

## COASTAL PLANNING & ENGINEERING OF NORTH CAROLINA, INC.

4038 MASONBORO LOOP ROAD, WILMINGTON, NC 28409

910-791-9494 PHONE 910-791-4129 FAX

May 27, 2014

Christopher Layton  
Town Manager  
Town of Duck  
P.O. Box 8369  
Duck, NC 27949

**Subject: Invoices 1766289-R8-526 and 1766292-R8-526: Project Update**

Dear Mr. Layton:

This letter serves as an update to you and your staff on CPE-NC's progress with regards to the Permitting and Design Services for the Town of Duck Beach Nourishment Project.

Invoice 1766289-R8-526 reflects our efforts in completing 53.5% of the permitting and design scope of work as of May 1, 2014. The increase from the previously reported completion of 49.0% of the scope reflects CPE-NC's efforts during the month of April, 2014. These efforts are associated with coordination with Town staff, development of environmental documents, and the engineering design of the beach fill.

Invoice 1766292-R8-526 reflects our efforts in completing 3.2% of the marine sand search investigation and borrow area design scope of work as of May 1, 2014. Note that the invoice distinguishes between the base cost of the sand search and the contingency associated with vibracores that may or may not be needed. The increase from the previously reported completion of 2.6% of the scope reflects CPE-NC's efforts during the month of April, 2014. These efforts were limited to internal coordination and coordination with subcontractors associated with planning for the offshore sand search.

### **Permitting and Design:**

Throughout the month of April we continued to coordinate with Town staff on the project. On April 3<sup>rd</sup> we held a conference call with Town staff (Chris Layton and Andy Garmin) to provide an update on the design status.

Significant production efforts throughout the month concentrated on the beach fill design. Over 75 model runs were made using the selected design storm (Hurricane Isabel) to determine storm damage reduction. Following initial analysis of these alternatives, three primary alternatives were further evaluated. Each of the alternatives consists of a 20 ft. wide dune at 20 ft. NAVD88 fronted by a design berm of 40 ft., 60 ft., and 80 ft., respectively. The designs are referred to as the 20/40, 20/60, and 20/80 designs, respectively.

Previous updates have reported that further development of environmental documents were awaiting design and geotechnical data. As significant progress on the design was made throughout the month of April, steady progress was made with regards to the development of the environmental documents (Draft EA, EFH, and BA).

### **Marine Sand Search and Borrow Area Design:**

Through the month of April, CPE-NC personnel continued coordination with BOEM following the issuance of the permits that were received at the end of March. We have also been coordinating with the University of North Carolina as they will be providing the survey vessel for the preliminary geophysical survey. Rough weather and the shoaling of Oregon Inlet have delayed our ability to begin the survey work to date. In early May, the inlet was dredged to provide sufficient water depth to operate. Since that time we have been juggling weather windows and vessel availability. The preliminary geophysical survey is our highest priority at this time. The current forecast suggests a cold front will pass through this coming weekend; however, we are making preparations to begin starting early next week.

During a meeting on May 21, 2014, CPE-NC presented an update on the design work completed to date. The Town Council adopted the "Hybrid Plan" as the preferred alternative. The "Hybrid Plan" consists of a 20 ft. dune at 20 ft. NAVD88 elevation fronted by a variable width berm so as to provide a total project volume of approximately 1,050,000 cy. The SBEACH analysis conducted suggests the Hybrid Plan would provide a 92% reduction of storm impacts associated with a Storm with Hurricane Isabel Characteristics when compared to the "no-action" plan. CPE-NC also provided a schedule update and stressed the importance of meeting the deadlines on environmental document submittals. We are confident that we can meet the submittal deadlines established.

Please feel free to contact me anytime for further clarification or explanation of the project.

Very truly yours,

COASTAL PLANNING & ENGINEERING OF NORTH CAROLINA, INC.

A handwritten signature in black ink, appearing to read 'K Willson', is written over a light gray rectangular background.

Kenneth Willson  
Project Manager