for any and all depths to be dredged during the dredging. The Permittee would not commence hopper dredging until approval of the sea turtle deflector device has been granted by the Corps.

b. The Permittee would electronically submit detailed drawings showing the proposed drag head grating system(s) and drag head(s), and documentation that supports grate sizing such as dredge pump manufacturer's recommended maximum particle size dimension(s), etc.

c. The Permittee would electronically submit an operational plan to achieve protection of sea turtles during the hopper dredging operation. These operational procedures are intended to stress the importance of balancing the suction pipe densities and velocities in order to keep from taking sea turtles.

d. During turning operations the pumps would either be shut off or reduced in speed to the point where no suction velocity or vacuum exists. No dredging work would be allowed to commence until approval of the turtle deflector device has been granted by the U.S. Army Corps of Engineers, Wilmington District. Sample Turtle Deflector Design Details are available on the website listed in Special Condition 15. A copy of the approved drawings and calculations would be available on the vessel during dredging operations.

DRAFT

4. Pre-Dredging Inspection. Within three (3) days from the date of initiating the authorized work, the Permittee would provide to the Corps the completed Hopper Dredge Startup Inspection Checklist form with a written notification of the date of commencement of work authorized by the permit. An inspection of the hopper dredge would be scheduled and performed by the Wilmington District inspector after receipt of the notification of commencement. Inspection checklists are located on the website listed in Special Condition 15 below.

5. Hopper Dredge Equipment. Hopper dredge drag heads would be equipped with sea turtle deflectors which are rigidly attached. Deflectors would be solid with no openings in the face. No dredging would be performed by a hopper dredge without an installed turtle deflector device approved by the District inspector. Sample Turtle Deflector Design Details are on the web site indicated in Special Condition number 15 below.

a. Deflector Design.

(1) The leading V-shaped portion of the deflector would have an included angle of <90 degrees. Internal reinforcement would be installed in the deflector to prevent structural failure of the device. The leading edge of the deflector would be designed to have a plowing effect of at least 6 inches in depth when the drag head is being operated. Appropriate instrumentation or indicator would be used and kept in proper calibration to insure the critical "approach angle." (Information Only Note: The design "approach angle," or the angle of lower drag head pipe relative to the average sediment plane, is very important to the proper operation of a deflector. If the lower drag head pipe angle in actual dredging conditions varies tremendously from the design angle of approach used in the development of the deflector, the 6-inch plowing effect does not occur. Therefore, every effort should be made to insure this design "approach angle" is maintained with the lower drag pipe.)

(2) If adjustable depth deflectors are installed, they would be solidly attached to the drag head using either a hinged aft attachment point or an aft trunnion attachment point in association with an adjustable pin front attachment point or cable front attachment point with a stop set to obtain the 6-inch plowing effect. This arrangement allows fine-tuning the 6-inch plowing effect for varying depths. After the deflector is properly adjusted there would be no openings between the deflector and the drag head that are more than 4-inches by 4-inches.

b. In-flow Baskets and Overflow Screening.

(1) The Permittee would ensure that baskets or screening are installed over the hopper inflow(s) and overflow(s) with no greater than 4-inch by 4-inch openings. The method selected would depend on the construction of the dredge used and would be approved by the District inspector prior to commencement of dredging. The screening would provide 100 percent screening of the hopper inflow(s) and overflow(s). The screens and/or baskets would remain in place throughout the performance of the work. The turtle deflector device and inflow/overflow screens would be maintained in operational condition for the entire dredging operation. If during dredging operations, the Permittee cannot meet the requirements of the inflow and overflow screening, the Regulatory Project Manager would be contacted immediately.

(2) The Permittee would install and maintain floodlights suitable for illumination of the baskets or screening to allow the Observer to safely monitor the hopper baskets or screening during non-daylight

hours or other periods of poor visibility. Safe access would be provided to the inflow and overflow baskets or screens to allow the Observer to inspect for turtles and Atlantic sturgeons, or parts thereof, clean the baskets or screens for the next loading cycle, and document any screening deficiencies. During periods of time when observers are performing inspections of inflow and overflow baskets or screening, proper lockout/lagout procedures and fall protection would be implemented.

c. Drag Head Grating.

(1) Drag head grating may be used to prevent over-sized objects (relative to respective pump and distribution system designs) from reaching and becoming lodged or damaging, the dredge pump and/or slurry distribution system. The Permittee may not use a drag head grating system that would prevent turtle remains from entering the hopper inflow screening. Detailed drawings showing the proposed drag head grating system(s) and drag head(s), and documentation that supports grate sizing [such as dredge pump manufacturer's recommended maximum particle size dimension(s), etc.] would be submitted. No dredging would begin until the District inspector has approved all grating and screening.

6. Hopper Dredge Operation.

a. The Permittee would operate the hopper dredge to minimize the possibility of taking sea turtles and to comply with the requirements stated in the Incidental Take Statement provided by the NMFS in its SARBO.

b. The turtle deflector device and inflow/overflow screens would be maintained in operational condition for the entire dredging operation.

c. When initiating dredging, suction through the drag heads would be allowed just long enough to prime the pumps, and then the drag heads would be placed firmly on the bottom. When lifting the drag heads from the bottom, suction through the drag heads would be allowed just long enough to clear the lines, and then would cease. Pumping water through the drag heads would cease while maneuvering or during travel to/from the disposal area. If the required dredging section includes compacted fine sands or stiff clays, a properly configured arrangement of teeth may enhance dredge efficiency, which reduces total dredging hours, and turtle takes. The operation of a drag head with teeth would be monitored for each dredged section to insure that excessive material is not forced into the suction line. When excess high-density material enters the suction line, suction velocities drop to extremely low levels causing conditions for plugging of the suction pipe. Dredge operators should configure and operate their equipment to eliminate all low-level suction velocities. Pipe plugging in the past was easily corrected, when low suction velocities occurred, by raising the drag head off the bottom until the suction velocities increased to an appropriate level. Pipe plugging cannot be corrected by raising the drag head off the bottom. Arrangements of teeth and/or the reconfiguration of teeth should be made during the dredging process to optimize the suction velocities.

d. Raising the drag head off the bottom to increase suction velocities is not acceptable. The primary adjustment for providing additional mixing water to the suction line should be through water ports. To insure that suction velocities do not drop below appropriate levels, the Permittee would monitor production meters throughout the job and adjust primarily the number and opening sizes of water ports. Water port openings on top of the drag head or on raised standpipes above the drag head would be screened before they are utilized on the dredging project. If a dredge section includes sandy shoals

DRAFT

on one end of a tract line and mud sediments on the other end of the tract line, the equipment would be adjusted to eliminate drag head pick-ups to clear the suction line.

e. The drag head would be buried a minimum of six (6) inches in the sediment at all times to maintain drag-head efficacy in reducing incidental takes. Maximum borrow area dredge depths identified in the attached plans would not be exceeded to achieve this effective plowing depth.

f. During turning operations the pumps would either be shut off or reduced in speed to the point where no suction velocity or vacuum exists.

7. Dredging Quality Management. Dredging and dredged material disposal and monitoring of dredging projects using the Dredging Quality Management (DQM) system would be implemented for the project. The Permittee would ensure that each hopper dredge assigned to the work authorized by the permit is equipped with DQM, previously known as 'Silent Inspector', for hopper dredge monitoring. The Permittee's DQM system must have been certified by the DQM Support Team within one calendar year prior to the initiation of the dredging/disposal. Questions regarding certification should be addressed to the DQM Support Center at 251-690-3011. Additional information about the DQM System can be found at <http://dqm.usace.army.mil>. The Permittee is responsible for insuring that the DQM system is operational throughout the dredging and disposal project and that project data are submitted to the DQM National Support Center in accordance with the specifications provided at the aforementioned website. The Permittee would contact the National Dredging Quality Management (DQM) program (<http://dc|m.iisace.army.mil/>) (to assure that project information is loaded and data is being appropriately transferred prior to project commencement.

8. Sea Turtle Non-Capture Trawl Sweeping. In order to minimize or reduce taking of turtles during dredging, non-capture trawling may be required if the Corps determines that it is necessary to reduce entrainment risk. This type of trawling is designed to use non-capture type trawling equipment to sweep in the proximity of the dredging operations in order to stimulate sea turtles to move out of the dredge path. No sea turtles would be captured using this trawling technique. Non-capture trawl sweeping may be performed 48 hours prior to initiating dredging and may continue throughout dredging operations. Conduct non-capture trawl sweeping operations in the vicinity of active dredge operations, but maintain a safe distance from the dredge. Trawl equipment used (e.g. trawling nets) and trawl sweeping operations would be conducted such that no sea turtles or other marine organism by-catch are captured. As much as possible, non-capture trawl sweeping would be conducted to maximize the amount of time that the trawl equipment (e.g. trawling nets) sweeps the bottom sediment in the vicinity of the dredging operation (i.e. maximize the bottom time with the trawling equipment). Such trawling in the vicinity of the dredge would be conducted during active dredging operations during daylight hours, stopping after every four (4) hours or more frequently to check the condition of the trawl equipment and assure that no turtles have been captured.

a. Non-capture Trawl Sweeping Period. Non-capture trawl sweeping would be conducted as described below:

DRAFT

(1) A day of non-capture trawl sweeping would be defined as 12 hours of continuous trawling during daylight hours.

(2) Non-capture trawl sweeping may be conducted as 24-hours of trawling as a continuous trawl; however, two separate crews would be available on board to work two 12-hour shifts.

(3) Night-time trawl sweeping may not be conducted if the Corps determines that such trawling poses an unacceptable safety risk to trawling personnel operating in the vicinity of active dredging operations.

b. Turtle Handling and Endangered Species Permits. No sea turtles are to be intentionally captured during non-capture trawl sweeping operations. No endangered species permits to handle sea turtles are required for non-capture trawl sweeping. Should a sea turtle become entangled in the trawling nets; the nearest marine facility would be notified for arrangements to be made to transfer the animal as needed.

c. Reporting. A daily log would be kept for each non-capture trawl sweeping operations. The non-capture trawl sweeping log would be submitted to the Regulatory Project Manager at the completion of the project. Data to be included with this log daily would include:

(1) GIS coordinates of trawl locations at the start and end of each sweep.

(2) Times recorded for the duration of each trawl sweep.

(3) Description of dredge proximity during each sweep.

(4) General notes as appropriate (e.g. condition of equipment at the end of each sweep, snags occurring during each sweep, incidental debris, etc.).

(5) Water Quality and Physical Measurements: Water temperature measurements would be taken at the water surface each day using a laboratory thermometer. Weather conditions would be recorded from visual observations and instruments on the trawler. Weather conditions, air temperature, wind velocity and direction, high and low tides, sea state-wave height, and precipitation would be recorded on the Trawling Form on the web site indicated in Special Condition 15 below.

d. Non-Capture Trawl Sweeping Equipment: To reduce the chances of sea turtles becoming entangled and caught in the net webbing during non-capture trawl sweeping, the Contractor would use standard flat-style shrimp trawling nets. Nets would have one to two-inch webbing holes, the webbing should be made of nylon material (preferably dipped.)

(1) The bag end of these nets would be completely cut out so that the nets remaining on the rigging are approximately 30 to 50-feet long. The nets would be long enough to provide a trailing length of net in the water to "stimulate turtles" to move but not be long enough to be able to twist when: (1) being pulled in the water; (2) being pulled up and onto the deck; (3) the vessel is stationary; or (4) the trawl vessel turns while trawling. This net length may be shorter or longer depending on the specific configurations of the trawler and its rigging, but would be set up to specifically prevent the twisting of the net. The nets should be installed and adjusted such that organisms are not being collected (turtles and other by-catch).

DRAFT

(2) The bag end of the nets would be cut away to create a large open end on the nets. The webbing would be monitored so that tears and rips do not occur in the remaining webbing that might entangle and capture organisms (particularly turtles).

(3) To ensure that the lead line and mouth of the trawl nets maintain contact with the seafloor as best as possible, the lead line of each net would be rigged with weights, mud rollers, tickler chains and/or trawling cookies (as appropriate for the environmental conditions and sediment type).

(4) For the first 48 hours after beginning non-capture trawling operations, pull and check the nets every hour to evaluate and document the (a) status of the nets (particularly twisting of the tail end), and (b) net contents (turtles and other bycatch); and after the first 48 hours and appropriate net configuration has been established, gradually increase trawling times to a maximum of four (4) hours.

e. Trawler Equipment Breakdown: Should there be a breakdown of trawler equipment that would cause the trawler to leave the area where dredging is underway during any period of time when non-capture trawl sweeping is required, the dredge may continue to operate for up to 48 hours, as long as no turtles are taken, and subject to the discretion of the Regulatory Project Manager. Should there be dangerously high seas that would cause the trawler to leave the dredging area when non-capture trawl sweeping is required, the dredge may continue to operate, as long as no turtles are taken; subject to the discretion of the Project Manager.

9. Endangered Species Observers: During dredging operations, observers approved by the NMFS for sea turtles, Atlantic sturgeon and whales would be aboard to monitor for the presence of the species. Observer coverage would be 100 percent (24 hr/day) and would be conducted year round. During transit to and from the disposal area, the observer would monitor from the bridge during daylight hours for the presence of endangered species, especially the Northern right whale, during the period December through March. Records would be kept of the date, time, and approximate location of all marine mammal sightings. Care would be taken not to closely approach any whales or manatees observed during dredging. The observer would serve as a lookout to alert the vessel pilot of the occurrence of these animals. If any are observed, collisions would be avoided either through reduced vessel speed, course alteration, or both. During the evening hours, when there is limited visibility due to fog, or when there are sea states of greater than Beaufort 3, the dredge would slow down to 5 knots or less when transiting between areas if whales have been spotted within 15 nm of the vessel's path within 24 previous hours. If a right whale is sighted, the dredge operator would maintain a 500-yard buffer between the vessel and any whale.

During dredging operations, while drag heads are submerged, the observer would continuously monitor the inflow and/or overflow screening for turtles and/or turtle parts and Atlantic sturgeon and/or Atlantic sturgeon parts. Upon completion of each load cycle, drag heads should be monitored as the drag head is lifted from the sea surface and is placed on the saddle in order to assure that sea turtles that may be impinged within the drag head are not lost and un-accounted for. Observers would physically inspect drag heads and inflow and overflow screening/boxes for threatened and endangered species take. Other abiotic and biotic debris found in the screens during their examination for sea turtle or sturgeon parts would be recorded and then disposed of so as not to impede the functioning of the screens during the next load cycle.

a. Monitoring Reports. The results of the monitoring would be recorded on the appropriate observation sheets. There is a sheet for each load, a daily summary sheet, and a weekly summary sheet. In addition, there would be a post dredging summary sheet. Observations sheets would be completed

DRAFT

regardless of whether any takes of Atlantic sturgeon, whales, or sea turtles occur. In the event of any sea turtle or Atlantic Sturgeon take by the dredge, appropriate incident reporting forms would be completed. Additionally, all specimens would be photographed with a digital camera. These photographs would be attached to respective reports for documentation. Dredging of subsequent loads would not commence until all appropriate reports are completed from the previous dredging load to ensure completeness and thoroughness of documentation associated with the incidental take. Reports would be submitted to the Corps within 24-hours of the take. Copies of the forms would be legible. Observer forms may be accessed on the web site indicated in Special Condition 15 below.

b. Endangered Species Observer(s). A list of endangered species observer-biologists (ESOs) that have been NMFS-approved to monitor threatened/endangered species takes by hopper dredges can be obtained by contacting NOAA Fisheries' Northeast Region, Protected Resources Division. The main contact is 978-281-9300.

c. The Permittee would provide a digital camera, with an image resolution capability of at least 300 dpi, in order to photographically report all incidental takes, without regard to species, during dredging operations. Immediately following the incidental take of any threatened or endangered species, images would be provided, via email, CD, DVD, or USB (thumb/flash/jump drive) to the Contracting Officer's Representative in a JPG or .TIF format and would accompany incidental take forms. The nature of findings would be fully described in the incidental take forms including references to photographs.

10. Manatee, Sea Turtle, Atlantic Sturgeon and Whale Sighting Reports. Any take concerning a manatee, sea turtle, Atlantic sturgeon, or whale; or sighting of any injured or incapacitated manatees, sea turtles, or whales would be reported immediately to the Corps by notifying the personnel indicated in the list in Condition 12 below. A copy of the incidental take report would be provided within 24 hours of the incident. The Permittee would also immediately report any collision with and/or injury to a manatee to the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and North Carolina Wildlife Resources Commission. If a sea turtle and/or Atlantic sturgeon is taken by the dredge (live or dead), the Permittee would email a PDF version of the incidental take report to NOAA-Fisheries Southeast Region at the following email address within 24 hours of the take: takereport.nmfsser@noaa.gov, also providing a copy to the Regulatory Project Manager.

11. Disposition of Sea Turtles or Turtle Parts.

a. Turtles taken by hopper dredge.

(1) Dead turtles - Upon removal of sea turtle and/or parts from the drag head or screening, observers would take photographs to sufficiently document major characteristics of the turtle or turtle parts including but not limited to dorsal, ventral, anterior, and posterior views. For all photographs taken, a backdrop would be prepared to document the dredge name, observer company name, contract title, time, date, species, load number, location of dredging, and specific location taken (drag head, screening, etc.). Carcass/turtle parts would also be scanned for flipper and Passive Integrated Transponder (PIT) tags. Any identified tags would be recorded on the "Sea Turtle Incidental Take Form" that is included in the "Endangered Species Observer Program Forms" located on the web site indicated in Special Condition number 15 below. Turtle parts which cannot be positively identified to species would be preserved by the observer(s) for later identification. A tissue sample would be collected from any lethally taken sea turtle and submitted under the process stated in the Protocol for

DRAFT

Collecting Tissue Samples from Turtles for Genetic Analysis found in the website listed in Special Condition 15 below. All genetic samples collected would be submitted to NMFS within 30-days of collection and verification of submittal to NMFS would be provided to the Regulatory Project Manager. After all data collection is complete, the sea turtle parts would be placed in plastic bags, labeled as to the time, date, and dredged reach of collection, kept frozen and transported to the National Marine Fisheries Service Laboratory in Beaufort, North Carolina. If no local facility is capable of receiving the sea turtle/parts, they should be marked (spray paint works well), weighted down and disposed of under the direction of the Regulatory Project Manager.

(2) Live Turtles - Observer(s) would measure, weigh, scan for Passive Integrated Transponder (PIT) tags, and photograph any live turtle(s) incidentally taken by the dredge. If no tagging was identified, observers would tag the turtle using Inconel flipper and PIT tags if they are qualified to do so. Observer(s) or their authorized representative would coordinate with the Regulatory Project Manager to transport, as soon as possible, the live turtle(s) taken by the dredge to an approved rehabilitation facility in the project area.

12. Report Submission, The Permittee would maintain a log detailing all incidents, including sightings, collisions with, injuries, or killing of manatees, sea turtles, Atlantic sturgeon, or whales occurring during the contract period. The data would be recorded on forms available on the website as indicated in Special Condition number 15. All data in original form would be forwarded directly to Wilmington District within 10 days of collection. Following project completion, a report summarizing the above incidents and sightings would be submitted to the following:

- a. Wilmington District Regulatory Contact: *to be determined*
- b. South Atlantic Dredging Projects: *to be determined*
- c. National Marine Fisheries Service
Protected Species Management Branch
263 13th Avenue South
St. Petersburg, Florida 33701
- d. North Carolina Wildlife Resources Commission
Matthew Godfrey
307 Live Oak Street
Beaufort, North Carolina 28516

13. All necessary precautions and measures would be implemented so that any activity would not kill, injure, capture, pursue, harass, or otherwise harm any protected federally listed species (sea turtles, whales, manatee, Atlantic sturgeon, and piping plover). While accomplishing the authorized work, if the Permittee discovers or observes a damaged or hurt listed endangered or threatened species, the Corps would be immediately notified so that required coordination can be initiated with the US Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS).

14. The Permittee would conduct routine beach surveillance during construction to prevent unintentional damage to sea turtles and their nesting areas. If a nest or a turtle crawl is identified in the project area, the Permittee would immediately stop all beach disposal activities and contact the Corps to determine

DRAFT

appropriate action. Specific night time and morning monitoring requirements are anticipated in the National Park Service–Cape Hatteras National Seashore Special Use Permit.

15. Reporting Forms. In order to avoid use of outdated forms, the Permittee would utilize the following website for forms and attachments required under the permit. Links to these forms are under the heading Turtle Information, <http://el.erdc.usace.army.mil/seaturtles>. (List of forms anticipated under the permit include: Sea Turtle/Pre and Post-Hopper Dredging Project Checklist, Endangered Species Observer Program Forms and Sea Turtle Trawling Report.)

16. Dredging activities authorized by the permit would not in any way interfere with those operations of the Wilmington District Civil Works dredging and navigation projects.

17. The Permittee would require its contractors and/or agents to comply with the terms and conditions of the permit in the construction and maintenance of the project, and would provide each of its contractors and/or agents associated with the construction or maintenance of the project with a copy of the permit. A copy of the permit, including all conditions, would be present and available at the project site during construction and maintenance of the project.

18. The Permittee would schedule a preconstruction meeting between its representatives, the contractor's representatives and the Corps prior to undertaking any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained within the Department of the Army permit. The Permittee would contact the Corps a minimum of thirty (30) days in advance of the scheduled meeting in order to provide that individual with ample opportunity to schedule and participate in the required meeting. Meeting participants may include, but are not limited to, representatives from the US Fish and Wildlife Service, the National Park Service, National Marine Fisheries Service, NC Division of Coastal Management, NC Division of Water Resources, NC Wildlife Resource Commission, and the US Coast Guard.

19. The Permittee would advise the Corps in writing prior to beginning the work authorized by the permit. The contractors name, phone number, and address, including any inspectors contact name and phone number would be provided to the Corps prior to undertaking any work.

20. The permit would authorize beach fill activities to be undertaken only one (1) time along the entire project area. Any request to undertake additional maintenance beach fill activities within the project area where nourishment activities have already been completed under the permit would require prior written authorization from the Corps.

21. All beach fill material would be obtained from within the approved borrow source area as depicted in the plans. The dredging contractor would use dredge positioning software to ensure that no dredging occurs outside the boundaries of the approved borrow areas.

22. Visual surveys to detect escarpments would be made along the beach fill area immediately after the completion of construction. All escarpments in the newly placed beach fill that exceed 18 inches in height would be graded to match adjacent beach contours immediately upon completion of each project reach. Removal of escarpments during the sea turtle hatching season (May 1 through November 15) would be coordinated with the National Park Service–Cape Hatteras National Seashore and the North Carolina Wildlife Resources Commission.

DRAFT

23. No dredged material would be placed at any time in waters outside the permitted beach nourishment disposal area. Material would be placed on the beach via pipeline.
24. The Permittee would coordinate the placement of all dredge pipeline along the beach with the National Park Service–Cape Hatteras National Seashore and the NC Division of Coastal Management.
25. All material used for the beach nourishment would be beach compatible, clean, free of debris and clay, and free of any pollutants except in trace quantities. The Permittee would ensure that an inspector is present during all beach disposal activities and immediately report to the Corp should any potentially incompatible material be placed on the beach.
26. If submerged cultural resources are encountered during the operation, the Permittee would immediately notify the Corps so that coordination can be initiated with the Underwater Archeology Unit (UAU) of the Department of Cultural Resources.
27. In issuing the permit, the federal government would not assume any liability for: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future federal activities initiated on behalf of the general public; (c) damages to other permitted or unpermitted activities or structures caused by the authorized activity; (d) design and construction deficiencies associated with the permitted work; or (e) damage claims associated with any future modification, suspension, or revocation of the permit.
28. Except as authorized by the permit or any Corps approved modification to the permit, no excavation, fill or mechanized land-clearing activities would take place at any time in the construction or maintenance of the project, within waters or wetlands. The permit does not authorize temporary placement or double handling of excavated or fill material within wetlands outside the permitted area. The prohibition applies to all borrow and fill activities connected with the project.
29. All mechanized equipment would be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the Permittee would immediately report it to the N.C. Division of Water Quality at (919) 733-5083, extension 526, or (800) 662-7956, and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act would be followed.
30. The Permittee would employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. Additionally, the project would remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).
31. Violations of the conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act would be reported in writing within 24 hours of the Permittee's discovery of the violation to the Washington Regulatory Field Office, 2407 West Fifth Street, Washington, North Carolina 27889, telephone (910-251-4610).
32. The Permittee, upon receipt of a notice of revocation of the permit or upon its expiration before completion of the work would, without expense to the United States and in such time and manner as the

DRAFT

Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

33. The Permittee would provide the Corps with written notification immediately upon completion of the work authorized by the permit.

34. The Department of the Army permit would not obviate the need to obtain other federal, state, or local authorizations required by law.

35. The Permittee would understand and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work would cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee would be required, upon due notice from the US Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim would be made against the United States on account of any such removal, relocation, or alteration. The Permittee would notify NOAA/NATIONAL OCEAN SERVICE Chief Source Data Unit N CS261, 1315 E West HWY- RM 7316, Silver Spring, MD 20910-3282 at least two (2) weeks prior to beginning work and upon completion of work.

36. The authorized project would not interfere with the public's right to free navigation on all navigable waters of the United States. No attempt would be made by the Permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work for reason other than safety.

37. The Permittee would comply with all U.S. Coast Guard regulations for dredging operations and contact the US Coast Guard, District 5 Waterways at telephone (757) 398-6229, at least thirty (30) days prior to construction. Contact with the US Coast Guard would initiate the Local Notice for Mariners procedures to ensure all safety precautions for aids to navigation are implemented. The Permittee would notify the Corps when this coordination with the US Coast Guard has commenced and would provide updates as requested,

38. The Permittee would install and maintain, at his expense, any signal lights and signals prescribed by the US Coast Guard, through regulations or otherwise, on authorized facilities. For further information, the Permittee should contact the US Coast Guard Marine Safety Office at telephone (910) 772-2200.

39. The Permittee would comply with all Special Use Permit conditions required by the National Park Service.

40. The Permittee would not impact the anomalies identified in the "Phase I Remote-Sensing Archaeological Survey of a Proposed Borrow Site off Buxton, Dare County, North Carolina" (Appendix F of the EA for the project). In order to do this, the Permittee would not perform any dredging activities within 200 feet of these anomalies.

41. Minimizing impacts to the borrow areas. The Permittee would not dredge within 500 meters of live/hard bottom areas within the project borrow site.

Cape Hatteras National Seashore
Buxton, Dare County, North Carolina

Environmental Assessment — September 2015

Beach Restoration to Protect NC Highway 12 Clean Water Act 404 and NPS Special Use Permits

