

**Joint Federal and State Application Form For Wetlands Alteration in the United States On Critical Areas of the State of South Carolina**

**This Space for Official Use Only**

Application No. \_\_\_\_\_  
 Date Received \_\_\_\_\_  
 Project Manager \_\_\_\_\_  
 Watershed # \_\_\_\_\_

*Authorities: 33 USC 401, 33 USC 403, 33 USC 407, 33 USC 408, 33 USC 1344, 33 USC 1345, Section 48-39-10 et. Sec of the South Carolina Code of Laws. These laws require permits for activities in, or affecting, navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. The Corps of Engineers and the State of South Carolina have established a joint application process to expedite the permit review process. Under this joint process, you may use this form, together with the required drawings and supporting information, to apply for both the Federal and/or State permit(s).*

**Ownership and Supplemental Information Requirements:** In addition to the information on this form, you must submit a set of drawings and, in some cases, additional information. A completed application form together with all required drawings and supplemental information is required before an application can be considered complete. See the attached instruction sheets for details regarding these requirements. You may attach additional sheets if necessary to provide complete information.

1. Applicant: Last Name: \_\_\_\_\_  
 First Name: \_\_\_\_\_  
 Title: \_\_\_\_\_

2. Applicant: First Name: \_\_\_\_\_  
 Last Name: \_\_\_\_\_  
 Title: \_\_\_\_\_

3. Applicant: Company Name: \_\_\_\_\_  
 Town of Edisto Beach

4. Applicant: Mailing Address: \_\_\_\_\_  
 2414 Murray St.  
 Edisto Beach

5. Applicant: City: \_\_\_\_\_  
 Edisto Beach

6. Applicant: State: \_\_\_\_\_  
 SC

7. Applicant: Zip: \_\_\_\_\_  
 29438

8. Applicant: Area Code and Phone No.: \_\_\_\_\_  
 843-865-2935

9. Applicant: Fax No.: \_\_\_\_\_  
 843-865-3855

10. Applicant: Email: \_\_\_\_\_  
 ihill@townofedistobeach.com

11. Agent: Last Name (agent is not required): \_\_\_\_\_  
 Title: \_\_\_\_\_

12. Agent: First Name: \_\_\_\_\_  
 Title: \_\_\_\_\_

13. Agent: Company Name: \_\_\_\_\_  
 Coastal Science & Engineering

14. Agent: Mailing Address: \_\_\_\_\_  
 PO 6056

15. Agent: City: \_\_\_\_\_  
 Columbia

16. Agent: State: \_\_\_\_\_  
 SC

17. Agent: Zip: \_\_\_\_\_  
 29202

18. Agent: Area Code and Phone No.: \_\_\_\_\_  
 803-799-8949

19. Agent: Fax No.: \_\_\_\_\_  
 803-799-9481

20. Agent: Email: \_\_\_\_\_  
 straynum@coastalscience.com

21. Project Name: \_\_\_\_\_  
 Edisto Beach Nourishment Project

22. Project: City: \_\_\_\_\_  
 Colleton

23. Project: Zip Code: \_\_\_\_\_  
 29438

24. Project: Waterbody: \_\_\_\_\_  
 Atlantic Ocean

25. Project: Parcel ID: \_\_\_\_\_  
 100 acres

26. Nearest: Waterbody: \_\_\_\_\_  
 Atlantic Ocean

27. Latitude: \_\_\_\_\_  
 32 29'04.15"N

28. Longitude: \_\_\_\_\_  
 80 19'22.60"W

31. Directions to Project Site (include Street Numbers, Street Names, and Landmarks and attach additional sheet if necessary):  
 From Charleston, take Hwy 17 south to Hwy 174, Turn left on Hwy 174 and continue to Edisto Beach town limits.

32. Description of the Overall Project and of Each Activity in or Affecting U.S. Waters or State Critical Areas (attach additional sheets if needed):  
 See Additional Sheets.

33. Overall Project Purpose and the Basic Purpose of Each Activity in or Affecting U.S. Waters (attach additional sheets if needed):  
 See Additional Sheets.

34. Type and quantity of Materials to Be Discharged

Dirt or Topsoil: _____ Clean Sand: _____ Mud: _____ Gravel, Rock, or Stone: _____ Concrete: _____ Other (describe): _____	Filling: 85 _____ Backfill & Bedding: _____ Landscaping: _____ Fencing: _____ Draining/Excavation: _____ Shading: _____	sq. ft. 895,000 cubic yards _____ sq. ft. _____ cubic yards _____ sq. ft. 835,000 cubic yards _____ sq. ft. _____ cubic yards _____ sq. ft. _____ cubic yards _____ sq. ft. _____ cubic yards _____
TOTAL: 895,000	660	sq. ft. _____ cubic yards _____

35. Type and Quantity of Impacts to U.S. Waters (including wetlands).

36. Individually list wetland impacts including mechanized clearing, fill, excavation, flooding, draining, shading, etc. and attach a site map with location of each impact (attach additional sheets if needed).

Impact No.	Wetland Type	Distance to Receiving Water body (LF)	Purpose of Impact (road crossing, impoundment, flooding, etc)	Impact Size (acres)
1	Subtidal Ocean Bottom	-	Excavate Ocean Bottom	144.6
2	Subtidal Ocean Bottom	-	Beach Nourishment	-28
3	Intertidal Beach	-	Beach Nourishment	-87
Total Wetland Impacts (acres)				-257.6

37. Individually list all seasonal and perennial stream impacts and attach a site map with location of each impact (attach additional sheets)

Impact No.	Seasonal Perennial Flow	Average Stream Width (LF)	Impact Type (road crossing, impoundment, flooding, etc)	Impact Length (LF)
Total Stream Impacts (Linear Feet)				0

38. Have you commenced work on the project site?  YES  NO If yes, describe all work that has occurred and provide dates.

39. Describe measures taken to avoid and minimize impacts to Waters of the United States: Incorporating groin lengthening into the project design will improve nourishment longevity and extend the renourishment interval, reducing the frequency of dredging projects. Borrow material has been deemed to match the beach and minimize silt-sized particles to reduce temporary turbidity associated with dredging activities. Project is proposed to be constructed during periods of low biological activity to minimize impacts to benthic organisms and the marine ecosystem.

40. Provide a brief description of the proposed mitigation plan to compensate for impacts to aquatic resources or provide justification as to why mitigation should not be required (Attach a copy of the proposed mitigation plan for review).  
**See additional sheets**

41. See the attached sheet to list the names and addresses of adjacent property owners.

42. List all Corps Permit Authorizations and other Federal, State, or Local Certifications, Approvals, Denials received for work described in this application.

43. Authorization of Agent. I hereby authorize the agent whose name is given on page one of this application to act in my behalf in the processing of this application and to furnish supplemental information in support of this application.

44. Certification: Application is hereby made for a permit or permits to authorize the work and uses of the work as described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent for the applicant.

Applicant's Signature: \_\_\_\_\_ Date: 4/20/15  
 Agent's Signature: \_\_\_\_\_ Date: 4/20/15

The application must be signed by the person who desires to undertake the proposed activity or it may be signed by a duly authorized agent if the authorization statement in blocks 11 and 43 have been completed and signed. 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or device, or discloses a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entries, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

**D H F C**  
PROMOTE PROTECT PROSPER

**AFFIDAVIT OF OWNERSHIP OR CONTROL**

S. C. Department of Health and Environmental Control  
Office of Ocean and Coastal Resource Management  
Charleston 953-0200 846-9400 Myrtle Beach 238-4528  
Beaufort 846-9400 846-9810(fax) 238-4526(fax)  
953-0201 (fax) 846-9810(fax) 238-4526(fax)

I hereby certify that I am the (check one):

<input checked="" type="checkbox"/>	Record Owner
<input type="checkbox"/>	Lessee
<input type="checkbox"/>	Record Easement Holder
<input type="checkbox"/>	Applicant To Record Owner For Easement
<input type="checkbox"/>	Contract To Purchase Property

of the below described property situated in Colleton County, South Carolina; and that said property is all of that said property that is contiguous to and landward of the area in which the work proposed in the permit application is to be conducted. Furthermore, I certify that as record owner, lessee, or record easement holder, I have, or will have prior to undertaking the work, necessary approvals or permission from all other persons with a legal interest in said property to conduct the work proposed in the permit application.

**WRITE LEGAL DESCRIPTION OF HIGHLAND (as described in deed, lease, etc.) BELOW OR WRITE "SEE ATTACHED" (in large bold letters) AND ATTACH A COPY OF THE DEED, LEASE, EASEMENT, OR MOST RECENT CERTIFIED PLAT OF THE PROPERTY. IF YOU ARE NOT THE RECORD OWNER, LESSEE OR EASEMENT HOLDER, YOU MUST ALSO SUBMIT WRITTEN PERMISSION FROM THE OWNER OF THE PROPERTY TO CARRY OUT THE PROPOSED ACTIVITY.**

The beachfront on Edisto Beach is under the control of the Town of Edisto Beach

I also certify that the project as proposed does not cross any wetlands or areas below mean high water which is in the ownership of other private persons or public or private entities and that there is no disputed claim to the wetlands or areas below mean high water by private person or other entities due to a Kings Grant, State Grant, easement or conveyance or other legal document evidencing ownership of these areas.

[Signature]  
Signature of Record Holder or Lessee

Sworn to and subscribed before me at Edisto Beach Town Hall, Colleton County, South Carolina, this 20<sup>th</sup> day of April, 2015.

[Signature]  
Notary Public

My commission expires: Oct. 14, 2022

**32. DESCRIPTION OF THE OVERALL PROJECT AND OF EACH ACTIVITY IN OR AFFECTING U.S. WATERS OR STATE CRITICAL AREAS**

The proposed activity is a beach nourishment and groin lengthening project along Edisto Beach, SC (see Sheet 1). Work will include placement via hydraulic dredge of up to 835,000 cubic yards (cy) of beach-quality sediment along the ocean-facing shoreline and lengthening of up to 26 groins up to a cumulative total of 1,765 linear feet (lf). The overall project length is ~19,000 lf. The project area extends from the north end of the Edisto Beach State Park Campground to Edisto Street near the South Edisto River Inlet. A previous nourishment project (P/N 2005-1W-182-P) was successfully completed in May 2006 along Edisto Beach between Edisto Beach State Park and Groin 28 (850,000 cy; 18,258 lf) using a cutterhead dredge and offshore borrow area.

**Relationship to Federally Approved Edisto Beach Storm Damage Reduction Project**

The proposed project is similar in scope to the recently approved federal storm damage reduction project. The USACE, sponsored by the Town of Edisto Beach, completed extensive work in support of a feasibility study for a beach nourishment and groin lengthening project which would provide storm damage reduction for a 50-year project design life. Work accomplished by the USACE includes a Feasibility Report and Environmental Assessment, coastal engineering, economic analysis, structural inventory, geotechnical engineering, impact analysis, a biological assessment (BA) and essential fish habitat (EFH) assessment, 404(b)1 evaluation, and a hard bottom and cultural resource survey. The USACE also corresponded with local, state, and federal resource and regulatory offices and completed formal Section 7 consultation with USFWS, receiving a Biological Opinion (BO) in revised form on 14 March 2014. Documentation for the USACE project can be found at <http://www.sac.usace.army.mil/Missions/CivilWorks/NEPADocuments>.

The USACE plan calls for an initial nourishment of ~924,000 cy (based on 2008 conditions) and periodic renourishments of 476,000 cy every 16 years. The plan includes a +15 ft NAVD (~8 ft high above the berm) elevation dune along the front beach with a +7 ft NAVD elevation berm. A +14 ft NAVD dune without berm nourishment is incorporated along the shoreline of the South Edisto River. The USACE plan calls for lengthening 23 groins a cumulative total of 1,130 ft. Nourishment of the State Park is not included in the federal plan except for a taper section extending north from groin 1.

The federal plan was developed under the conditions of the *Economic and Environmental Principles and Guidelines for Water and related Land Resources Implementation Studies*, which essentially aim to contribute to National Economic Development (NED) by limiting the need for resources used for storm recovery which could be used elsewhere. This is accomplished by conducting a cost/benefit analysis for multiple alternatives and for individual locations within the project area. The requirement to maximize the benefit ratio can sometimes lead to less than ideal designs or elimination of desirable aspects of potential projects (for example, exclusion of any nourishment of the state park due to the low replacement cost of park infrastructure yielding a low cost/benefit ratio). While the project proposed in the permit application is similar in materials, methods, and overall design, it alters certain quantities of work to meet the preferred objectives of the Town while remaining within the Town's anticipated budget. Specific details of the differences between the USACE and the proposed Town project are provided in the following sections and are summarized below:

- 1) Nourishment Quantity – The USACE plan calls for an initial nourishment of 924,000 cy over 21,820 linear ft (including 16,530 lf of berm and dune nourishment and 5,290 ft of dune only nourishment). The proposed local project calls for nourishment between 420,000 and 835,000 cy, depending on the total level of groin lengthening possible within the Town's budget.
- 2) Fill Limits – The USACE plan calls for nourishment extending from ~600 ft north of groin 1 (in the state park) to Big Bay Creek. The town plan includes nourishment of all of the shoreline bordering the camping section of the state park (ie ~3,300 ft measured north from groin 1) and the front beach from groin 1 to groin 29.
- 3) Dune Construction – The USACE plan includes a 15 ft wide dune at +15 ft elevation along the front beach and a 15 ft wide dune at +14 ft elevation along the shoreline bordering the South Edisto River. The town plan includes a small “starter” dune along limited sections of the beach presently lacking any dune features.
- 4) Groin Lengthening – The USACE evaluated multiple scenarios of beach fill and the resulting groin lengthening scenarios required to maintain each level of fill. The fill plans resulted in groin lengthening scenarios ranging from a total of 360 lf to 1,970 lf. The NED plan calls for 1,130 ft of lengthening. The Town plan includes a maximum total lengthening of 1,765 linear feet with individual groins being lengthened no more than 100 ft. The minimum groin lengthening for applicable groins will be 20 ft because of certain economies of construction (not all of the groins will be lengthened).
- 5) Groin Maintenance – The Town intends to perform maintenance to groins requiring repair, including restacking loose rock, adding additional grout, or reinforcing timber sections. These repairs will follow similar methodologies as previous projects and will not seek to increase the trapping capacity of most groins. Groins 29-32, which have not been grouted, will be restacked and grouted (if funding allows) to prevent further settlement of the loose stone. If any increase in the structure elevation results from the restacking and grouting effort, additional nourishment sand will be placed in each updrift cell to satisfy the increased trapping volume.

#### **Nourishment Plan**

The proposed plan calls for nourishment of up to 835,000 cy of sand along the oceanfront shoreline of Edisto Beach (see Sheets 02-03). The exact volume of nourishment sand will depend on the final groin lengthening plan available within the Town's budget at time of construction. At a minimum, sufficient nourishment volume will be placed in each upcoast groin cell to exceed the trapping capacity of any lengthened groin. The applicant proposes to borrow sand from the northern shoal of the South Edisto River Inlet (Sheets 02, 08). The approximate areas of impact include ~13 acres above mean high water and ~244 acres below mean high water (including the borrow and beach fill areas).

Sheets 05-06 show representative nourishment sections in the project area. The fill berm will be placed at +7 ft NAVD to match the local dry-beach elevation. A low dune with the top at +10 ft NAVD (approximately equal to the FEMA 10-Year still-water flood elevation) may be built in areas lacking any dune features at the time of construction (potentially in groin cells 1-8). Due to the relatively coarse sands present along Edisto Beach, the natural beach slope is steeper than most beaches in South Carolina. The constructed slope will be built at 1 on 12 between the +7 ft berm and MHW. Following

construction, waves will distribute nourishment sand across the full beach profile into a natural configuration. Excess sand may be placed in cells requiring groin lengthening to facilitate groin construction.

The borrow areas and location of sediment borings are shown on Sheet 08. Borrow Area A consists of a 3,000 x 1,500 ft area (103.3 acres) adjacent to and seaward of the borrow area used in 2006 (measuring 3,200 x 1,000 ft). Borrow Area B is 1,000 x 1,800 ft (41.3 acres) and includes a majority of the borrow area used in the 2006 project. The proposed dredge limit is -16 ft MLLW (-19.5 ft NAVD), which is consistent with the limits in 2006. A 1-foot (ft) over-dredge depth will be included in the project specifications. Approximately 1,440,000 cy of beach compatible material is available in Borrow Area A based on a survey completed in August 2014. The proposed borrow area includes excess volume in order to allow for losses during pumping as well as to allow the dredge the opportunity to move if isolated pockets of poor sediment are encountered. Borrow Area B contains approximately 481,500 cy of material, though insufficient geotechnical data presently exists to confirm what volume is beach compatible. The applicant will coordinate with resource agencies to determine whether it is environmentally advantageous to use Area B in the proposed project should it contain sufficient suitable material.

The USACE feasibility study included a geotechnical and cultural resource component to define a borrow area containing sufficient material for the 50-year project. This included obtaining 77 borings over a 15,000 ft by 7,000 ft area encompassing the northern shoal of the South Edisto River Inlet delta and collection of native beach samples at 34 locations over the length of Edisto Beach. For the present project, the applicant used results of the USACE study, along with an additional 8 borings in a targeted subarea within the USACE study limits, to define a borrow area containing material closely matching the recipient beach.

The native beach (between Big Bay Creek and Edingsville Beach) showed an average grain size of 0.404 millimeter (mm) (composed from the dune, berm, beach face, and low-tide-terrace), which includes finer samples from the shoreline along the inlet. The beach within the proposed project limits contains more coarse sediment, averaging 0.487 mm with a shell content of 24.8 percent. Within the proposed Borrow Area A, the average grain size measured 0.547 mm with a shell content of 25.9 percent, fine-grained-material content of 1.0 percent, and coarse-grained material (>2mm) content of 10.7 percent. One boring was obtained in Borrow Area B in August 2014, showing clean sand with a mean grain size of 0.648 mm with 40.1 percent shell content (most of which was small shell hash <2.0 mm). Future borings will confirm the compatibility of the material within Area B and refine the data coverage in Area A.

Work is expected to be accomplished via hydraulic (cutterhead) dredge outside of sea turtle nesting season. The dredge would cut into the borrow area from the South Edisto River and sand would be pumped to the beach via a submerged pipeline. A booster pump may be required to provide sufficient power to reach the northern fill limits. Once sand reaches the shore, it will be spread to the design template by bulldozers. Various equipment typical of beach nourishment projects will be used throughout the project, including loaders, 4x4 vehicles, delivery trucks, survey vessels, barges, and tugs. Equipment will be restricted from vegetated areas to the maximum extent practicable.

### **Groin Lengthening**

Lengthening of certain groins was incorporated into the USACE project for the primary reason of maintaining an adequate berm width to support the protective dune and berm which aid in storm damage reduction. Essentially, several of the groins are too short to hold a beach width capable of maintaining a dune and berm capable of withstanding seasonal fluctuations in the shoreline position. The rationale and methods for the USACE groin lengthening plan are given in Section 9 of Appendix A of the USACE Feasibility Study. CSE completed an independent groin lengthening feasibility study in 2013 (CSE 2013a,b), obtaining two alternatives for lengthening. One alternative was based on an ideal beach profile (similar in nature to the USACE method, but using a more substantial beach profile) while the other was based on comparison of the widths of vegetated areas and existing groin conditions. The applicant also received input from local citizens and the Town's Beachfront Management Committee.

Results of the above studies were compiled into a proposed groin lengthening plan which calls for extension of up to 26 groins a cumulative total of up to 1,765 linear feet. The maximum extension for a single groin would be limited to 100 ft (see Sheet 04). The USACE feasibility study did not identify materials or methods of construction for the extensions. The applicant proposes to use steel, aluminum, or a vinyl composite sheet piles to extend each groin. Each 20 ft pile will be driven to the established grade and capped with a concrete cap set with a top elevation of -1 ft to -2 ft NAVD (Sheet 07). Armor stone will be placed around the sheet piles to provide scour protection. A connection consisting of formed and poured concrete or grouted stone will be installed to link the existing groin to the new sheet pile extension to make a continuous structure.

The original groins were built by SC Department of Transportation and were constructed solely of timber with a typical slope of ~1 on 50. Deterioration of the timber led to the addition of armor stone and in some cases, overall shortening of some groins. A 1995 project (P/N 94-1T-009-P) restacked loose stone and added grout in the void spaces to make a monolithic structure, but did not lengthen the groins. The proposed extensions will attempt to adjust the profile of the groins to match modern design guidelines, which include a beach face section sloping to match the native beach and horizontal low-tide-terrace section. The slope of the extension will be determined by the length of each extension and the existing profile of each groin, but will seek to match the native beach to the maximum extent practicable (generally 1 on 15 to 1 on 20).

Per state regulations, enough sand to meet or exceed the trapping capacity of each extension will be placed into the updrift (north) groin cell of any lengthened groin. Trapping capacity was determined by applying the Brunn (1952) rule to each extension and assuming a triangular fillet extending four times the length of the extension. This method was based on recent observations at Hunting Island, SC (Traynum et al 2010) and Folly Beach, SC and is considered conservative (requiring more sand) as it assumes a 1 to 1 ratio of groin lengthening to increased berm width. For the maximum 100 ft individual groin lengthening, ~15,500 cy of sand are required in each applicable cell to meet the trapping capacity of the extension. If all groins are lengthened the maximum distance provided in Sheet 04, the total trapping volume is ~221,000 cy.

Groins 29-32 presently consist of loose armor stone without grout or timber. This allows sand to pass through the structure and can result in slumping of the stone. The applicant intends to restack the

loose stone of these groins and add grout to make a monolithic structure. This will prevent future slumping of the loose stone and reduce the footprint of the groin. Loose rock around the edges of each structure will be consolidated into the body of the groin, and grout similar to the material present on groins 1-28 will be added in the void spaces to solidify the structure. The slope of the groin will be maintained at the natural slope of the beach in the area. Any increase in trapping capacity will be minimal (5-10 cy/ft); however, the applicant will add sand to the updrift cell to satisfy the increased trapping volume.

The effort is not intended to increase trapping capacity or lengthen any of the groins, but prevent future problems associated with continued slumping. It is also beneficial economically and environmentally to conduct these operations while work is being done on other groins. Restacking and grouting of groins 29-32 will only be conducted if sufficient funds are available.

### 33. OVERALL PROJECT PURPOSE AND THE BASIC PURPOSE OF EACH ACTIVITY IN OR AFFECTING U.S. WATERS

The purpose of the proposed project is for beach and dune restoration and preservation, including:

- Restoring a recreational beach
- Restoring protective dunes
- Extending longevity of nourishment sand and increasing the renourishment interval
- Protecting park infrastructure and maintaining revenues dependent on park attendance

The project will not involve federal funds.

#### History

Edisto Beach is a four-mile-long barrier island with an additional one mile of beach fronting St. Helena Sound. The island is situated between Jeremy Inlet and South Edisto River Inlet, but is also strongly influenced by the tidal deltas of North Edisto Inlet and St. Helena Sound. The two deltas define a littoral cell encompassing Botany Bay Island, Edingsville Beach, and Edisto Beach. There is a general divergence of sand transport away from the center of the littoral cell with sand shifting north toward Deveaux Bank and sand moving south from Edingsville Beach to Edisto Beach.

During the past century, depletion of the sand supply along Edingsville Beach and Botany Bay Island has left a low washer beach and exposed marsh at the seaward edge. The result is high erosion rates and insufficient downcoast movement of sand toward Edisto Beach. Edingsville Beach has been retreating at upward of 15 feet per year (ft/yr) (Stephen et al 1975; CSE 2003). Further, the sediments being supplied to Edisto Beach tend to have a high proportion of mud and shells derived from the eroding marsh deposits. By the 1950s, erosion near the Pavilion (Groin 1) on Edisto Beach reached upward of 10 ft/yr. The downcoast end of Edisto Beach at 'The Point' and along St. Helena Sound has generally remained accretional during the past century.

Erosion along Edisto Beach led to construction of the first groins in 1948 near the Pavilion. During the next decade, 17 groins were built from north to south in an attempt to halt the loss of sand, or at least to slow its southerly movement. However, erosion continued downcoast of the structures as each group of groins was built, sometimes to 'The Point' where houses were washed out (CSE 2001). This prompted construction of more groins up to 1975. Groin 34 (the last one built) is situated along the South Edisto River Inlet shoreline, about 3,000 ft from Big Bay Creek.

The sand-trapping capacity of individual groins impacts erosion rates along the beachfront. Gaps in deteriorating groins allow sand piping and leaking, which results in erosion within the groin cell and accretion downcoast. Conversely, when updrift groins are repaired and their trapping capacity is restored, downcoast areas may erode (unless repairs are accompanied by nourishment). Sand volumes around 'The Point' area (at the southern tip of Edisto Beach) are particularly influenced by the condition of groins along the oceanfront (Kana et al 2004).

In the mid 1950s, erosion near the Pavilion had progressed so far that groins alone were not sufficient to protect Palmetto Boulevard. The South Carolina Highway Department combined groin construction with the first nourishment of Edisto Beach in 1954 using sand, shells, and mud from the marsh behind

the island. Excavations created the "boat basin" and reclaimed nearly 1.2 miles of shoreline between groins 1 and 12. Although dredging volumes totaled 830,000 cy, much of the material was unsuitable for the beach, washing away quickly because it was too fine. The coarser sand and broken shells remained, adding to the accumulations of sediment derived from Edingsville Beach.

In April 1995, selected areas of Edisto Beach were nourished (a total of ~155,000 cy placed between groins 1 to 17 and groins 24 to 28), and groins were repaired (CSE 1996(a,b), 1997, 1999, 2001). The borrow area was located ~2,500 ft off 'The Point' at the southern tip of Edisto Beach and was characterized by coarse, beach-quality sand. By summer 2001 (six years after construction), roughly one-third of the nourishment volume was still present in the project area (CSE 2001). With erosion of the 1995 nourishment sand, Edisto's groins became more exposed and therefore effective for sand retention. Thus, less sand was available to downcoast areas, which was the case some years after the 1954 nourishment project as well. Between 2001 and 2006, erosion downcoast of the groin field accelerated (CSE 2006).

A 2006 beach restoration project was necessitated by increased erosion rates in downcoast areas, insufficient protection for beachfront properties, and insufficient beach width to support dune formation and recreational beach access. Whereas in 1995, a relatively small nourishment quantity was required to satisfy trapping of the groins after repairs, the 2006 project involved nourishment volumes that greatly exceeded the trapping capacity of the groins.

Engineered by CSE, the project was constructed between March and May of 2006 by Great Lakes Dredge & Dock Company (GLDD) of Oakbrook (IL). The length of the project area was 18,258 linear feet, including 3,200 linear feet in the state park area. Fill volumes varied along the beach with the goal of achieving a standard, minimum profile volume of at least 100 cy/ft (+9 ft to -7 ft NGVD'29) for the length of the project area. Average design fill volumes were 20-70 cy/ft. The greatest volumes were added to the park and updrift areas in anticipation of sand moving south.

The total volume of sand added during the 2006 restoration was 877,647 cy, of which 181,728 cy (20.7 percent) were placed along the park (north of Groin 1) and 695,919 cy (79.3 percent) were placed along the Town (between groins 1 and 27) (CSE 2006). The Town of Edisto Beach and South Carolina Department of Parks Recreation and Tourism sponsored the project with a combination of local, county, and state funds. Details of the restoration project and nourishment volumes are given in the 2006 project final report (CSE 2006).

#### Performance of the 2006 Nourishment Project

Edisto Beach lost between 39,000 cy and 212,000 cy annually between 2008 and 2011 (CSE 2014). It was much more stable from 2011 to 2013, losing a total of ~14,000 cy. Erosion increased from 2013-2014, with the beach losing ~67,500 cy (2.4 cy/ft) from September 2013 to August 2014. Since 2006, the project areas have lost ~449,000 cy while unnourished areas have gained ~133,300 cy. Overall, 67 percent of the volume placed in 2006 is accounted for in July 2014 with 49 percent of the nourishment volume still present within the project boundaries. In most areas, the project is performing well, containing 15-25 cy/ft more sand than was present in 2005; however, several cells lack

protective dunes and setbacks of houses are narrow. Project reaches presently retain between 32.7 and 60.4 percent of the nourishment volume.

The northern end of the project area (Upcoast 1 and Reach 1) has been the most erosional since 2006. Erosion has essentially eliminated the dry beach fronting most of the houses in Cells 1–5. Houses have no appreciable dune protection or dry berm. CSE (2012) found that groin lengths in this area compared to the location of houses are less than areas with long-term, stable vegetation and are not capable of holding sufficient sand to maintain a dune. It is likely that without groin lengthening, nourishment sand will erode rapidly from these cells, as was the case following the 2006 project. The remainder of the Town's oceanfront maintains a vegetative buffer in front of the houses but lacks sufficient dune volume for FEMA standards.

**Alternatives Considered** — Several detailed alternatives were evaluated by the USACE in the federal feasibility study including:

- Do nothing (the "Future Without Project Conditions section).
- Hard Structures (breakwaters, seawalls, groins).
- Soft Stabilization (dune and/or berm nourishment)
- Non-structural measures (retreat, relocation, demolition, elevating structures, etc).

The USACE analysis determined that a combination of nourishment and groin lengthening provided the greatest net benefits. The proposed project is consistent with the USACE plan, though modifies certain design elements (such as dune height, length of individual groins, and inclusion of the State Park) so that the project can be tuned to the applicant's anticipated budget. Due to the similarity between the plans, and that the applicant sponsored the USACE study, the applicant requests that the analysis of alternatives included in the USACE feasibility study be applied to this application and project.

## REFERENCES

- Bruun, P. 1952. Measures against erosion at groins and jetties. In Proceedings of the 3rd Conference on Coastal Engineering, ASCE, New York, NY
- CSE. 1996a (April). Edisto Beach 1995 beach nourishment project. Survey Report No 1 for Town of Edisto Beach, Edisto Island, SC. Coastal Science & Engineering Inc (CSE), Columbia, SC, 11 pp + appendices.
- CSE. 1996b (June). Edisto Beach 1995 beach nourishment project. Survey Report No 2 for Town of Edisto Beach, Edisto Island, SC. CSE, Columbia, SC, 15 pp + appendices.
- CSE. 1997 (September). Edisto Beach 1995 beach nourishment project. Survey Report No 3 for Town of Edisto Beach, Edisto Island, SC. CSE, Columbia, SC, 31 pp + appendices.
- CSE. 1999 (September). Edisto Beach 1995 beach nourishment project. Survey Report No 4 for Town of Edisto Beach, Edisto Island, SC. CSE, Columbia, SC, 33 pp + appendices (CSE 2006).
- CSE. 2001 (November). Edisto Beach 1995 beach nourishment project. Survey Report No. 5 to Town of Edisto Beach, SC. CSE, Columbia, SC, 49 pp + appendices (CSE 2006-1).
- CSE. 2003. Beach restoration plan, Edisto Beach, South Carolina. Draft Summary Report to Town of Edisto Beach, SC. CSE, Columbia, SC, 48 pp (CSE 2092).
- CSE. 2006. Beach restoration project, Edisto Beach, Colleton County, South Carolina. Final Report for Town of Edisto Beach, Edisto Island, SC; and SC Department of Parks Recreation & Tourism, Columbia, SC. CSE, Columbia, SC, 75 pp + 7 appendices.
- CSE. 2008.. Borings and sediment quality in potential offshore borrow areas, Phase 1 – Edisto Beach and Edingsville Beach (SO). Geotechnical data report for HDR Engineering Inc of the Carolinas, Charlotte, NC. CSE, Columbia, SC, 30 pp + appendices.
- CSE. 2013a. Assessment of the groin field and conceptual plan for groin lengthening. Report for Town of Edisto Beach, Edisto Island, SC. CSE, Columbia, SC, 51 pp + appendices.
- CSE. 2013b. Annual beach and inshore surveys – assessment of beach and groin conditions – 2006 beach restoration project, Edisto Beach, Colleton County, South Carolina. Survey Report 6 for Town of Edisto Beach, Edisto Island, SC. CSE, Columbia, SC, 81 pp + appendices.
- CSE. 2014. Annual beach and inshore surveys – assessment of beach and groin conditions – 2006 beach restoration project, Edisto Beach, Colleton County, South Carolina. Survey Report 7 for Town of Edisto Beach, Edisto Island, SC. CSE, Columbia, SC, 81 pp + appendices.
- Kana, TW, TE White, and PA McKee. 2004. Management and engineering guidelines for groin rehabilitation. Jour Coastal Research, Special Issue 33 (NC Kraus and KL Rankin, eds), pp 57-82.
- Stephen, MF, PJ Brown, DM FitzGerald, DK Hubbard, and MO Hayes. 1975. Beach erosion inventory of Charleston County, South Carolina: a preliminary report. South Carolina Sea Grant, Tech Rept No 4, prepared by the University of South Carolina, 79 pp.
- Traynum, SB, TW Kana, and DR Simms. 2010. Construction and performance of six template groins at Hunting Island, South Carolina. Shore & Beach, Vol 78(3), pp 21-32.
- USACE. 2014. Coastal storm damage reduction general investigation study: interim final integrated feasibility report and environmental assessment, Edisto Beach, Colleton County, South Carolina. Final Report, US Army Corps of Engineers, Charleston District, SC, 132 pp.
- USFWS. 2014. Biological opinion (93 pp). Appendix M in USACE (2014) Coastal storm damage reduction general investigation study: interim final integrated feasibility report and environmental assessment, Edisto Beach, Colleton County, South Carolina. Final Report, US Army Corps of Engineers, Charleston District, SC.

**34. TYPE AND QUANTITY OF MATERIALS TO BE DISCHARGED**

All excavations will involve beach-quality sand similar in texture to the native beach. Edisto Beach has a much higher shell content than typical beaches in South Carolina. The majority of the shell is less than 2 mm (shell hash) and is similar in nature to coarse sand, though large shells are abundant. The applicant intends to match the character of the native beach by placing sand containing similar coarse sand and shell hash as presently exists on the beach. The USACE borrow area is situated further offshore, and holds finer sand.

The excavation area is a high-energy ocean shoal on the northern side of the South Edisto River Inlet. The material is mostly medium to coarse sand and crushed shell with isolated lenses of fine-grained material and large shells. Sediment characteristics of borings obtained within the proposed borrow area are given in Table 1 and details were provided in Section 32 of this application. The applicant proposes to excavate sufficient sand to provide up to 835,000 cy of in-place nourishment. Excavation will be accomplished via hydraulic (cutterhead) dredge. It is estimated that no more than 2 percent by volume of the material is silt or mud (grains <0.0625 mm). Fine-grained material will be entrained in the slurry and dispersed at the beach pumping site. The applicant proposes a borrow area with a volume exceeding the nourishment requirement to allow the dredge to relocate if isolated pockets of poor material are encountered. This will ensure that only beach-quality material is placed on the beach. Based on an August 2014 survey, the borrow areas contain ~1.9 million cubic yards of material. Additional borings (yet to be collected) will allow the applicant to refine a borrow area more closely matching the expected nourishment volume. The final area will be submitted to agencies prior to construction.

**TABLE 1.** Composite mean grain size for cores in proposed borrow areas A and B (Sheet 01). The mean size is computed to a base dredging elevation of -19.5 ft NAVD. [\*weighted based on boring recovery length]

Core	Bottom Elevation (ft NAVD)	Mean Grain Size (mm)	% Shell	% Mud	% Coarser than 2mm
EB 1	-13.8	1.464	53.9	0.0	32.6
EB 2	-15.5	0.243	10.0	0.0	1.7
EB 3	-19.8	0.555	28.0	0.1	14.6
EB 4	-17.7	0.263	15.5	0.1	7.4
EB 19	-18.5	0.529	25.8	0.0	2.4
USACE 10	-23.9	1.059	44.1	0.4	17.2
USACE 11	-27.2	0.433	24.9	1.4	8.9
USACE 12	-21.6	0.406	17.8	3.1	11.5
USACE 18	-18.1	0.436	22.9	2.5	3.8
USACE 20	-22.7	0.450	24.5	1.8	15.1
<b>Borrow A Average*</b>		0.547	25.9	1.0	10.7
EB T-1	-14.7	0.648	40.1	0.0	13.4
Native Beach		0.487	24.8	trace	5.4

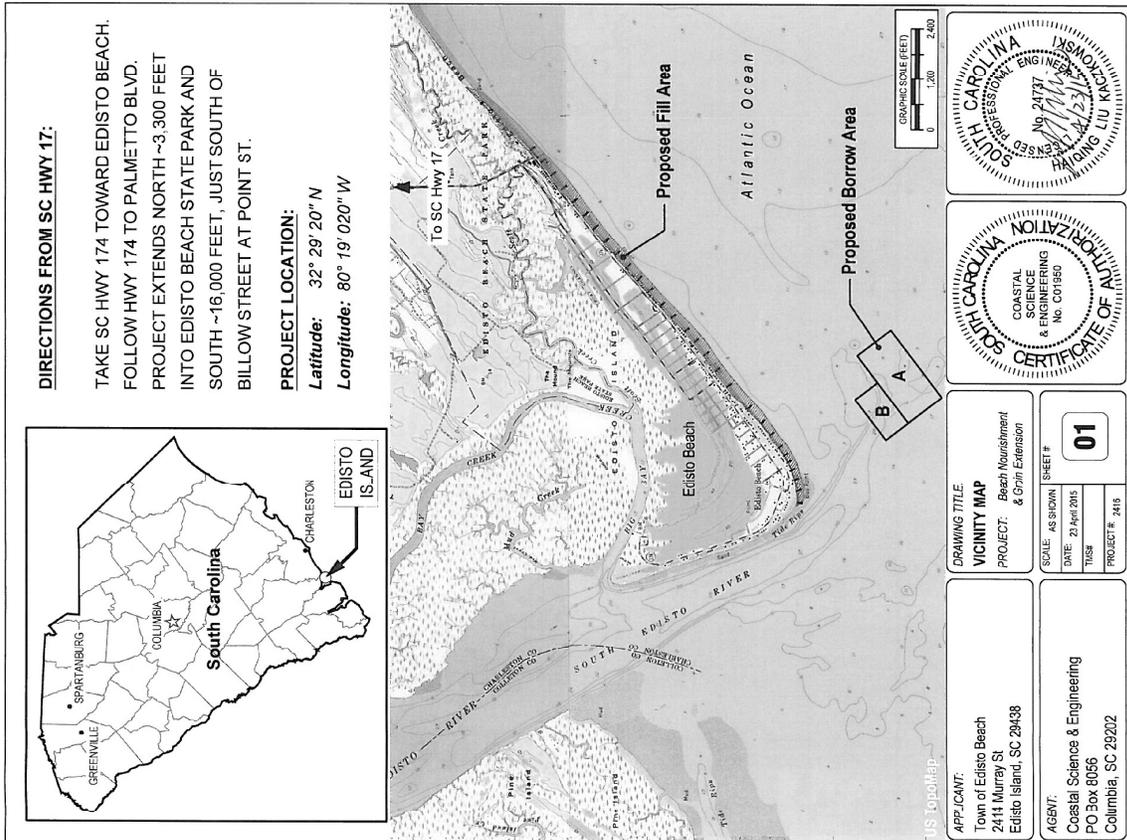
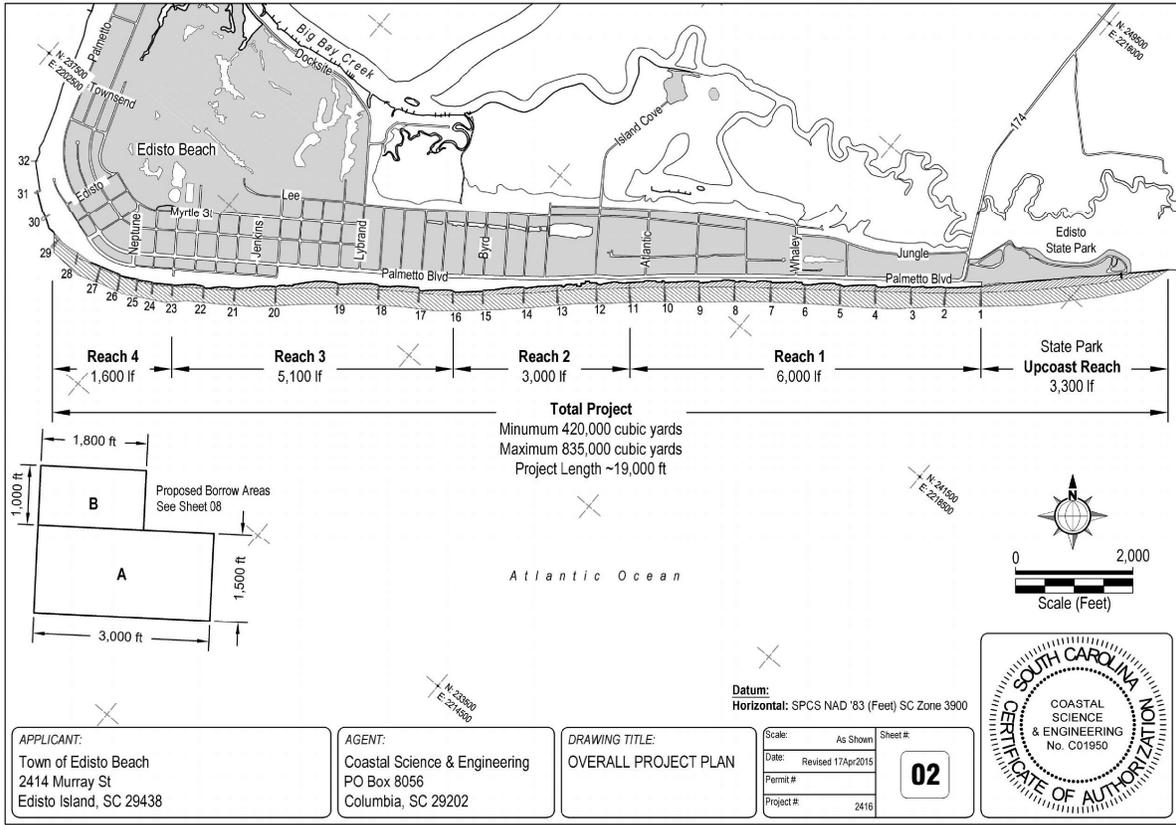
**40. MITIGATION**

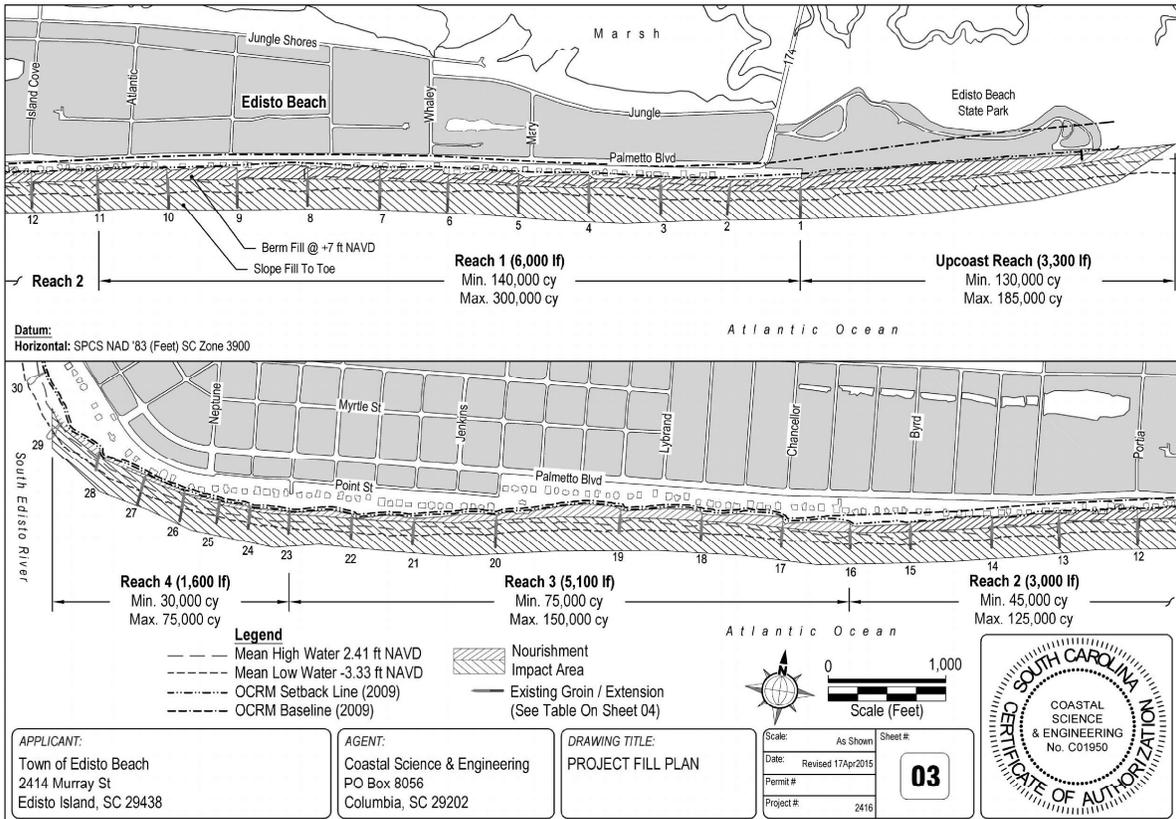
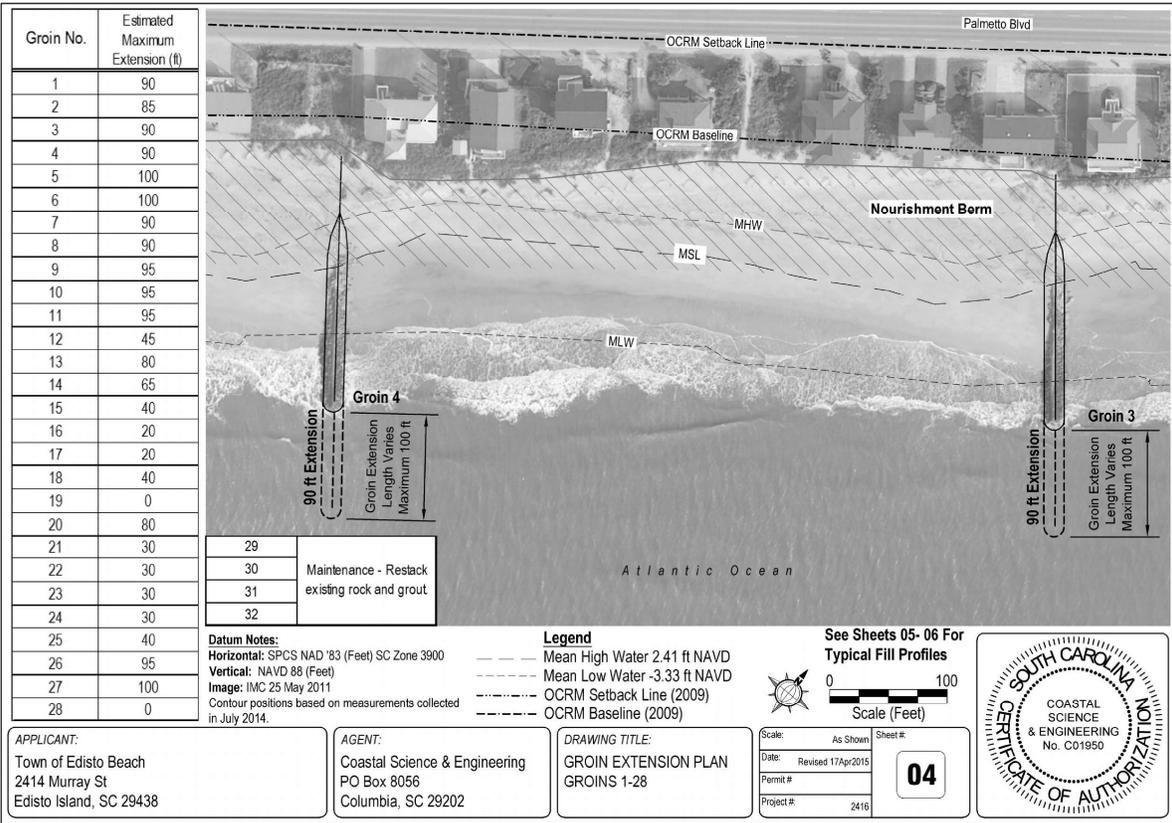
The proposed project is designed to restore and maintain a dry-sand beach and dune system along Edisto Beach. Benefits of the project include restored and expanded habitat for sea turtles and beach flora and fauna, protection of structures, improved aesthetics, and improved recreational opportunity. Impacts of beach nourishment projects are well understood and, when designed properly and the site allows, limited to temporary impacts to the immediate beach and borrow area. The applicant proposes that due to the restorative nature of the project, no mitigation should be required for the proposed project. The applicant actively monitors and improves the beach as opportunities arise, including improving beach access, installing sand fencing to facilitate natural dune building, and planting native vegetation to improve habitat and dune formation.

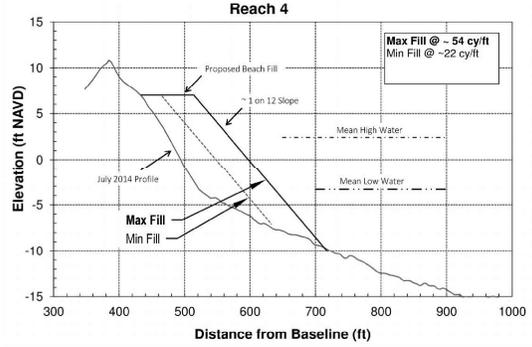
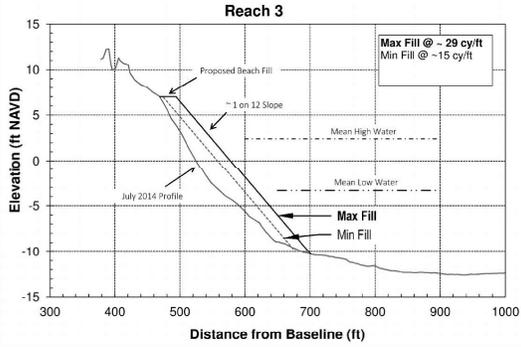
**Recommended Permit Conditions**

The applicant proposes to complete the monitoring efforts outlined in the USFWS Biological Opinion (modified by letter 14 March 2014). The monitoring includes:

- Construction window of 1 November – 30 April, unless an alternate window is recommended by resource agencies.
- Regular sediment quality monitoring during construction.
- Sea turtle monitoring during nesting season (1 May – 31 October).
- Beach compaction and escarpment monitoring.
- Minimizing construction impacts (lighting, equipment access and storage, etc).
- Lighting surveys.
- Post-construction beach profile monitoring and groin impact analysis.







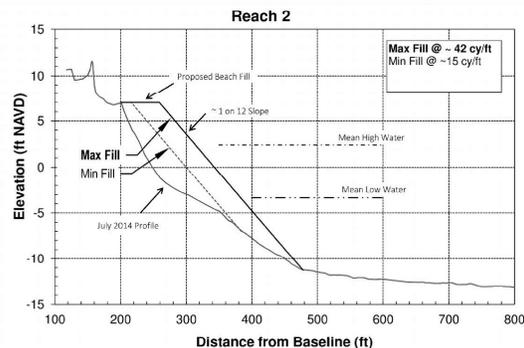
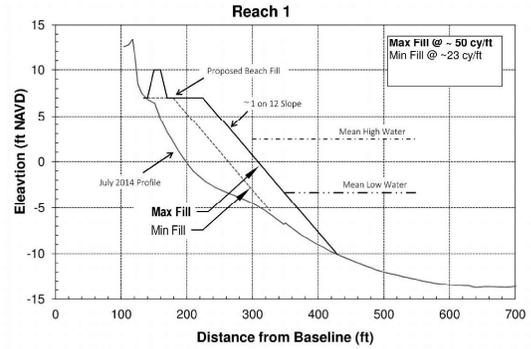
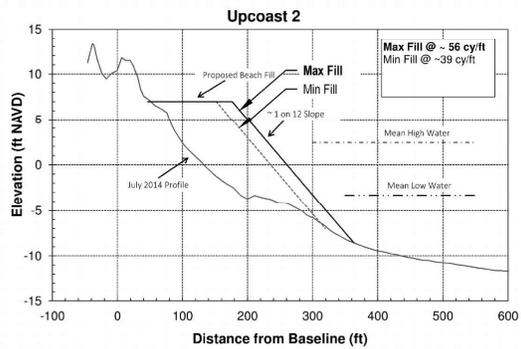
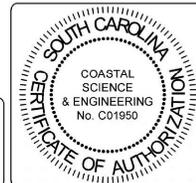
APPLICANT:  
Town of Edisto Beach  
2414 Murray St  
Edisto Island, SC 29438

AGENT:  
Coastal Science & Engineering  
PO Box 8056  
Columbia, SC 29202

DRAWING TITLE:  
TYPICAL FILL PROFILES  
REACH 3 - 4

Scale: As Shown Sheet #:  
Date: 23 April 2015  
Permit #:  
Project #: 2416

06



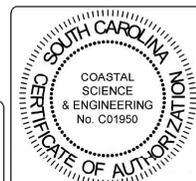
APPLICANT:  
Town of Edisto Beach  
2414 Murray St  
Edisto Island, SC 29438

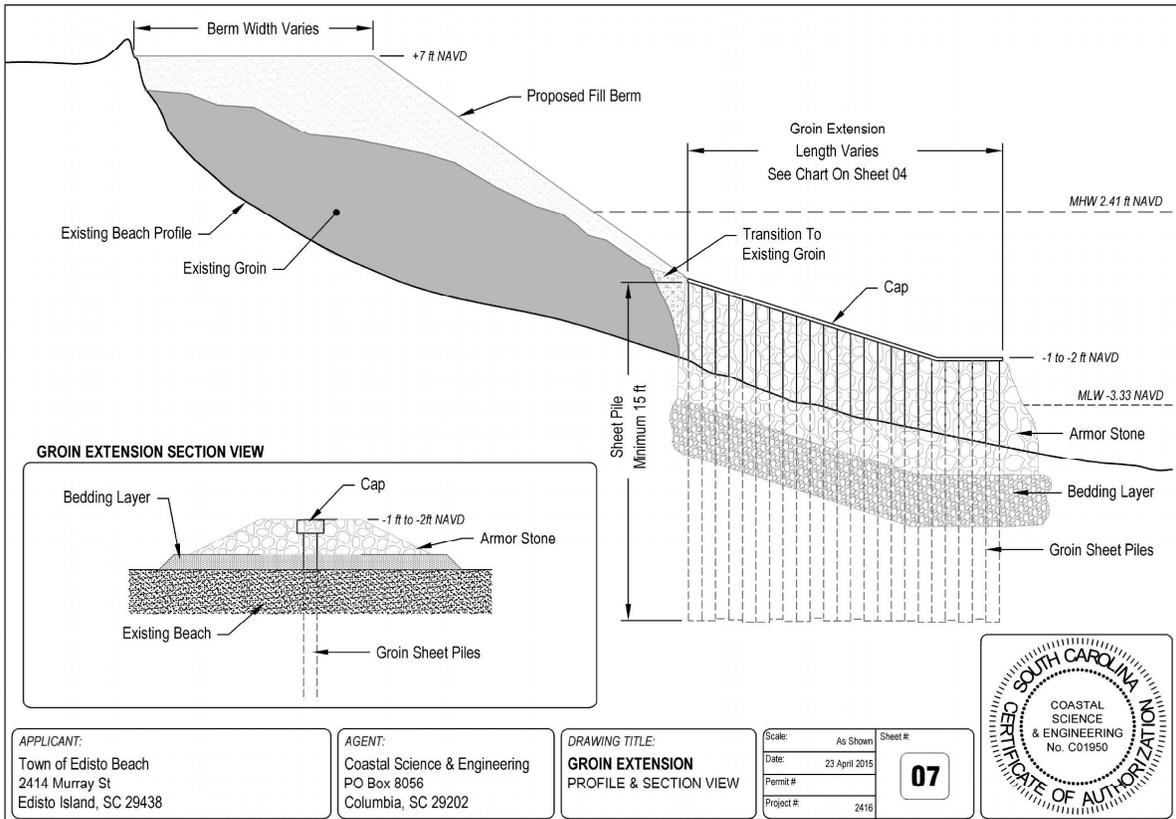
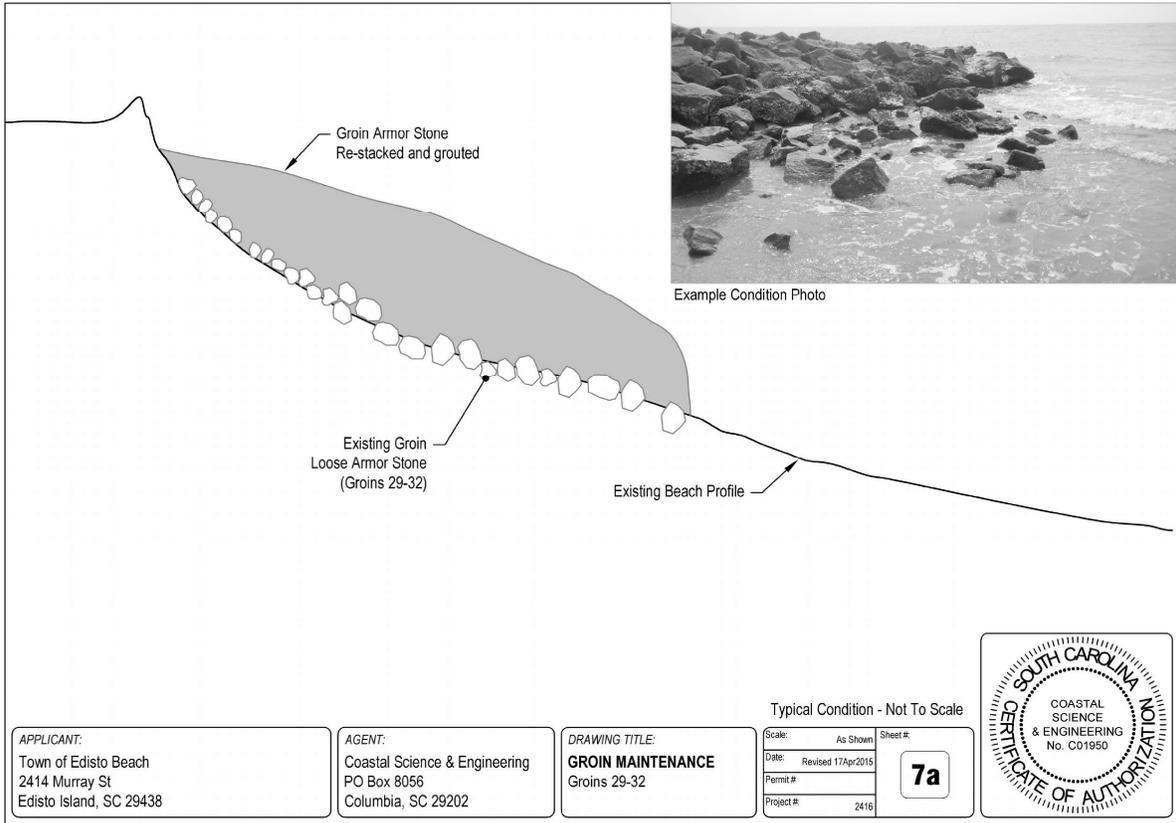
AGENT:  
Coastal Science & Engineering  
PO Box 8056  
Columbia, SC 29202

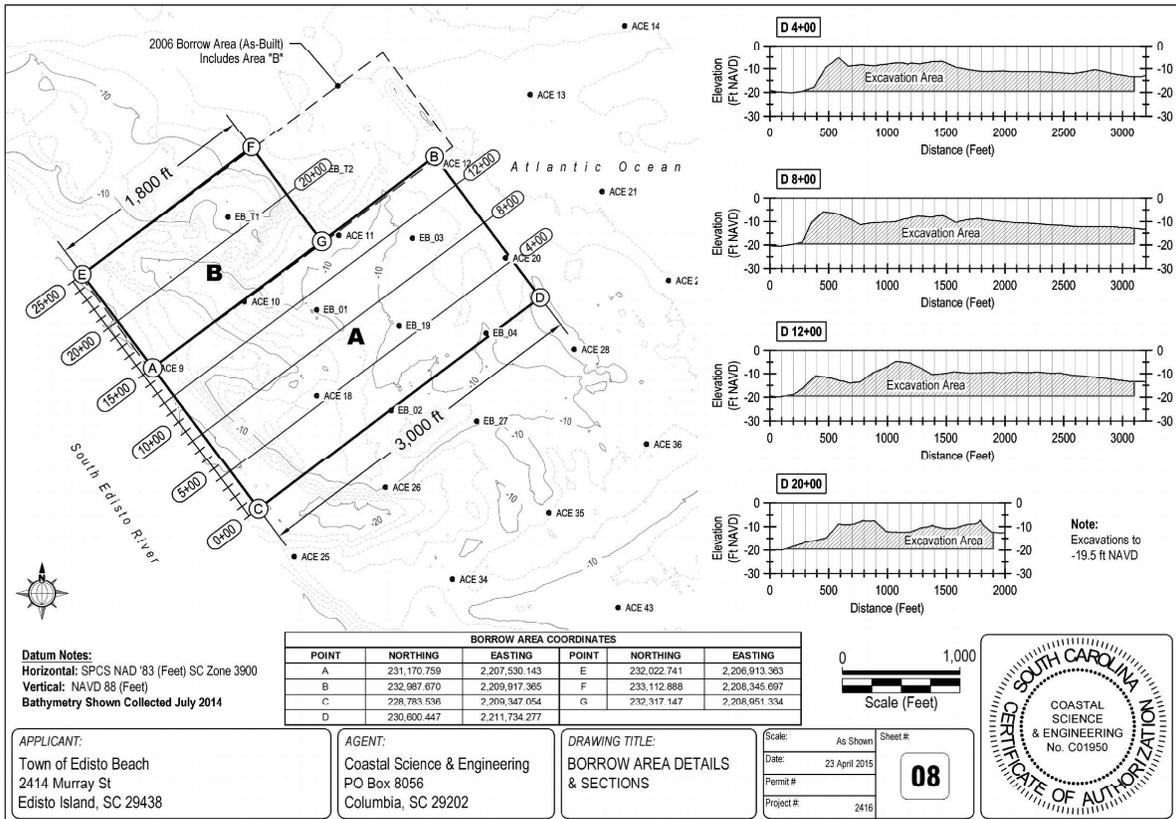
DRAWING TITLE:  
TYPICAL FILL PROFILES  
UPCOAST & REACH 1 - 2

Scale: As Shown Sheet #:  
Date: 23 April 2015  
Permit #:  
Project #: 2416

05







Datum Notes:  
 Horizontal: SPCS NAD '83 (Feet) SC Zone 3900  
 Vertical: NAVD 88 (Feet)  
 Bathymetry Shown Collected July 2014

BORROW AREA COORDINATES					
POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
A	231,170.759	2,207,530.143	E	232,022.741	2,206,913.363
B	232,987.670	2,209,917.365	F	233,112.888	2,208,345.697
C	228,783.536	2,209,347.054	G	232,317.147	2,208,951.334
D	230,600.447	2,211,734.277			



APPLICANT:  
 Town of Edisto Beach  
 2414 Murray St  
 Edisto Island, SC 29438

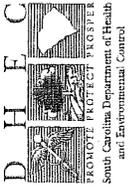
AGENT:  
 Coastal Science & Engineering  
 PO Box 8056  
 Columbia, SC 29202

DRAWING TITLE:  
 BORROW AREA DETAILS  
 & SECTIONS

Scale: As Shown Sheet #  
 Date: 23 April 2015  
 Permit #  
 Project #: 2416

08





**Request to Amend a Minor OCRM Critical Area Permit**

Name & Address: Town of Edisto Beach  
2414 Murray St  
Edisto Beach, SC 29438

Phone Number: 843-869-2505

Permit Number: 2015-00528

**Please write a detailed description of the changes that you would like to make:**  
The applicant proposes to increase the total nourishment volume to 1,000,000 cy and to make available the remainder of the 2006 borrow area for the present project. The total borrow area boundary would increase by 30 acres; however, the contractor will be restricted to only using a maximum of 145 acres as provided in the original permit.

**Current Adjacent Property Owners (Must include current addresses):**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please reference the original APO list included in the permit application.

Please attach professional drawings\*\* depicting your changes, the affidavit of publication and the \$100.00 amendment fee. (\*\*Note: As of July 22, 2006, all permit and amendment requests must be accompanied by drawings produced by Registered Land Surveyors, Professional Engineers or Landscape Architects, all of which must be licensed with the State of South Carolina. Each drawing must be stamped and signed by the licensed professional and must include their license or registration number as well as all required measurements and dimensions. Hand drawings will not be accepted; all drawings must be computer generated. Drawings prepared by marinas contractors will no longer be accepted.)

Please submit this request to:

Charleston Office: SCDHEC-OCRM  
1362 McMillan Ave, Suite 400  
Charleston, SC 29405

Beaufort Office: SCDHEC-OCRM  
104 Parker Drive  
Beaufort, SC 29906

Myrtle Beach Office: SCDHEC-OCRM  
927 Shine Ave  
Myrtle Beach, SC 29577

DHEC 3897 (3/2007)



PO BOX 8056 COLUMBIA SC 29202 • TEL 803-799-8949 • FAX 803-799-9481 • www.coastalscience.com

COASTAL SCIENCE & ENGINEERING

Chelsea Bowman, Project Manager, USACE  
Fred Mallett, SCDHEC-OCRM  
RE: Permit Modification Request —P/N 2015-0528-1C

October 31, 2016  
Page 2 of 2  
[CSE 2416]

October 31, 2016

Chelsea Bowman, Regulatory Division  
USACE, Charleston District  
69A Hagood Avenue  
Charleston, SC 29403-5107

Fred Mallett  
OCRM  
1362 McMillan Avenue (400)  
Charleston, SC 29405

RE: Edisto Beach Nourishment and Groin Extension Project [CSE 2416]  
**Permit Modification Request—P/N 2015-0528-1C**

Dear Ms. Bowman and Mr. Mallett:

The Town of Edisto Beach requests a modification to P/N 2015-0528-1C following impacts to the beach occurring from Hurricane *Matthew*. The storm impacted the beach from 7 to 8 October 2016, causing extensive damage to the beach and oceanfront structures. Sand overwashed Palmetto Boulevard between the 100 and 1000 blocks, along most of the Town's public beach access points, and into yards along Point Street. One oceanfront house collapsed in the 100 block, and many other houses sustained substantial damage to understorey and parking areas. Damage also occurred to other parts of the island, including washout of a portion of Jungle Shores Road, as well as flooding throughout the island. Following the storm, the National Guard was deployed to the Town to assist in cleanup and recovery efforts. Residents of the island were allowed only limited access through 14 October.

At the time of the storm, the Town was preparing to implement the permitted project. Bids for the project were due on 11 October, but had to be postponed. Preliminary surveys show that the storm resulted in loss of ~155,000 cubic yards (cy) of sand from the beach and altered the shape of the beach profile, including eliminating dune and shifting the position of the berm crest. Post-storm emergency sand scraping and removal of sand from the road is continuing to alter the beach profile in many areas. As a result of these changes, the project plans need to be updated to reflect the new conditions. The necessity to redesign the project and the delays in implementing the project require that the Town request a modification to the permit. Details for each modification requested are outlined below.

- 1) The Applicant requests that groin construction work may extend into turtle nesting season. Work during nesting season would be limited to the immediate site around each groin being constructed. The Applicant anticipates that construction may be occurring at 2–3 groins at any given time. Lights used for construction activities would be directed seaward, and all areas of activity would be monitored for turtle activity throughout the night, including haul

routes from stockpile areas and beach access points. All Terms and Conditions and Reasonable and Prudent Measures provided in the USFWS BO would be implemented for any work occurring between 1 May and 31 October.

- 2) The Applicant requests that Borrow Area B be extended to the northeast to encompass more of the area dredged in 2006. This area has filled substantially since 2014, and recent borings indicate that the sediment is clean, beach compatible sand of similar nature as the remainder of Borrow Area B. By including this area (Revised Sheet 08), less area would be needed in the previously undredged Borrow Area A. The applicant proposes to limit the total dredge area to the same area presently permitted (~145 acres). The contractor and project engineer would monitor the fill as construction progresses and utilize the portions of the defined borrow areas with the best material.
- 3) The applicant requests that the total permitted beach fill volume be increased from 835,000 cy to 1.1 million cubic yards (Revised Sheet 02). This increase would allow replacement of sand lost during Hurricane *Joaquin* (October 2015) and Hurricane *Matthew* (October 2016). The Town is coordinating with FEMA for federal reimbursement for sand volume lost from the 2006 project area due to the declared disasters. The distribution of the additional sand would generally follow the distribution of the fill in the original permit. The most economical and least impactful method for restoring the eroded sand is via additional nourishment sand during the planned renourishment. Alternatively, the Town would have to bring in sand from an upland source, which is typically lesser quality and more expensive to move. At the present time, it is uncertain whether the Town would have enough funds to place the full 1.1 million cubic yards under the available budget; however, the request is included should additional funds exist prior to project completion.

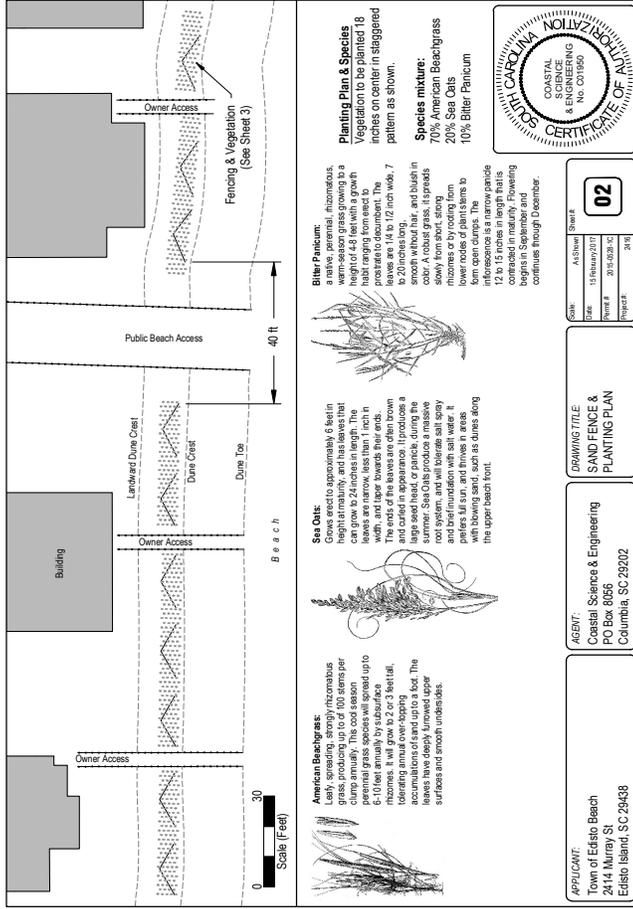
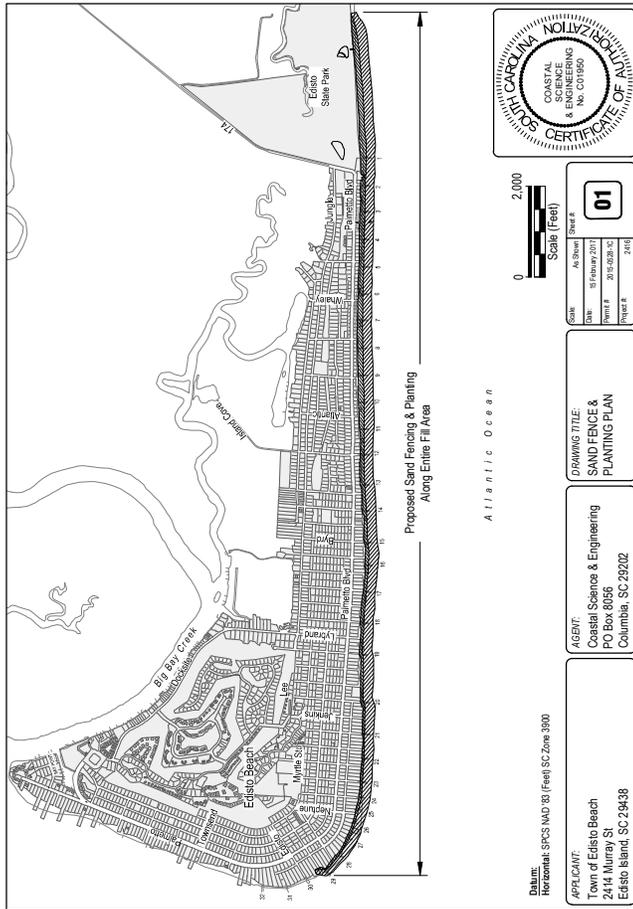
We appreciate the consideration from SCDHEC-OCRM and the USACE for these requested modifications following Hurricane *Matthew*. The Town would appreciate as quick a review of this request as possible as the project is presently out for bid. The applicant has already spoken with USFWS (Tom McCoy) and SCDNR (Susan Davis) about the proposed modifications, and they indicated no additional concerns provided the terms and conditions of the BO are incorporated into any work occurring after 1 May. Please let me know if you have any questions or need further information.

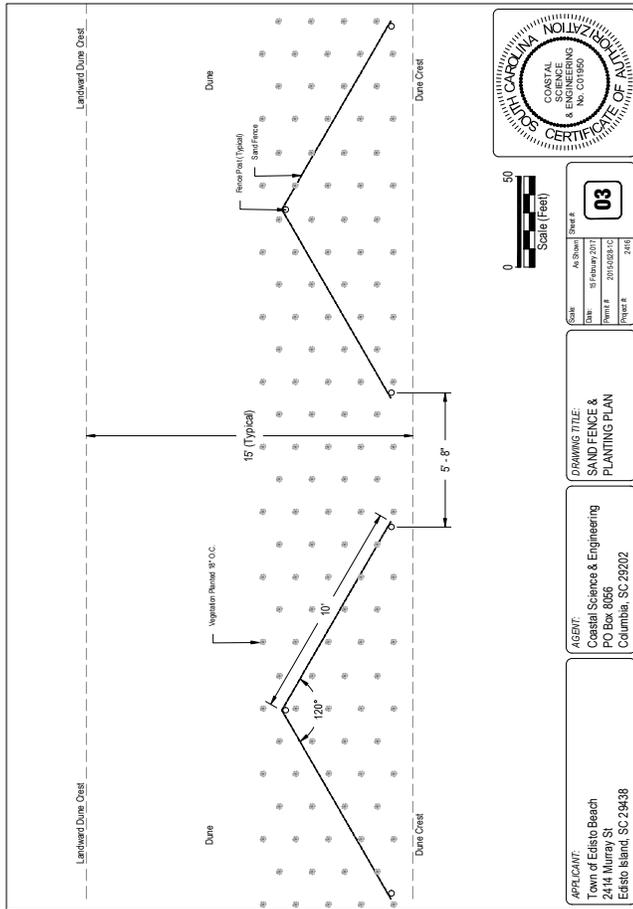
Sincerely,

Coastal Science & Engineering (CSE)

Steven B. Traynum  
Project Manager

Enclosures: Revised Sheets 02 and 08





Scale: As Shown  
 Date: 01 February 2017  
 Form #: 20150284.1C  
 Page #: 2 of 2

**DRAWING TITLE:**  
 SAND FENCE &  
 PLANTING PLAN

**AGENT:**  
 Coastal Science & Engineering  
 PO Box 8666  
 Columbia, SC 29202

**APPLICANT:**  
 Town of Edisto Beach  
 2414 Murray St  
 Edisto Island, SC 29438

03



C O A S T A L S C I E N C E & E N G I N E E R I N G  
PO BOX 8056 COLUMBIA SC 29202 • TEL 803-799-8949 • FAX 803-799-9481 • www.coastalscience.com

February 17, 2017

Chelsea Bowman  
Regulatory Division  
USACE, Charleston District  
69A Hagood Avenue  
Charleston SC 29403-5107

Fred Mallett  
OCRM  
1362 McMillan Avenue (400)  
Charleston SC 29405

RE: Edisto Beach Nourishment and Groin Extension Project [CSE 2416]  
Permit Modification Request—P/N 2015-0528-1C

Dear Ms. Bowman and Mr. Mallett:

The Town of Edisto Beach requests a modification to P/N 2015-0528-1C to allow for installation of sand fencing and planting of native vegetation along the ~19,000-foot (ft) project area following nourishment. The proposed sand fencing will be constructed and installed according to the SC-DHEC OCRM general permit presently on public notice.

The fencing will include “v-shaped” chevrons spaced a minimum of 5 ft apart using standard 4-ft-high snow fence. Each side of the chevron will be no longer than 10 ft, and the interior angle will be 120 degrees. The fencing will be installed toward the seaward side of the crest of the constructed dune to promote growth in dune elevation. Where a dune existed prior to the nourishment, sand fencing will be placed near the toe of the existing dune. In areas lacking any natural dune, the line will be oriented to promote growth of a natural dune line in a logical, generally straight, path seaward of oceanfront houses. Drawings showing the proposed fence design are included in this request.

Vegetation will include a mix of native beach species including 10 percent bitter panicum, 20 percent sea oats, and 70 percent American beachgrass. Plants will be spaced 18 inches apart in a staggered pattern. The applicant will fertilize the plants during installation and periodically following installation according to suppliers’ recommendations.



Chelsea Bowman, Project Manager, USACE  
Fred Mallett, SC-DHEC-OCRM  
RE: Permit Modification Request—P/N 2015-0528-1C

February 17, 2017  
[CSE 2416]  
Page 2 of 2

Gaps will be left in the fencing and/or vegetation at private and public access points. At private access points (seaward of porch accesses for residential units), gaps will be less than 10 ft. At public accesses, gaps will be a minimum of 40 ft. This will promote use of the access paths and discourage beachgoers from trampling between the vegetated dune fence sections.

Sincerely,

Coastal Science & Engineering (CSE)

Steven B. Traynum  
Project Manager

Enclosures: Sand Fencing Drawings



Catherine E. Heigel, Director  
*Promoting and protecting the health of the public and the environment*

May 26, 2016

Town of Edisto Beach  
C/O Ms. Iris Hill  
2414 Murray Street  
Edisto Beach, SC 29438

**SEE SPECIAL  
CONDITION(S)**

Re: 2015-00528  
Town of Edisto Beach

Dear Ms. Hill:

The SCDHEC Office of Ocean and Coastal Resource Management has reviewed your application for beach re-nourishment and groin lengthening from the North end of the Edisto Beach State Park Campground, to Edisto Street near the South Edisto River Inlet, Edisto Beach, Colleton County, South Carolina and has issued a permit for this work. You should carefully read the description of the authorized project and special conditions that have been placed on the permit, as these conditions may modify the permitted activity. In addition, there are a series of general conditions that should be reviewed. The original and one photocopy of the permit, as issued, are enclosed. After carefully reading the permit, if you wish to accept the permit as issued, sign and date in the signature block entitled "PERMITTEE" on the original version of the permit and return it to this Department. Keep the photocopy for your records.

**PLEASE READ CAREFULLY:** You are required to sign and return the original version of your permit to this Department. If this permit is not signed and returned within thirty (30) days of issuance, OR appealed within 15 days as described on the enclosed "Guide to Board Review", the Department reserves the right to cancel this permit. Please carefully review the enclosed "Guide to Board Review" for information and deadlines for appealing this permit.

We have also enclosed a "request for a construction placard" card. You must send in this card before the time you wish to start construction. At that time a construction placard will be sent to you to post at the construction site.

**PLEASE NOTE:** You are not authorized to commence work under the permit until we have received the original version of the entire permit signed and accepted by you, and a construction placard has been issued and posted at the construction site. The receipt of this permit does not relieve you of the responsibility of acquiring any other federal or local permits that may be required. Please return the signed permit to the following address:

DHEC-OCRM  
1362 McMillan Ave, Suite 400  
Charleston, SC 29405

Sincerely,

Fred Mallett  
Wetland Section Project Manager

Enclosure

cc: Mr. Blair Williams, Wetland Section Manager  
Ms. Chelsea Bowman, Army Corps Of Engineers  
Mr. Steven Traynum, Agent

**SEE SPECIAL  
CONDITION(S)**

**South Carolina Board of Health and Environmental Control**  
**Guide to Board Review**  
**Pursuant to S.C. Code Ann. § 44-1-60**

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee, and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of \$100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation or settlement discussions during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference. In matters pertaining to decisions under the South Carolina Mining Act, appeals should be made to the South Carolina Mining Council.

**I. Filing of Request for Final Review**

1. A written Request for Final Review (RFR) and the required filing fee of one hundred dollars (\$100) must be received by Clerk of the Board within fifteen (15) calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15<sup>th</sup> day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
2. RFRs shall be in writing and should include, at a minimum, the following information:
  - The grounds for amending, modifying, or rescinding the staff decision;
  - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
  - the relief requested; and
  - a copy of the decision for which review is requested.
3. RFRs should be filed in person or by mail at the following address:

South Carolina Board of Health and Environmental Control  
Attention: Clerk of the Board  
2600 Bull Street  
Columbia, South Carolina 29201

Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhce.sc.gov).

4. The filing fee may be paid by cash, check or credit card and must be received by the 15<sup>th</sup> day.
5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor. All personal and financial identifying information will be redacted from the RFR and accompanying documentation before the RFR is released to the Board, Department staff or the public.
7. If an RFR pertains to an emergency order, the Clerk will, upon receipt, immediately provide a copy of the RFR to all Board members. The Chairman, or in his or her absence, the Vice-Chairman shall based on the circumstances, decide whether to refer the RFR to the RFR Committee for expedited review or to decline in writing to schedule a Final Review Conference. If the Chairman or Vice-Chairman determines review by the RFR Committee is appropriate, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response and RFR Committee review will be provided on an expedited schedule defined by the Chairman or Vice-Chairman.
8. The Clerk will email the RFR to staff and Office of General Counsel and request a Department Response within eight (8) working days. Upon receipt of the Department Response, the Clerk will forward the RFR and Department Response to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within a twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will

respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. Contested case guidance will be included within the letter.

*NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.*

9. If the RFR is to be considered by the RFR Committee, the Clerk will notify the Presiding Member of the RFR Committee and the Chairman that further review is requested by the Board. RFR Committee meetings are open to the public and will be public noticed at least 24 hours in advance.

10. Following RFR Committee or Board consideration of the RFR, if it is determined no Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Conference. Contested case guidance will be included within the letter.

**II. Final Review Conference Scheduling**

1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee or licensee, if not the Requestor, informing the Requestor of the determination.
2. The Clerk will request Department staff provide the Administrative Record.
3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publicly noticed and should:
  - include the place, date and time of the Conference;
  - state the presentation times allowed in the Conference;
  - state evidence may be presented at the Conference;
  - if the conferences will be held by committee, include a copy of the Chairman's order appointing the committee; and
  - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

**III. Final Review Conference and Decision**

1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
  - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes];
  - Parties
  - Description of facility/site
  - Applicable statutes and regulations
  - Decision and materials relied upon in the administrative record to support the staff decision.
  - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying or rescinding the staff decision. [15 minutes] *NOTE: The burden of proof is on the Requestor(s)*
  - Rebuttal by Department staff [15 minutes]
  - Rebuttal by Requestor(s) [10 minutes]

Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.
2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
3. At any time during the conference, the officers conducting the Conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the Conference.
4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
5. All Conferences are open to the public.
6. The officers may deliberate in closed session.
7. The officers may announce the decision at the conclusion of the Conference or it may be reserved for consideration.
8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court or in matters pertaining to decisions under the South Carolina Mining Act, to request a hearing before the South Carolina Mining Council. The FAD will be sent by certified mail, return receipt requested. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.
9. **The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.**

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL  
CONTROL  
OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT

CRITICAL AREA PERMIT & COASTAL ZONE CONSISTENCY CERTIFICATION

Permittee(s): Town of Edisto Beach

Permit Number(s): 2015-00528

Date of Issuance: May 26, 2016

Expiration Date: May 26, 2021

Location: On and adjacent to the Atlantic Ocean from the North end of the Edisto Beach State Park Campground, to Edisto Street near the South Edisto River Inlet, Edisto Beach, Colleton County, South Carolina

This permit is issued under the provisions of S. C. Code Ann. Section 48-39-10, *et seq.*, and 23A S.C. Code Ann. Regs. 30-1 through 30-18 (Supp. 2005). Please carefully read the project description and special conditions that appear on this permit/certification as they will affect the work that is allowed and may modify the work from that shown on the submitted plans. All special conditions attached to the permit will take precedent over submitted plans. The general conditions are also a part of this permit/certification and should be read in their entirety. The S. C. Contractor's Licensing Act of 1999, enacted as S.C. Code Ann. Section 40-11-5 through 430, requires that all construction with a total cost of \$5,000 or more be performed by a licensed contractor with a valid contractor's license for marine class construction, except for construction performed by a private landowner for strictly private purposes. Your signature on and acceptance of this permit denotes your understanding of the stated law regarding use of licensed contractors. All listed special and general conditions will remain in effect for the life of the permit. This applies to permittee, future property owners, or permit assignees.

DESCRIPTION OF THE PROJECT, AS PERMITTED

This permit has been issued for the structures as requested. Specifically, the permittee will place 835,000 cubic yards of beach quality sediment, via hydraulic dredge, along the ocean facing shoreline and will lengthen up to 26 groins to a cumulative total of 1,765'. The length of each groin extension varies but is a maximum of 100'. The overall project length is 19,000'. The exact volume of nourishment sand will depend on the final groin lengthening plan available within the Town's budget at the time of construction. The applicant will borrow sand

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from the northern shoal of the South Edisto River Inlet. The work as described is for beach and dune restoration and preservation.

SEE SPECIAL  
CONDITION(S)

SPECIAL CONDITIONS

1. No work may be done during turtle nesting season, from May 1 through October 31.
2. The groin restoration work must be performed in conjunction with beach re-nourishment of the same area, as authorized by OCRM permit P/N 2015-00528.
3. Access along the beach from one groin compartment to another must be maintained or improved.
4. The shoreline must be monitored for erosion, beginning immediately before construction starts and continuing for five years after construction ends. Monitoring will consist of beach profiles, to extend to a depth of -5 ft. NGVD. Monitoring will be done twice per year, during neap tides. Monitoring stations will be located near the center of each groin cell, with two additional stations at either end of the project. High resolution aerial photographs will also be taken annually covering the entire project area. Monitoring reports that summarize the data must be provided to OCRM annually. If monitoring indicates any adverse impacts from the groin construction, remedial steps to include the redesign and reconfiguration of the groins must be taken.
5. Construction logs must be maintained which document all groin repair and re-nourishment work. These logs must be made available to OCRM within three months of project completion.
6. If construction is started, then all work authorized by this permit must be completed. A permit amendment is required for any deviation from these plans. A reduction in scope is permitted but only if it is applied uniformly to the whole project (i.e. any reduction in grouting of the groins must be applied equally to each groin and any reduction in re-nourishment must be applied equally to each groin cell.)
7. The Reasonable and Prudent Measures and Terms and Conditions in the U.S. Fish and Wildlife Service's Biological Opinion dated January 21, 2016 must be followed. See Attachment A.
8. Only clean sand, free from all potential sources of pollution must be used for beach re-nourishment.
9. Sand used must consist of appropriate grain sizes to be compatible for beach re-nourishment.

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**SEE SPECIAL  
CONDITION(S)**

10. The re-nourished beach should be monitored for compaction following re-nourishment and when necessary, appropriate measures such as tilling should be implemented.

11. All necessary measures must be taken to prevent oil, tar, trash, debris, and other pollutants from entering the adjacent waters or wetlands during construction.

12. Sufficient nourishment volume must be placed in each upcoast groin cell to exceed the trapping capacity of any lengthened groin.

13. The groins may only be lengthened to the maximum distance specified in either the USACE National Economic Development lengthening plan, or the Coastal Science and Engineering Scenario 1 lengthening plan.

14. In the event that any historic or cultural resources and/or archaeological materials are found during the course of work, the applicant must notify the State Historic Preservation Office and the South Carolina Institute of Archaeology and Anthropology. Historic or cultural resources consist of those sites listed in the National Register of Historic Places and those sites that are eligible for the National Register. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials.

PERMITTEE'S ATTENTION IS DIRECTED TO GENERAL CONDITIONS NUMBERS FOUR (4) AND FIVE (5). BY ACCEPTANCE OF THIS PERMIT, PERMITTEE IS PLACED ON NOTICE THAT THE STATE OF SOUTH CAROLINA, BY ISSUING THIS PERMIT, DOES NOT WAIVE ITS RIGHTS TO REQUIRE PAYMENT OF A REASONABLE FEE FOR USE OF STATE LANDS AT A FUTURE DATE IF SO DIRECTED BY STATUTE.

THE PERMITTEE, BY ACCEPTANCE OF THIS PERMIT AGREES TO ABIDE BY THE TERMS AND CONDITIONS CONTAINED HEREIN AND TO PERFORM THE WORK IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATIONS ATTACHED HERETO AND MADE A PART HEREOF. ANY DEVIATION FROM THESE CONDITIONS, TERMS, PLANS AND SPECIFICATIONS SHALL BE GROUNDS FOR REVOCATION, SUSPENSION OR MODIFICATION OF THIS PERMIT AND THE INSTITUTION OF SUCH LEGAL PROCEEDINGS AS THE DEPARTMENT MAY CONSIDER APPROPRIATE.

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**SEE SPECIAL  
CONDITION(S)**

Permit Number: 2015-00528

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Iris Hill

6/2/16

(DATE)

(PERMITTEE(S))

Town of Edisto Beach  
C/O Iris Hill

This permit becomes effective when the State official, designated to act for the Office of Ocean and Coastal Resource Management, has signed below.

Fred Mallett

Mar 26, 2016

(WETLAND SECTION PROJECT MANAGER) (DATE)

Fred Mallett  
Or Other Authorized State Official

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**SEE SPECIAL  
GENERAL CONDITION(S)**

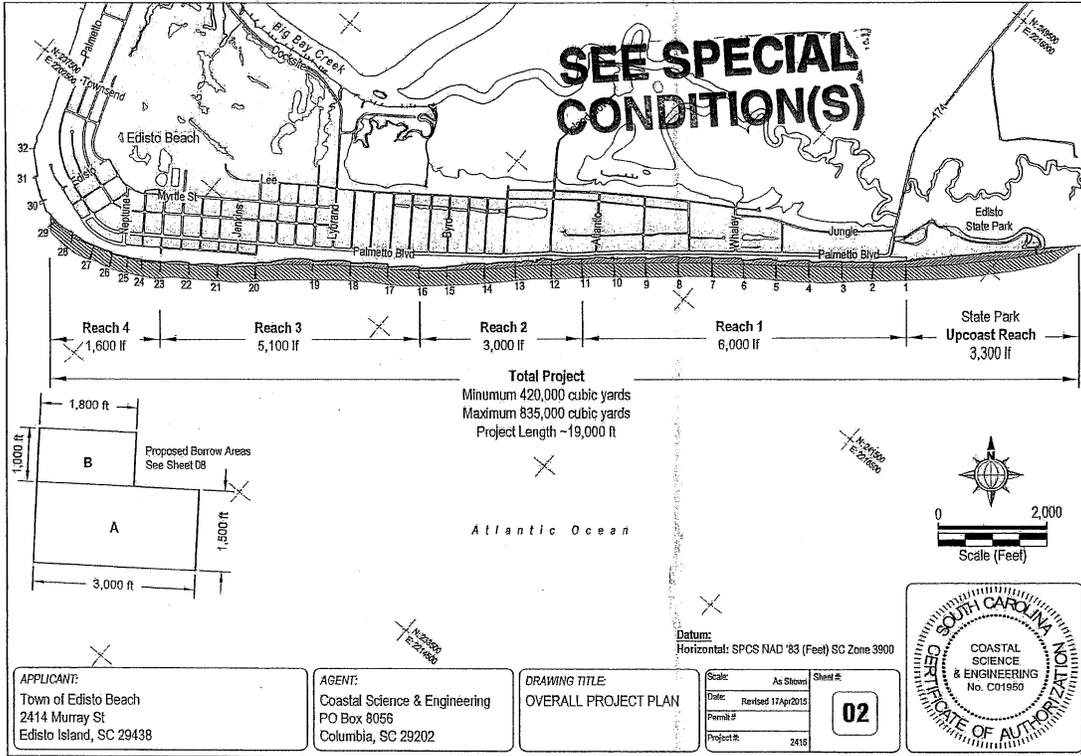
This construction and use permit is expressly contingent upon the following conditions which are binding on the permittee:

1. The permittee, in accepting this permit, covenants and agrees to comply with and abide by the provisions and conditions herein and assumes all responsibility and liability and agrees to save OCRM and the State of South Carolina, its employees or representatives, harmless from all claims of damage arising out of operations conducted pursuant to this permit.
2. If the activity authorized herein is not constructed or completed within five years of the date of issuance, this permit shall automatically expire. A request, in writing, for an extension of time shall be made not less than thirty days prior to the expiration date.
3. All authorized work shall be conducted in a manner that minimizes any adverse impact on fish, wildlife and water quality.
4. This permit does not relieve the permittee from the requirements of obtaining a permit from the U. S. Army Corps of Engineers or any other applicable federal agency, nor from the necessity of complying with all applicable local laws, ordinances, and zoning regulations. This permit is granted subject to the rights of the State of South Carolina in the navigable waters and shall be subject, further, to all rights held by the State of South Carolina under the public trust doctrine as well as any other right the State may have in the waters and submerged lands of the coast.
5. This permit does not convey, expressly or impliedly, any property rights in real estate or material nor any exclusive privileges; nor does it authorize the permittee to alienate, diminish, infringe upon or otherwise restrict the property rights of any other person or the public; nor shall this permit be interpreted as appropriating public properties for private use.
6. The permittee shall permit OCRM or its authorized agents or representatives to make periodic inspections at any time deemed necessary in order to ensure that the activity being performed is in accordance with the terms and conditions of this permit.
7. Any abandonment of the permitted activity will require restoration of the area to a satisfactory condition as determined by OCRM.
8. This permit may not be transferred to a third party without prior written notice to OCRM, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferee subscribing to this permit and thereby agreeing to comply.
9. If the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and special signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.
10. The permit construction placard or a copy of the placard shall be posted in a conspicuous place at the project site during the entire period of work.
11. The structure or work authorized herein shall be in accordance with the permit, as issued, and shall be maintained in good condition. Failure to build in accordance with the permit, as issued, or failure to maintain the structure in good condition, shall result in the revocation of this permit.
12. The authorization for activities or structures herein constitutes a revocable license. OCRM may require the permittee to modify activities or remove structures authorized herein if it is determined by OCRM that such activity or structures violates the public's health, safety, or

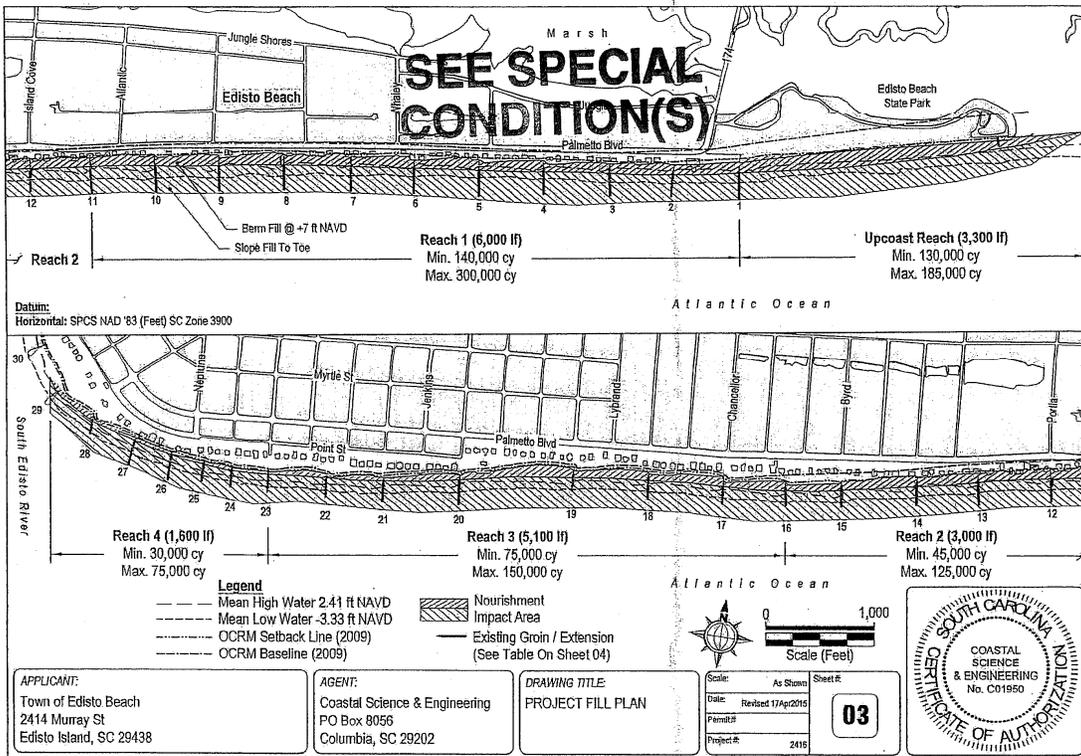
**SEE SPECIAL  
CONDITION(S)**

welfare, or if any activity is inconsistent with the public trust doctrine, the permittee shall be removed under this condition shall be ordered only after reasonable notice stating the reasons therefore and provision to the permittee of the opportunity to respond in writing. When the Permittee is notified that OCRM intends to revoke the permit, Permittee agrees to immediately stop work pending resolution of the revocation.

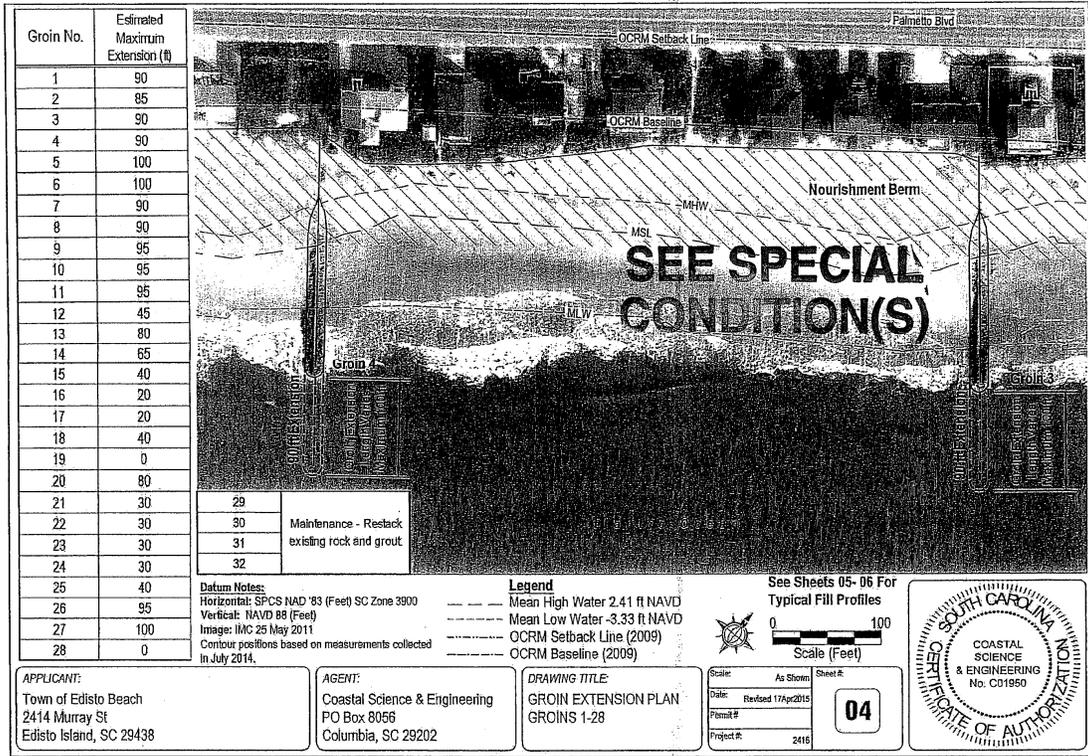
13. OCRM shall have the right to revoke, suspend, or modify this permit in the event it is determined the permitted structure (1) significantly impacts the public health, safety and welfare, and/or is violation of Section 48-39-150, (2) adversely impacts public rights, (3) that the information and data which the permittee or any other agencies have provided in connection with the permit application is either false, incomplete or inaccurate, or (4) that the activity is in violation of the terms and/or conditions, including any special conditions of the permit. That the permittee, upon receipt of OCRM's written intent to revoke, suspend, or modify the permit has the right to a hearing. Prior to revocation, suspension, or modification of this permit, OCRM shall provide written notification of intent to revoke to the permittee, and permittee can respond with a written explanation to OCRM. (South Carolina Code Section 1-23-370 shall govern the procedure for revocation, suspension or modification herein described).
14. Any modification, suspension or revocation of this permit shall not be the basis of any claim for damages against OCRM or the State of South Carolina or any employee, agent, or representative of OCRM or the State of South Carolina.
15. All activities authorized herein shall, if they involve a discharge or deposit into navigable waters or ocean waters, be at all times consistent with all applicable water quality standards, effluent limitations and standards of performance, prohibitions, and pretreatment standards established pursuant to applicable federal, state and local laws.
16. Extreme care shall be exercised to prevent any adverse or undesirable effects from this work on the property of others. This permit authorizes no invasion of adjacent private property, and OCRM assumes no responsibility or liability from any claims of damage arising out of any operations conducted by the permittee pursuant to this permit.



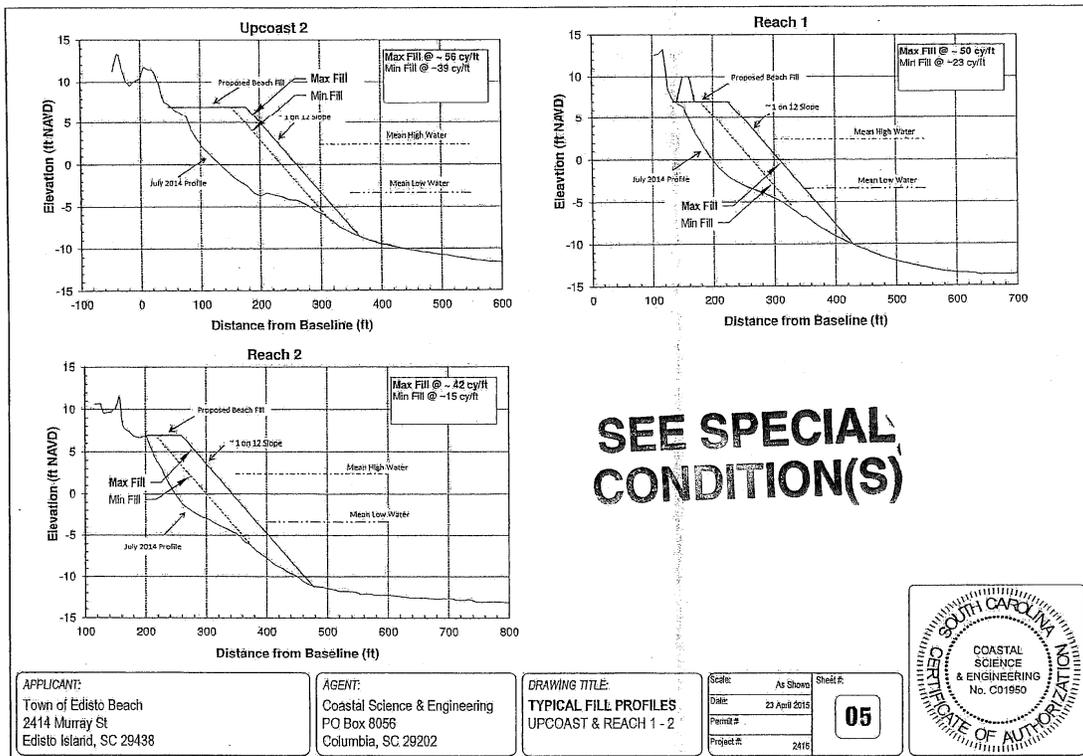
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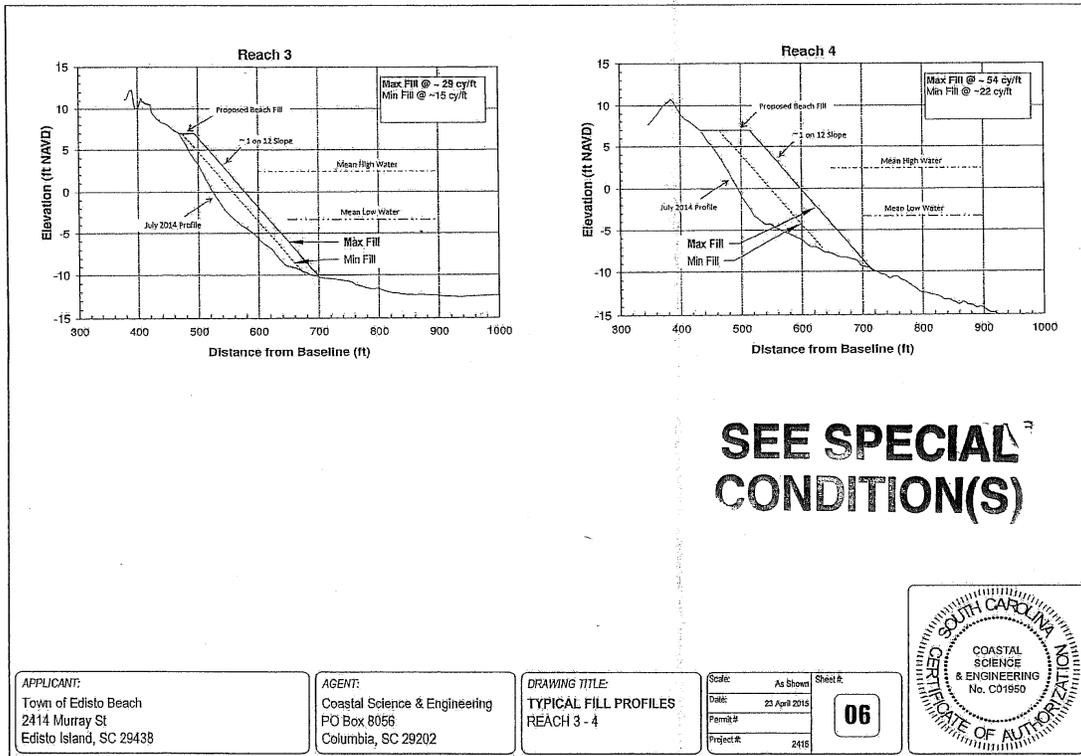
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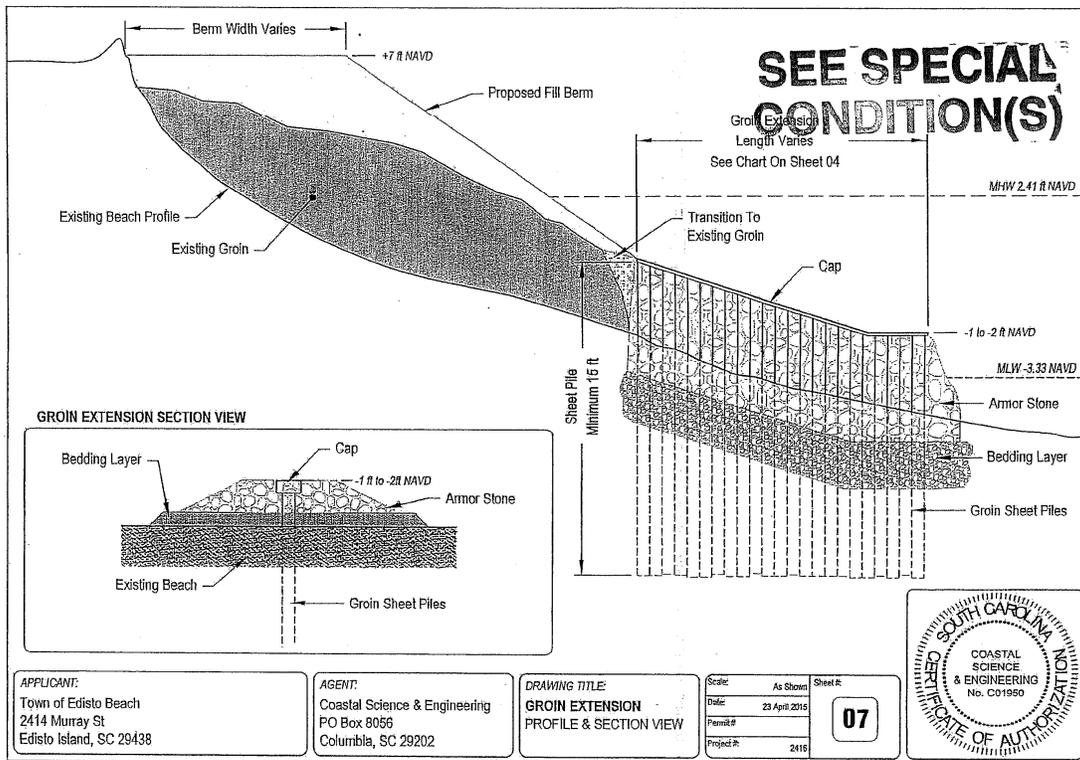
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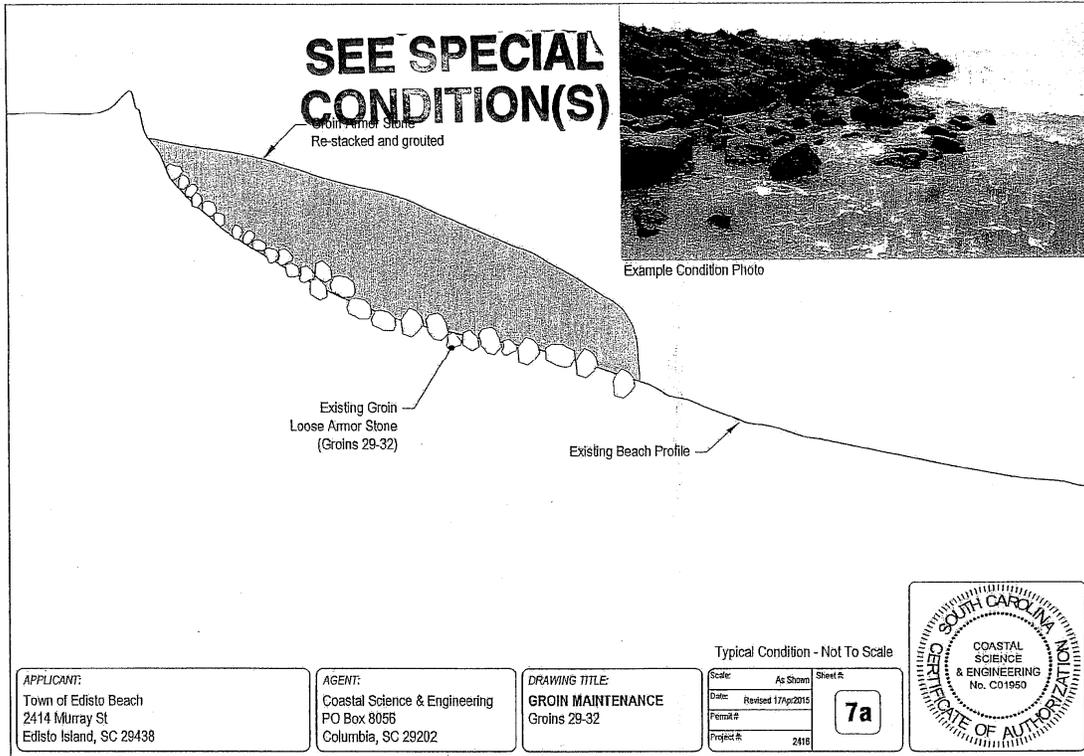
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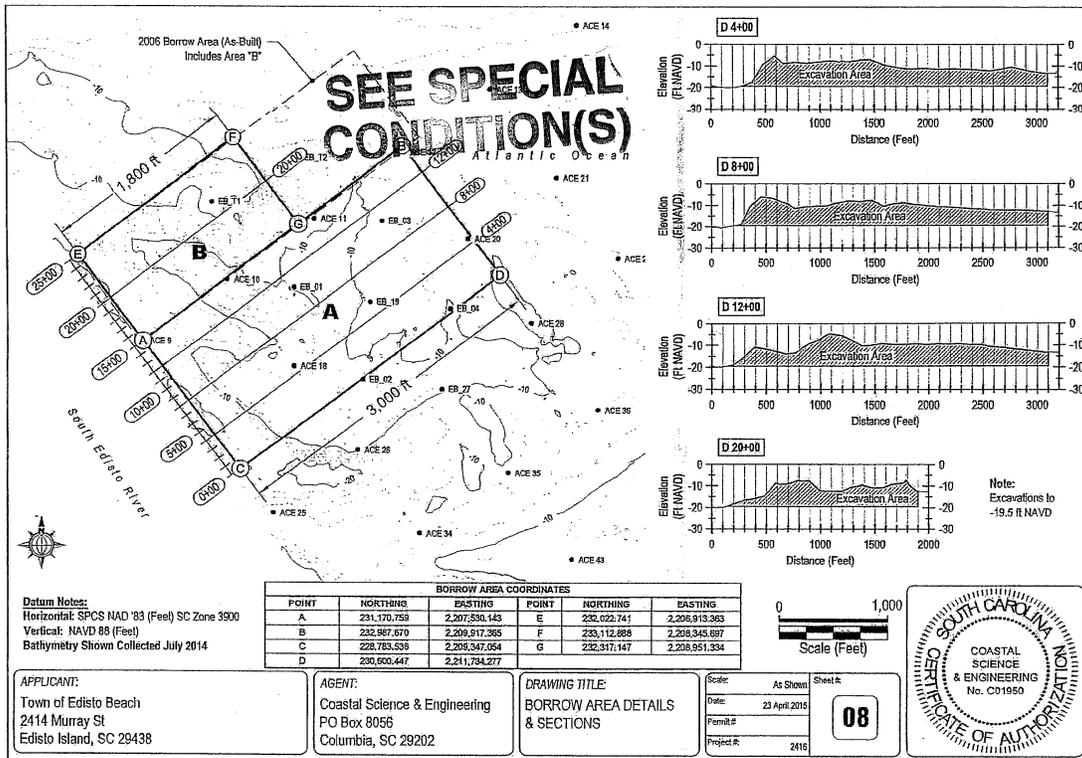
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terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the ESA, provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the Corps and/or their contractors completing the project for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps and/or their contractors completing the project: (1) fail to assume and implement the terms and conditions; or (2) fail to require their contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps must report the progress of the action and its impacts on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

**AMOUNT OR EXTENT OF TAKE**

The Service anticipates nesting habitat along 19,000 feet of shoreline could be taken as a result of this proposed action. The take is expected to be in the form of destruction of all nests that may be constructed and eggs that may be deposited and missed by a nest survey and nest relocation program (May 1 – October 31) within the boundaries of the proposed project. Incidental take is anticipated for only the 19,000 linear feet of beach that have been identified. The Service anticipates incidental take of sea turtles will be difficult to detect for the following reasons: (1) The turtles nest primarily at night and all nests are not found because [a] natural factors, such as rain fall, wind, and tides may obscure crawls and [b] human-caused factors, such as pedestrian and vehicular traffic, may obscure crawls, and result in nests being destroyed because they were missed during a nesting survey and nest mark and avoidance program (2) The total number of hatchlings per undiscovered nest is unknown.

**EFFECT OF THE TAKE**

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the loggerhead sea turtle. Critical habitat has not been designated in the project area; therefore, the project will not result in destruction or adverse modification of critical habitat. Incidental take of nesting and hatching sea turtles is anticipated to occur during project construction and during the life of the project. Take will occur on nesting habitat on 19,000 feet of shoreline.

**REASONABLE AND PRUDENT MEASURES**

The Service believes the following reasonable and prudent measures (RPMs) are necessary and appropriate to minimize take of loggerhead sea turtles in the proposed Town of Edisto Beach renourishment project within the Action Area.

1. Conservation Measures included in the permit application/project plans must be implemented (unless revised below in the Terms and Conditions) in the proposed project.

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2. Beach quality sand suitable for sea turtle nesting, successful incubation, and hatching emergence must be used for sand placement.
3. All derrick concrete, metal, coastal armor-ing material or other debris must be removed from the beach prior to any construction.
4. During the sea turtle nesting season (May 1 – October 31), surveys for nesting sea turtles must be conducted. If nests are constructed in the area of material placement the eggs must be relocated to minimize sea turtle nest burial, crushing of eggs, or nest excavation.
5. Beach compaction must be monitored and tilling (non-vegetated areas) must be conducted if needed immediately after completion of the sand placement work and prior to the next three nesting seasons to reduce the likelihood of impacting sea turtle nesting and hatching activities.
6. Escarpment formation must be monitored and leveling will be conducted if needed immediately after completion of the sand placement project and prior to the next three nesting seasons to reduce the likelihood of impacting nesting and hatching sea turtles.
7. Construction equipment and materials for sand placement must be stored in a manner that will minimize impacts to nesting and hatching sea turtles to the maximum extent practicable. During the portion of the nesting season that overlaps with the construction window, all excavations and temporary alteration of beach topography will be filled or leveled to the natural beach profile prior to 9 p.m. each day.
8. Lighting associated with sand placement must be reduced to the minimum standard required by Occupational Safety and Health Administration for General Construction areas to minimize to the possibility of disrupting and disorienting nesting sea turtles. No permanent exterior lighting will be installed in association with this construction project. Temporary lighting will be allowed if safety lighting is required at any excavated trenches that must remain on the beach at night.
9. During the sea turtle nesting season, the contractor will not extend the beach fill more than 500 feet along the shoreline between dusk and the following day until the daily nesting survey has been completed and the beach cleared for fill advancement.
10. If any nesting turtles are sighted on the beach, construction activities must cease immediately until the turtle has returned to the water.
11. During the portion of the nesting season that overlaps with the construction window, on-beach access to the construction site will be restricted to the wet sand below MHW.
12. The placement and design of the dune must emulate the natural dune system to the maximum extent possible, including the dune configuration and shape.

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TERMS AND CONDITIONS

- In order to be exempt from the prohibitions of section 9 of the ESA, the Corps will include the following terms and conditions, which implement the reasonable and prudent measures, (RPM) described above and outline required reporting/monitoring requirements. These terms and conditions (T&Cs) are non-discretionary.
1. Conservation Measures included in the permit application/project plans must be implemented in the proposed project. This includes the timing of the proposed project to avoid the period of peak sea turtle egg laying and egg hatching, to reduce the possibility of sea turtle nest burial, crushing of eggs, or nest excavation.
  2. Beach compatible fill must be placed on the beach or in any associated dune system. Beach compatible fill is material that maintains the general character and functionality of the material occurring on the beach and in the adjacent dune and coastal system. Such material must be predominately of carbonate, quartz or similar material with a particle size distribution ranging between 0.062mm and 4.76mm (classified as sand by either the Unified Soils or the Wentworth classification), must be similar in color and grain size distribution (sand grain frequency, mean and median grain size and sorting coefficient) to the material in the historic beach sediment at the disposal site, and must not contain:
    - a. Greater than five percent, by weight, silt, clay or colloids passing the #230 sieve;
    - b. Greater than five percent, by weight, fine gravel retained on the #4 sieve (- 2.25φ);
    - c. Coarse gravel, cobbles or material retained on the 3/4 inch sieve in a percentage or size greater than found on the native beach;
    - d. Construction debris, toxic material or other foreign matter; and
    - e. Material that will result in cementation of the beach.
- If rocks or other non-specified materials appear on the surface of the filled beach in excess of 50% of background in any 10,000 square foot area, then surface rock should be removed from those areas. These areas must also be tested for subsurface rock percentage and remediated as required. If the natural beach exceeds any of the limiting parameters listed above, then the fill material must not exceed the naturally occurring level for that parameter on nearby native beaches.
- These standards must not be exceeded in any 10,000 square foot section extending through the depth of the nourished beach. If the native beach exceeds any of the limiting parameters listed above, then the fill material must not exceed the naturally occurring level for that parameter on nearby native beaches.

13. Predator-proof trash receptacles must be installed and maintained at all beach access points used for the project construction to minimize the potential for attracting predators of sea turtles.
14. The SCFO and SCDNR must be notified if a sea turtle adult, hatchling, or egg is harmed or destroyed as a direct or indirect result of the project.
15. The Town of Edisto Beach must take actions to minimize sea turtle misorientations/disorientations on the beach due to artificial beachfront lighting and construction lighting during the nesting season from May 1 through October 31.
16. A post construction survey(s) of all artificial lighting visible from the project beach must be completed by the Town of Edisto Beach.
17. A meeting between representatives of the contractor, the SCFO, SCDNR, and the permitted sea turtle and shorebird surveyor(s) must be held prior to the commencement of work on this project.
18. A report describing the actions taken to implement the terms and conditions of this incidental take statement must be submitted to the SCFO following completion of the proposed work.
19. The Town of Edisto Beach will hire monitors with sea turtle experience to patrol the beach at night in the project area if nighttime construction activities and equipment occur during the nesting season.
20. If vegetation planting is included in the project, all planting must be designed and conducted to minimize impacts to sea turtles.
21. Existing vegetated habitat at each of the beach access points must be protected to the maximum extent practicable and must be delineated by post and rope or other suitable material to ensure vehicles and equipment transport stay within the access corridor. Any vegetated areas impacted must be restored to pre-construction conditions. New beach access locations created for the project work must be approved by the SCFO and SCDNR.
22. Expanded or newly created beach access points must be restored to dune habitat within three months following project completion. The habitat restoration must consist of restoring the dune topography and planting with appropriate native dune vegetation (i.e., native to coastal dunes in South Carolina).

3. All detritus, metal, and coastal armoring material and other debris must be removed from the beach prior to any dredged material placement to the maximum extent practicable. If debris removal activities will take place during the sea turtle nesting season, the work must be conducted during daylight hours only and must not commence until completion of the sea turtle survey each day.
4. Daily early morning surveys for sea turtle nests will be required if construction coincides with the beginning of sea turtle nesting season (May 1 – June 30). No construction activity can begin until completion of the sea turtle nesting survey each day. Nesting surveys must continue through the end of the project or through October 31, whichever is earlier. If nests are constructed in areas where they may be affected by construction activities, the nests must be relocated per the following requirements.

- a. Nesting surveys and nest relocation will only be conducted by personnel with prior experience and training in nesting survey and nest marking procedures. Surveyors must have a valid SCDNR permit. Nesting surveys must be conducted daily between sunrise and 9 a.m.
- b. Only those nests that may be affected by sand placement activities will be relocated. Nests requiring relocation will be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatching orientation. Relocated nests will not be placed in organized groupings. Relocated nests will be randomly staggered along the length and width of the beach in settings that are not expected to experience daily inundation by high tides or known to routinely experience severe erosion and egg loss, or subject to artificial lighting. Nest relocations in association with construction activities must cease when construction activities no longer threaten nests.

- c. Nests deposited within areas where construction activities have ceased or will not occur for 70 days or nests laid in the nourished berm prior to tilling must be marked and left in situ unless other factors threaten the success of the nest. The turtle permit holder will install an on-beach marker at the nest site or a secondary marker at a point as far landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. No activity will occur within this area nor will any activities occur which could result in impacts to the nest. Nest sites will be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the project activity.

5. Sand compaction must be monitored in the area of sand placement immediately after completion of the project and prior to May 1 for three subsequent years. Sand compaction monitoring results must be provided to the SCFO. If tilling is needed, the area will be tilled to a depth of 24 inches. Each pass of the tilling equipment will be overlapped to allow more thorough and even tilling. All tilling activity will be completed at least once prior to nesting season. An electronic copy of the results of the compaction monitoring will be submitted to the SCFO prior to any tilling actions being taken or if a

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request not to till is made based on compaction results. The requirement for compaction monitoring can be eliminated if the decision is made to till regardless of post construction compaction levels. Additionally, our-year compaction monitoring and remediation are not required if placed material no longer remains on the dry beach. If tilling occurs during shorebird nesting season (February 15 – August 31), shorebird surveys prior to tilling are required per the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712).

- a. Compaction sampling stations must be located at 500-foot intervals along the sand placement template. One station will be at the seaward edge of the dune/bulkhead line (when material is placed in this area), and one station will be midway between the dune line and the high water line (normal wrack line).
- b. At each station, the cone penetrometer will be pushed to a depth of 6, and 12 inches three times (three replicates). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lie over less compact layers. Replicates will be located as close to each other as possible, without interacting with the previous hole or disturbed sediments. The three replicate compaction values for each depth will be averaged to produce final values for each depth at each station. Reports will include all 18 values for each transect line, and the final six averaged compaction values.
- c. If the average value for any depth exceeds 500 pounds per square inch (psi) for any two or more adjacent stations, then that area must be tilled immediately prior to the dates listed above.
- d. If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the Service will be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling will not be required.
- e. Tilling will occur landward of the wrack line and avoid all vegetated areas three square feet or greater with a three square foot buffer around the vegetated areas.

6. Visual surveys for escarpments along the project area must be made immediately after completion of the sand placement and within 30 days prior to May 1 for three subsequent years if sand in the project area still remains on the dry beach. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet must be leveled and the beach profile must be reconfigured to minimize scarp formation by the dates listed above. Any escarpment removal must be reported by location. If the project is completed during the early part of the sea turtle nesting and hatching season, escarpments may be required to be leveled immediately, while protecting nests that have been relocated or

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left in place. The SCFO must be contacted immediately if subsequent reformation of escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet occurs during the nesting and hatching season to determine the appropriate action to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the Service will provide a brief written authorization within 30 days that describes methods to be used to reduce the likelihood of impacting existing nests. An annual summary of escarpment surveys and actions taken will be submitted to the SCFO.

7. During the sea turtle nesting season, nighttime storage of construction equipment not in use must be off the beach to minimize disturbances to sea turtle nesting and hatching activities. In addition, all construction pipes placed on the beach must be located as far landward as possible without compromising the integrity of the dune system. Temporary storage of pipes must be off the beach to the maximum extent possible. If the pipes are stored on the beach, they must be placed in a manner that will minimize the impact to nesting habitat and must not compromise the integrity of the dune systems. All excavations and temporary alteration of beach topography will be filled or leveled to the natural beach profile prior to 9 p.m. each day. During any periods when excavated trenches must remain on the beach at night, nighttime sea turtle monitoring by the sea turtle permit holder will be required in the project area in order to further reduce possible impacts to nesting sea turtles. Nighttime monitors will record data on false crawls, successful nesting, and any additional activities of nesting or hatching sea turtles in the project area.

8. Direct lighting of the beach and nearshore waters must be limited to the immediate construction area during nesting season and must comply with safety requirements. Lighting on all equipment must be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water's surface and nesting beach while meeting all Coast Guard, Corps EM 385-1-1, and OSHA requirements. Light intensity of lighting equipment must be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields must be affixed to the housing and be large enough to block light from all lamps from being transmitted outside the construction area (Figure 7). The Town must monitor compliance with the lighting schematic on a weekly basis by making unscheduled night site visits from July 1 through September 30 to minimize hatching disorientations. Noncompliance documented twice during this window will result in no construction from 9 p.m. until 6 a.m. through September 30.

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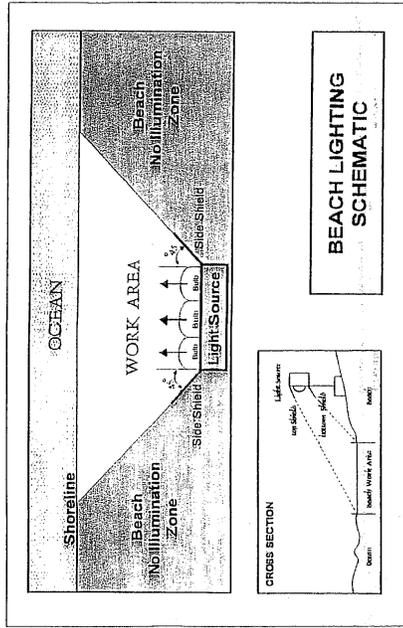


Figure 7. Beach lighting schematic.

9. During the sea turtle nesting season, the contractor must not extend the beach fill more than 500 feet along the shoreline between dusk and dawn and the following day until the daily nesting survey has been completed and the beach cleared for fill advancement. An exception to this may occur if there is permitted sea turtle surveyor present on-site to ensure no nesting and hatching sea turtles are present within the extended work area. If the 500 feet is not feasible for the project, an agreed upon distance will be decided on during the preconstruction meeting. Once the beach has been cleared and the necessary nest relocations have been completed, the contractor will be allowed to proceed with the placement of fill during daylight hours until dusk at which time the 500-foot length (or other agreed upon length) limitation will apply. If any nesting turtles are sighted on the beach within the immediate construction area, activities will cease immediately until the turtle has returned to the water and the sea turtle permit holder responsible for nest monitoring has relocated the nest.

10. If any nesting turtles are sighted on the beach, construction activities within 500 feet must cease immediately until the turtle has returned to the water, and the sea turtle permit holder responsible for nest monitoring has marked any nest that may have been laid for avoidance.

11. During the nest laying and hatching season, on-beach access to the construction site will be restricted to the wet sand below MHV.

12. Dune restoration or creation included in the project design must have a slope of 1.5:1 followed by a gradual slope of 4:1 for approximately 20 feet seaward on a high erosion

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attracting predators of sea turtles. The contractors conducting the work must provide predator-proof trash receptacles for the construction workers. All contractors and their employees must be briefed on the importance of not littering and keeping the project area trash and debris free.

14. Upon locating a sea turtle adult, hatchling, or egg harmed or destroyed as a direct or indirect result of the project, notification must be made to the SCDNR Hotline at 1-800-922-5431 and SCFO at 843-727-4707.

15. No permanent exterior lighting will be installed in association with this construction project. Lighting will be allowed if safety lighting is required at any excavated trenches that must remain on the beach at night.

16. Two surveys must be conducted of all lighting visible from the beach placement area by the Town of Edisto Beach, using standard techniques for such a survey (Appendix B), in the year following construction. The first survey must be conducted between May 1 and May 15 and a brief summary provided to the SCFO. The second survey must be conducted between July 15 and August 1. A summary report of the surveys, (include the following information: methodology of the survey, a map showing the position of the lights visible from the beach, a description of each light source visible from the beach, recommendations for remediation, and any actions taken), must be submitted to the SCFO within 3 months after the last survey is conducted. After the annual report is completed, a meeting must be set up with the Corps, The Town of Edisto Beach, SCDNR, and the Service to discuss the survey report, as well as any documented sea turtle disorientations in or adjacent to the project area. If the project is completed during the nesting season and prior to May 1, the contractor may conduct the lighting surveys during the year of construction.

17. A meeting between representatives of the contractor, SCFO, SCDNR, and the permitted sea turtle surveyor will be held prior to the commencement of work on this project. At least 10 business days advance notice will be provided prior to conducting this meeting. A conference call may be substituted for a meeting if agreed to by all parties. The meeting will provide an opportunity for explanation and/or clarification of the sea turtle protection measures as well as additional guidelines when construction occurs during the sea turtle nesting season, such as storing equipment, minimizing driving, as well as follow up meetings during construction.

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beach (Figure 8) or a 4:1 slope (Figure 9) on a low erosion beach. If another slope is proposed for use, the Corps must consult the SCFO.

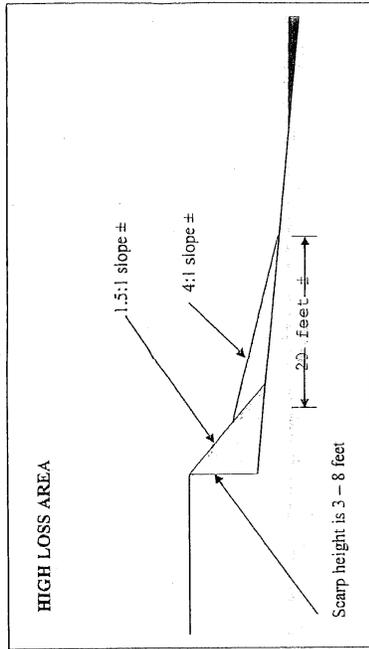


Figure 8. Recommended slope on a high erosion beach for sand placement projects that include the creation of a dune.

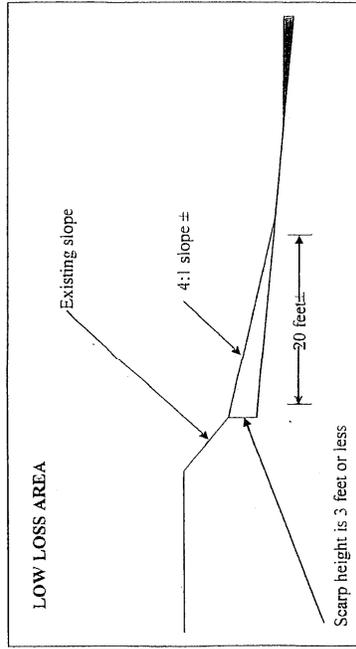


Figure 9. Recommended slope on a low erosion beach for sand placement projects that include the creation of a dune.

13. Predator-proof trash receptacles must be installed and maintained during construction at all beach access points used for the project construction to minimize the potential for

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18. A report with the information listed in the following table must be submitted to the SCFO within 3 months of the completion of construction.

All projects	Project location (latitude and longitude coordinates)
	Project description (include linear feet of beach, and access points)
	Dates of actual construction activities
	Names and qualifications of personnel involved in sea turtle nesting surveys and nest relocation
	Escarpment formation
	Remedial action

19. In the event the structure begins to disintegrate, all debris and structural material must be removed from the nesting beach area and deposited off site immediately. If removal of the structure is required during the period from May 1 to October 31, no work will be initiated without prior coordination with the Corps and the SCFO.

**CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Construction activities for this project and similar future projects should be planned to take place outside of the sea turtle nesting and hatching season.
2. Educational signs should be placed where appropriate at beach access points explaining the importance of the area to sea turtles and/or the life history of sea turtle species that nest in the area.

**Migratory Birds**

Nesting season surveys should be conducted in all potential beach-nesting bird habitats within the project boundaries that may be impacted by construction or pre-construction activities during the nesting season. Portions of the project in which there is no potential for project-related activity during the nesting season may be excluded.

If shorebird nesting activity is discovered within the project area, the Corps or Applicants should establish a 300-foot wide buffer zone around any location where shorebirds have been engaged in nesting behavior, including territory defense. All construction activities, including movement of vehicles, should be prohibited in the buffer zone.

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18. A report with the information listed in the following table must be submitted to the SCFO within 3 months of the completion of construction.

All projects	Project location (latitude and longitude coordinates)
	Project description (include linear feet of beach, and access points)
	Dates of actual construction activities
	Names and qualifications of personnel involved in sea turtle nesting surveys and nest relocation
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26/26



**DEPARTMENT OF THE ARMY**  
 CHARLESTON DISTRICT, CORPS OF ENGINEERS  
 55-A HAGOOD AVENUE  
 CHARLESTON, SOUTH CAROLINA 29403-5107

REPLY TO  
 ATTENTION OF

**AUG 19 2016**

Regulatory Division

Town of Edisto Beach  
 Coastal Science & Engineering  
 Mr. Steven Traynum  
 PO Box 8056  
 Columbia, South Carolina 29202

Dear Mr. Traynum:

**PLEASE READ THIS LETTER CAREFULLY AND COMPLY WITH ITS PROVISIONS**

This is in response to your application dated April 24, 2015, requesting a Department of the Army permit.

This is to inform you that the public interest review has been completed and it has been determined that the proposed activity is not contrary to the public interest. As such, a permit can be issued under the provisions of the Federal laws for the protection and preservation of the navigable waters of the United States.

Enclosed are two copies of Permit #2015-0528-1C which have been prepared for the District Engineer's signature. Please review all of the conditions to which this permit is subject and, if acceptable to you, sign each copy and return all copies to this office in the enclosed self-addressed envelope. Upon receipt of these properly signed permits and requisite processing fee, the District Engineer or his designee will sign each copy and return one copy to you. As you review the permit documents, be especially mindful that

**IT SHALL NOT BE LAWFUL TO DEVIATE FROM THE PLANS EITHER BEFORE OR AFTER COMPLETION OF THE WORK,**

unless a plan reflecting the modification has previously been submitted to and approved by the Department of Army.

In addition, please note that the permit not only authorizes the work but also its intended use. No use other than that specified in this document can be made of permitted work or structures.

Compliance with all conditions of the permit is essential. Failure to do so will tend to invalidate the permit and may result in its revocation.

Respectfully,

  
 Matthew W. Luzzatto, P. E., PMP  
 Lieutenant Colonel, U.S. Army  
 Commander and District Engineer



4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

**Special Conditions:**

SEE PAGE 4

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 208.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions: General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

(PERMITTEE) \_\_\_\_\_ (DATE) \_\_\_\_\_  
TOWN OF EDISTO BEACH  
MS. IRIS HILL

(PRINT NAME) \_\_\_\_\_ (DATE) \_\_\_\_\_

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

(DISTRICT ENGINEER) \_\_\_\_\_ (DATE) \_\_\_\_\_  
MATTHEW W. LUZZATTO, P.E., PMP  
or his Designee  
Travis G. Hughes  
Chief, Regulatory Division

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE) \_\_\_\_\_ (DATE) \_\_\_\_\_

**Further Information:**

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- Section 404 of the Clean Water Act (33 U.S.C. 1344).
- Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:

- 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 activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.

CONDITIONS FOR PERMIT #2015-0528-1C

**Special Conditions:**

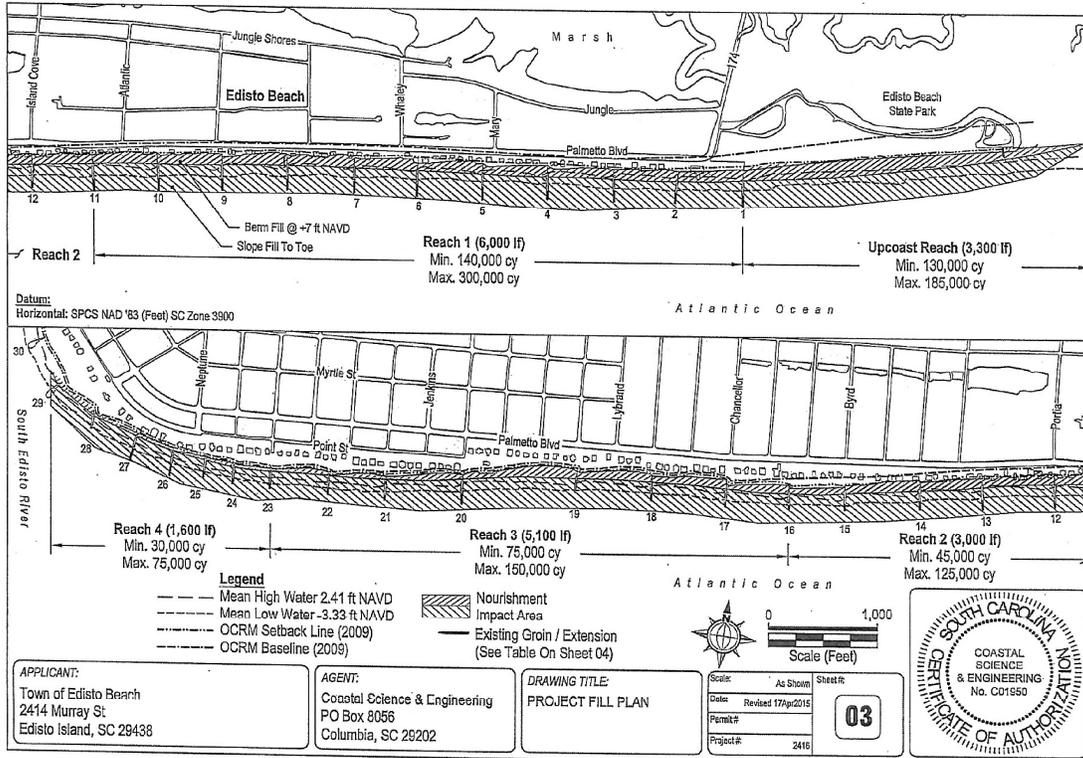
- a. That the permittee agrees to provide all contractors associated with construction of the authorized activity a copy of the permit and drawings. A copy of the permit will be available at the construction site at all times.
- b. That the permittee shall submit a signed compliance certification to the Corps within 60 days following completion of the authorized work and any required mitigation. The certification will include:
  1. A copy of this permit;
  2. A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions;
  3. A statement that any required mitigation was completed in accordance with the permit conditions;
  4. The signature of the permittee certifying the completion of the work and mitigation.
- 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.
- d. Use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the U.S.
- e. That the permittee performs all nourishment activities in accordance with the twenty two (22) reasonable and prudent measures and nineteen (19) terms and conditions and two (2) conservation recommendations for the loggerhead sea turtle (*Caretta caretta*) included in the attached Biological Opinion dated January 21, 2016, by the U.S. Fish and Wildlife Service.
- f. That all construction work must be conducted outside of the turtle nesting season which runs from May 15 through October 31.
- g. The contractor must dredge mounds of suitable material rather than creating depressions whenever possible. Maximum authorized dredge depth is -16 ft MLLW.
- h. The permittee agrees that the pump station and pipeline shall not impact hard bottom habitat.
- i. That the permittee must advise the District Engineer, in writing, thirty (30) days prior to commencement of the dredging activity authorized by this document.
- j. That the permittee must contact the United States Coast Guard to ascertain and assist in the issuance of a Notice to Mariners advising the boating public of the place and time that the dredging activity will be occurring.
- k. That the permittee is responsible for properly installing and providing appropriate warning and

marking devices to alert the boating public of any dangers (such as cables, anchors, buoys and other appurtenances) associated with the proposed dredging activity. All warning and marking devices must be marked and installed in accordance with United States Coast Guard standards.

1. That the permittee agrees to contact the Boating Division of the South Carolina Department of Natural Resources to advise them of the place and time that the dredging activity will be occurring. The permittee will solicit any information that the Department may have on local boating traffic patterns and activities in the project area. Such information will be used to facilitate dredging plant and appurtenances setup and operation to insure safe navigation through the area of work.
- m. All sand placed on the beach must be clean sand that is free from sources of contamination.
- n. In order to insure protection and reduce potential construction-related impacts to West Indian manatees that may enter the project area during dredging activities performed outside the winter months (November 1 thru February 15), to discountable and insignificant levels, the permittee will comply with the following:
  1. The permittee shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel must monitor water-related activities for the presence of manatee(s) during May 15 - October 15.
  2. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.
  3. Any siltation barriers used during the project shall be made of material in which manatees cannot become entangled and must be properly secured, and regularly monitored to avoid manatee entrapment.
  4. All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
  5. If manatee(s) are seen within 100 yards of the active construction area all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet to a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.
  6. Any collision with and/or injury to a manatee shall be reported immediately to Mr. Jim Valade of the U.S. Fish and Wildlife Service, North Florida Field Office at (904) 731-3116, and the SCDNR Hotline at 1-800-922-5431.

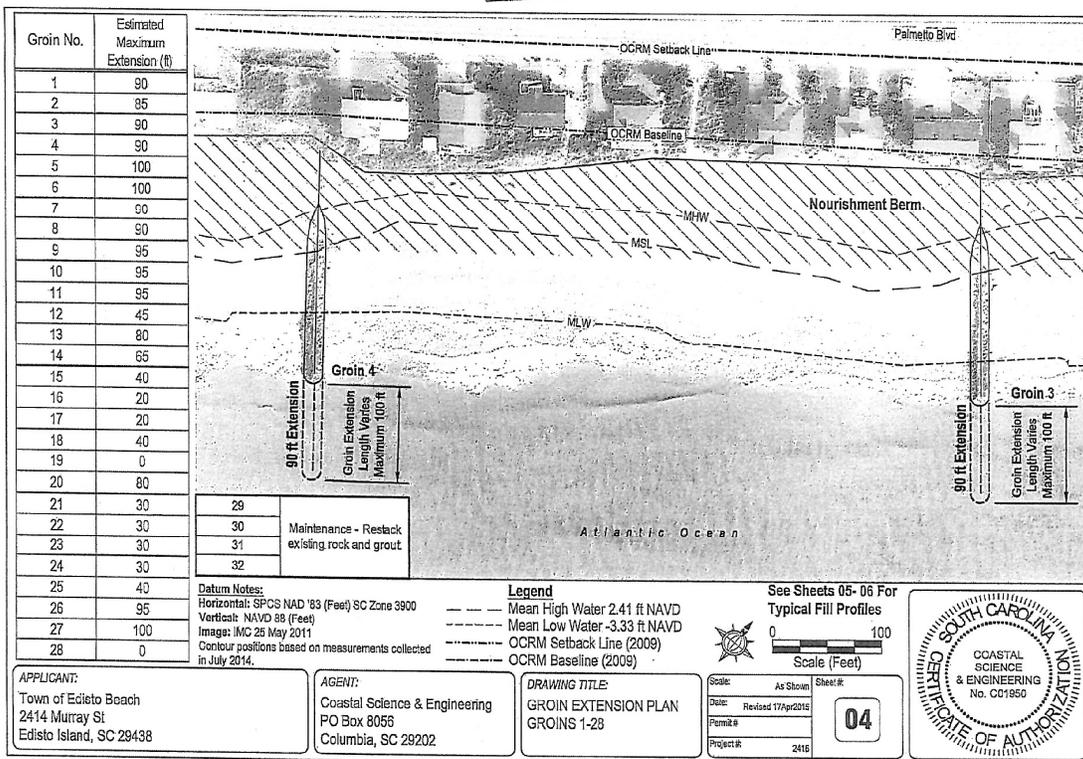


# PERMITTED PLANS



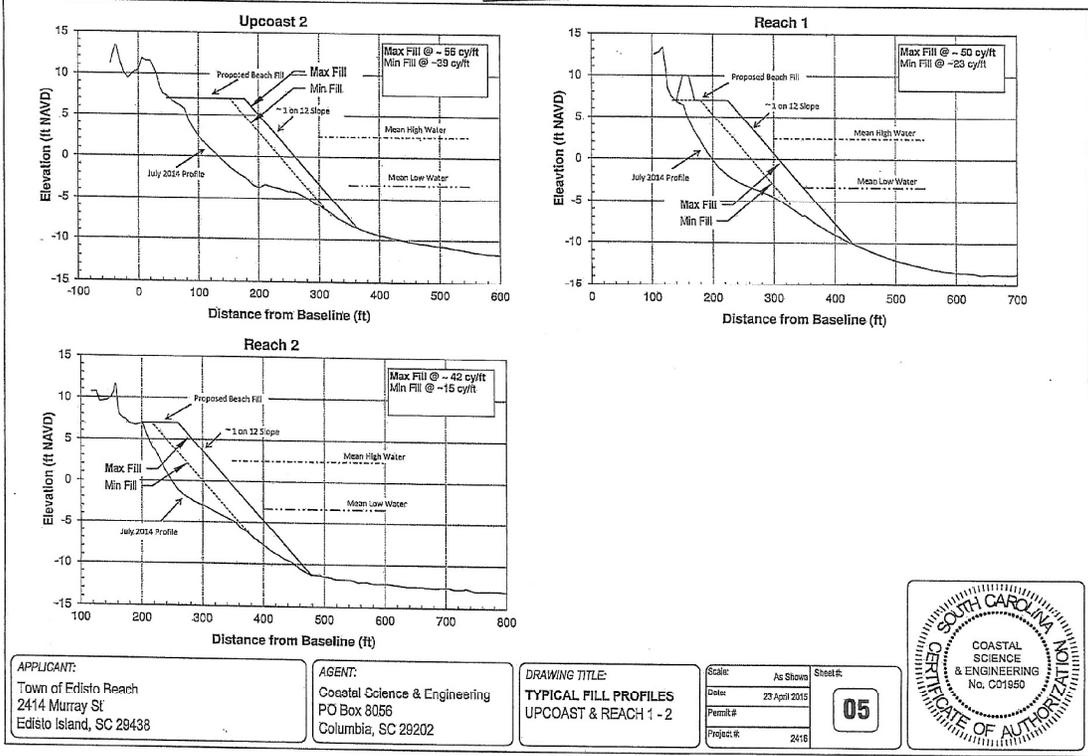
SAC-2015-0528-1C Edisto Beach Nourishment  
April 23, 2015 Sheet 3 of 9

# PERMITTED PLANS



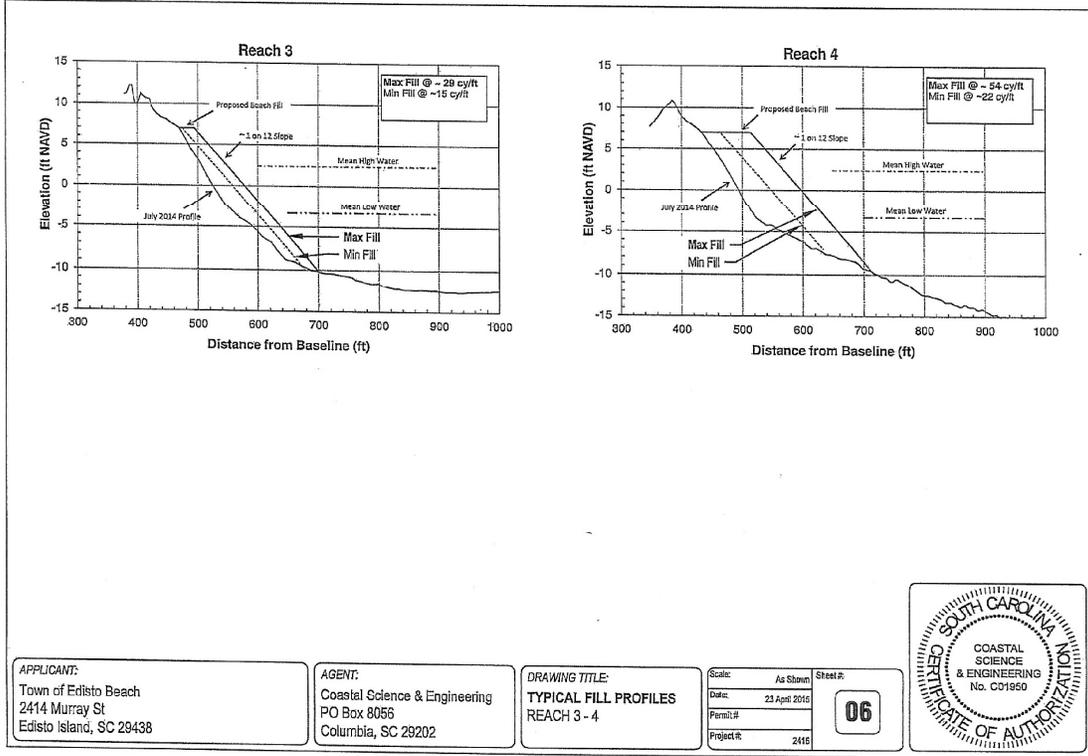
SAC-2015-0528-1C Edisto Beach Nourishment  
April 23, 2015 Sheet 4 of 9

# PERMITTED PLANS



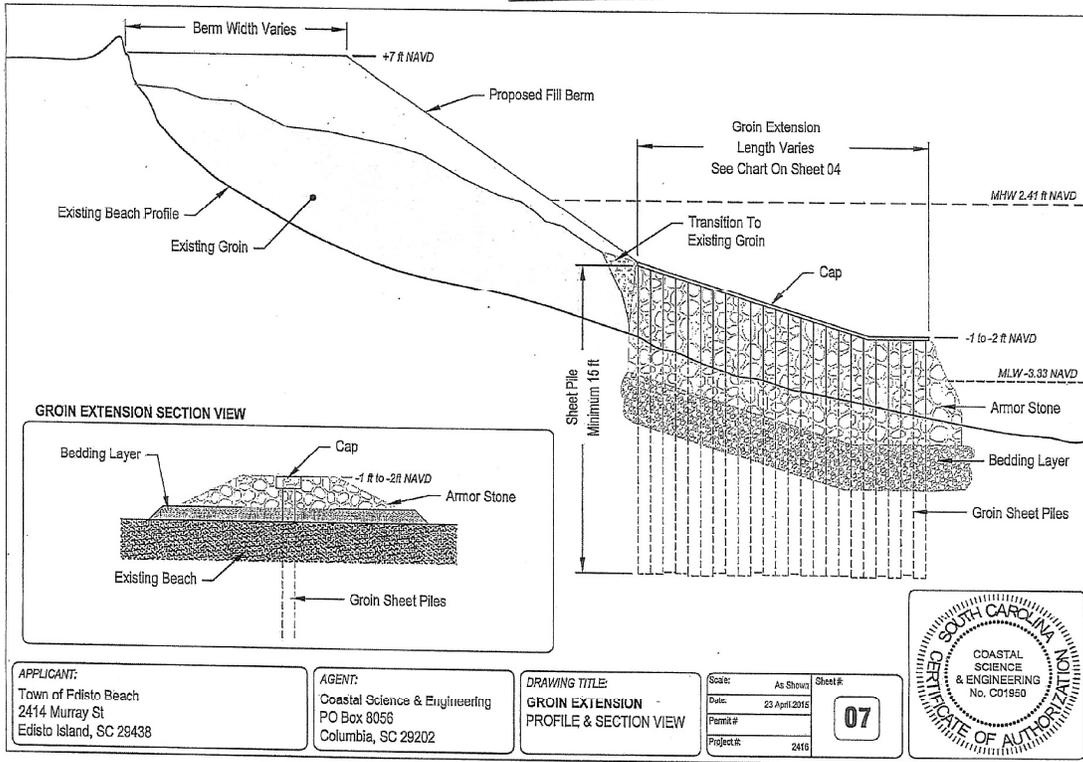
SAC-2015-0528-1C Edisto Beach Nourishment  
April 23, 2015 Sheet 5 of 9

# PERMITTED PLANS



SAC-2015-0528-1C Edisto Beach Nourishment  
April 23, 2015 Sheet 6 of 9

**PERMITTED  
PLANS**

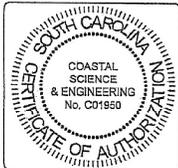


**APPLICANT:**  
Town of Edisto Beach  
2414 Murray St  
Edisto Island, SC 29438

**AGENT:**  
Coastal Science & Engineering  
PO Box 8056  
Columbia, SC 29202

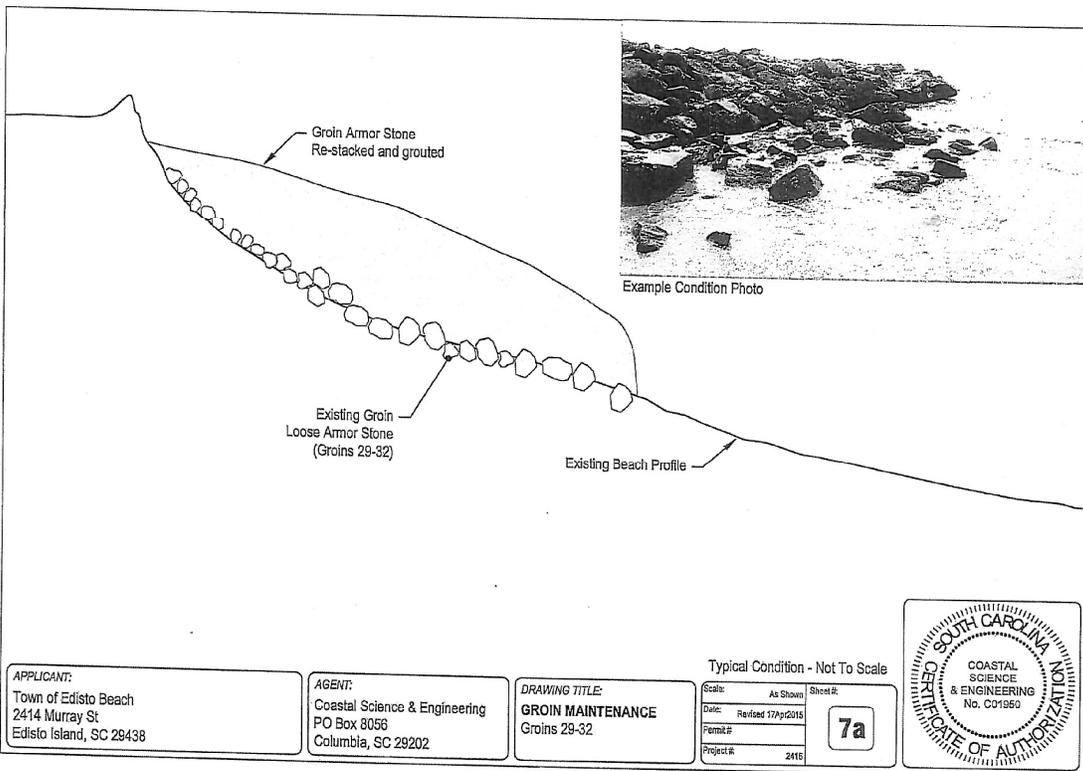
**DRAWING TITLE:**  
GROIN EXTENSION  
PROFILE & SECTION VIEW

Scale: As Shown Sheet #: **07**  
Date: 23 April 2015  
Permit #:   
Project #: 2416



SAC-2015-0528-1C Edisto Beach Nourishment  
April 23, 2015 Sheet 7 of 9

**PERMITTED  
PLANS**

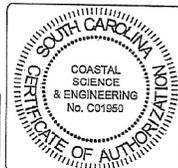


**APPLICANT:**  
Town of Edisto Beach  
2414 Murray St  
Edisto Island, SC 29438

**AGENT:**  
Coastal Science & Engineering  
PO Box 8056  
Columbia, SC 29202

**DRAWING TITLE:**  
GROIN MAINTENANCE  
Groins 29-32

Scale: As Shown Sheet #: **7a**  
Date: Revised 17 Apr 2015  
Permit #:   
Project #: 2416



SAC-2015-0528-1C Edisto Beach Nourishment  
April 23, 2015 Sheet 8 of 9





December 15, 2016

Town of Edisto Beach  
C/O Ms. Iris Hill  
2414 Murray Street  
Edisto Beach, SC 29438

Re: PIN# 2015-00528

Dear Ms. Hill:

The above referenced permit has been amended to allow the total nourishment volume to be increased to 1.1 million cubic yards, by extending Borrow Area B to the northeast, (Revised Sheet 02), to encompass more of the area dredged in 2006, making it available for the present project. The total borrow area will increase by 30 acres, however, the project will remain restricted to using only the maximum 145 acres approved under the current permit, SAC-2015-00528. This increase would allow replacement of sand lost during Hurricane Joaquin (October 2015) and Matthew (October 2016). The exact volume of nourishment sand will depend on the available funds in the Town budget. This amendment also allows the construction of groins during turtle nesting season, provided the terms and conditions of the US Fish And Wildlife Service Biological Opinion dated January 21, 2016, are incorporated into any work occurring after May 1. Modifications to the permitted project are reflected on Revised Sheets 02 and 08. The work as described is for beach and dune restoration and preservation.

This amendment is made a part of your permit and is subject to the full terms of the permit as issued.

This letter does not relieve you of the responsibility of acquiring any other applicable federal or local permits that may be required. Any person adversely affected by this action has the right to appeal as outlined in the enclosed "Guide to Board Review."

**The construction placard must be posted conspicuously on site during authorized activities. If you do not possess a current placard, a new one must be obtained prior to start of construction.**

Please sign the attached copy of this letter indicating your acceptance of these terms and return the signed copy to:

DHEC-OCRM  
1362 McMillan Ave., Suite 400  
Charleston, SC 29405

If this amendment letter is not signed and returned within thirty (30) days of issuance, OR appealed as described on the enclosed "Guide to Board Review", the Department reserves the right to cancel this permit amendment. Please carefully review the enclosed "Guide to Board Review" for information and deadlines for appealing this permit amendment.

Sincerely,

Fred Maillett  
Wetland Section Project Manager

Enclosure

Permittee  
Date 12/20/16

cc: Mr. Blair Williams, Wetland Sector Manager  
Ms. Chelsea Bowman, Corps Of Engineers  
Mr. Thorras McCoy, US Fish & Wildlife Service  
Mr. Steven Traynum, Agent



**DEPARTMENT OF THE ARMY**  
 CHARLESTON DISTRICT, CORPS OF ENGINEERS  
 68A HAGOOD AVENUE  
 CHARLESTON, SC 29403-5107

**NOV 30 2016**

Regulatory Division

Ms. Iris Hill  
 Town of Edisto Beach  
 2414 Murray Street  
 Edisto Beach, South Carolina 29438

Dear Ms. Iris Hill:

**PLEASE READ THIS LETTER CAREFULLY AND  
 COMPLY WITH ITS PROVISIONS**

This is in response to your letter dated October 31, 2016, requesting a modification of the work for an overall project known as Edisto Beach Nourishment Project, authorized by Department of the Army (DA) permit (SAC-2015-00528) to construct groins during sea turtle nesting season, to extend Borrow Area B to the northeast, and to increase the total allowable beach sand placement volume. The project is located adjacent to the Atlantic Ocean from the north end of the Edisto Beach State Park Campground to Edisto Street near the South Edisto River Inlet in Edisto Beach, Colleton County, South Carolina (Latitude: 32.4907 °N, Longitude: -80.3139 °W).

This is to inform you that your request for a modification is granted. The authorized modification is shown on the attached revised drawings, entitled "SAC-2015-0528-1C Edisto Beach Nourishment", Sheets 2 and 8 of 9, and dated October 25, 2016. Modifications to previously authorized permit include the ability to construct groins during turtle nesting season, to extend Borrow Area B to the northeast to encompass more of the area dredged in 2006, and to increase the permitted beach fill volume from 835,000 cubic yards to 1.1 million cubic yards. The modified Special Condition now states:

**That the permittee performs groin construction in accordance with the twenty two (22) reasonable and prudent measures and nineteen (19) terms and conditions and two (2) conservation recommendations for the loggerhead sea turtle (*Caretta caretta*) included in the Biological Opinion dated January 21, 2016, by the U.S. Fish and Wildlife Service, for work occurring between May 1 and October 31.**

This letter should be attached to your copy of the signed permit. This permit was issued under the provisions of the Federal laws for the protection and preservation of the navigable waters of the United States. These laws provide that after the proposed work has been approved by the issuance of a Department of the Army permit,

**IT SHALL NOT BE LAWFUL TO DEVIATE FROM SUCH PLANS EITHER  
 BEFORE OR AFTER COMPLETION OF THE WORK**

unless modification of said plans has previously been submitted to and received the approval of the Department of the Army. All other conditions to which the work is made subject remain in full force and effect. In that this work appears subject to the jurisdiction of the South Carolina Department of Health and Environmental Control, it is highly recommended that you contact that agency to ascertain their requirements in this matter.

Your cooperation in the protection and preservation of our navigable waters and natural resources is appreciated. In all future correspondence concerning this matter, please refer to file number SAC-2015-00528. If you have any questions concerning this matter, please contact Chelsea B. Bowman, Project Manager, at (843) 329-8038.

Sincerely,

  
 Travis G. Hughes  
 Chief, Regulatory Division

For: Matthew W. Luzzatto, P.E., PMEP  
 Lieutenant Colonel, U.S. Army  
 Commander and District Engineer

Enclosures  
 Modified Drawings  
 Notification of Appeal Options

Copies Furnished:

Mr. Steven Traynum  
 Coastal Science & Engineering  
 PO Box 8056  
 Columbia, South Carolina 29202

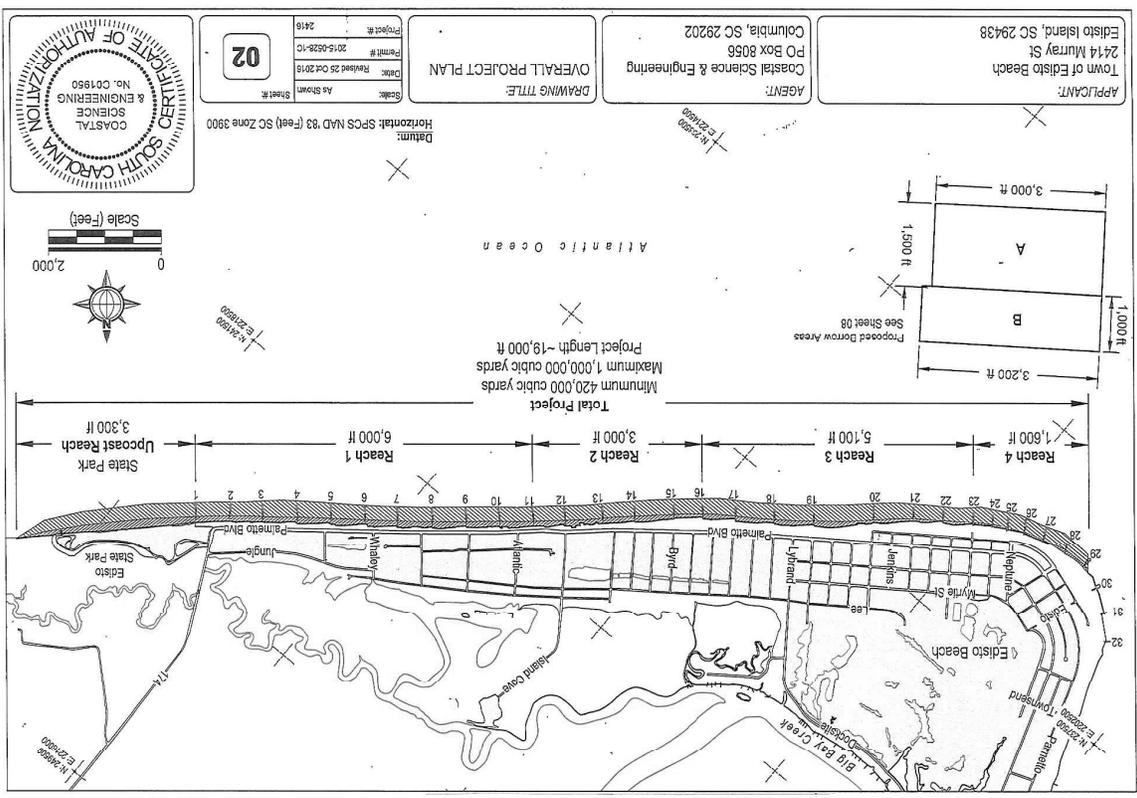
Mr. Thomas McCoy  
 U.S. Fish and Wildlife Service  
 176 Craghan Spur Road, Suite 200  
 Charleston, South Carolina 29407

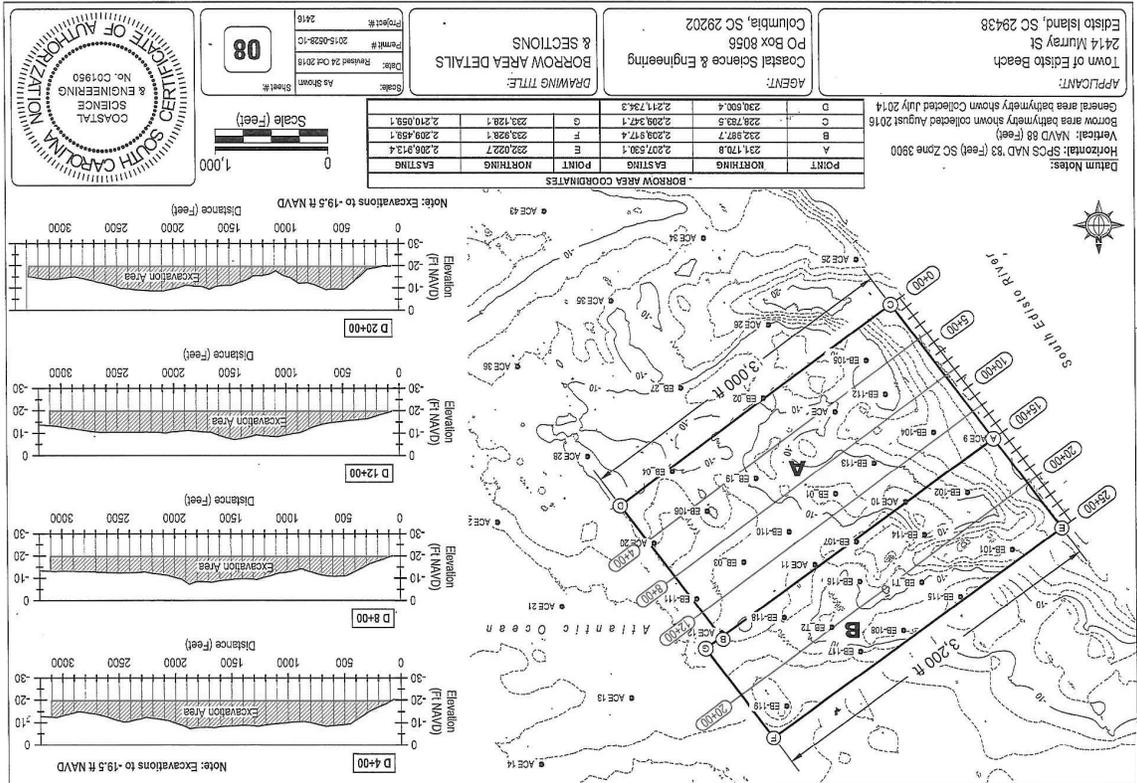
Mr. Fred Mallett  
 South Carolina Department of Health  
 and Environmental Control  
 Office of Ocean and Coastal  
 Resource Management  
 1362 McMillan Avenue, Suite 400  
 Charleston, South Carolina 29405

Ms. Susan Davis  
 S.C. Department of Natural Resources  
 217 Ft. Johnson Rd.  
 Charleston, SC 29412

**MODIFIED  
 PLANS**

SAC-2015-0528-1C Edisto Beach Nourishment  
 Sheet 2 of 9  
 October 25, 2016





### NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: \_\_\_\_\_ File Number: \_\_\_\_\_ Date: See Section below

Attached is:

- A INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)
- B PROFFERED PERMIT (Standard Permit or Letter of permission)
- C PERMIT DENIAL
- D APPROVED JURISDICTIONAL DETERMINATION
- E PRELIMINARY JURISDICTIONAL DETERMINATION

**SECTION I -** The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://uscace.army.mil/inet/functions/cw/ccwo/reg> or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all or your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer, South Atlantic Division, 66 Forsyth St, SW, Atlanta, GA 30308-8801. This form must be received by the Division Engineer within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is **not appealable**. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL OR OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision and/or the appeal process you may contact the Corps biologist who signed the letter to which this notification is attached. The name and telephone number of this person is given at the end of the letter.

If you only have questions regarding the appeal process you may also contact: Jason W. Steele  
Administrative Appeals Review Officer  
USACE South Atlantic Division  
60 Forsyth St, SW  
Atlanta, GA 30308-8801  
(404) 562-5137

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Date:

Telephone number:

Signature of appellant or agent.