



September 15, 2011

Weekly Meeting Memo CSE-18

MEMO

TO: Cliff Ogburn, Town of Nags Head, NC

FROM: Haiqing L. Kaczkowski (PE) and Tim W. Kana (PG)

RE: Nags Head Beach Nourishment Project (CSE 2203)

**Weekly Project Meeting of the Town, the Contractor, and the Engineer**

The weekly project meeting of the Town of Nags Head, the Contractor (Great Lakes Dredge & Dock, referred to as GLDD) and the Engineer (Coastal Science & Engineering, referred to as CSE) was held from 9:05 a.m. to 9:45 a.m. on Thursday, 15 September 2011, at the Town Hall. Items discussed during the meeting are summarized herein.

1) GLDD Production Updates

*GLDD has achieved the 4 million cubic yards (cy) mark and is moving towards finishing the last 600,000 cy of work (the last 13 percent of the total contract). The dredge Padre Island had an average production rate of 15,000 cubic yards per day, and was pumping south at station 541+00 this morning. As of midnight today, she has finished 59 loads with a reported volume of approximately 140,000 cy since she started pumping on 22 August, 2011.*

*The Dodge Island returned to the job site along with the Padre Island on Friday afternoon, September 9. However, the two dredges did not resume pumping until the afternoon of Sunday September 11<sup>th</sup> because they required repairs to a hose connection. However, after finishing only one load on the 11<sup>th</sup>, the Dodge Island had to leave for Norfolk, VA to have minor repair work*



*done. This work required a diver and could not have been completed safely offshore. On her way up to Norfolk, the dredge had a small fire in one of her pump rooms. Nobody was injured and the fire was extinguished immediately, but it appears that some electrical wiring was damaged. It may take at least a week to repair, and she is expected to return to the job site by the end of next week on about September 23.*

2) Hurricane Maria

*Hurricane Maria was the thirteenth storm and the third hurricane of the 2011 hurricane season. Maria developed from a strong tropical wave that moved off the coast of Africa in early September. Moving westward, the wave organized rapidly, became a tropical storm on September 6, and was upgraded to a Category 1 hurricane on September 15, the day of this meeting. It is expected to pass the Outer Banks about 500 miles offshore on Thursday night, and seas are forecast to build to 4 to 5 feet by then. After Maria's passage, a strong high pressure system will extend southward into the region through Monday. A trough of low pressure will develop near the coast on Friday night and Saturday, then gradually move further offshore Sunday. Strong northeast winds of 20-25 mph are expected to build the seas to 6-8 feet in the following few days and are not likely to diminish until early next week.*

*In response to this weather forecast and its present effects on the sea conditions, the dredge Padre Island will be sailing to a safe harbor in Norfolk this afternoon and will remain there until the working conditions improve.*

3) GLDD Work Schedule

*A new submerged pipeline near station 570+00 will be set up upon the dredges' return. Pumping operations are expected to proceed northward from that landing point to meet the finished sections at station 541+00. Before dredging (BD) data will be collected prior to pumping to determine the beach conditions.*



*BD surveys will also be conducted on the last 900 ft of unnourished sections at the south end of the project area between stations 1016+00 and 1025+00 in order to determine the quantity of sand needing to be placed there. Work is expected to be finished for that section in the near future using a submerged pipeline at station 1005+00 which is already in place.*

4) CSE Request for Minor Modification to the State Permit

*On September 12, CSE submitted a letter to North Carolina Division of Coastal Management (NCDCM) to request a minor modification to state permit No. 45-10. CSE requested NCDCM approval to extend the toe of the fill 30 to 60 feet seaward of the permitted fill templates along the 9,000 linear feet of unnourished beach in Reach 1 between stations 540+00 and 630+00. This request was made because of the natural changes to the profiles occurring since the original permit was issued.*

*NCDCM acknowledged the receipt of the letter on 15 September and will process the request.*

5) Beach Tilling Requirements

*CSE monitored the beach compaction from Kill Devil Hills (milepost 10) to Coquina Beach (milepost ~26) on Wednesday, September 14. The spot results of cone penetrometer measurements show that the nourishment berm at 18 inches depth has an average compaction of over 1000 pound per square inch (psi), while the corresponding compaction at the toe of dune averages around 500 psi and ranges from 300 to 800 psi. The compaction at the native beach varies from north to south. The native beach at 18 in depth at Coquina Beach has the same high compaction values as the nourished beach (over 1000 psi), while the native beach at 18 in depth at Kill Devil Hills is around 400 psi (ie - similar to the toe-of-dune compaction along nourished sections).*

*CSE has coordinated with representatives of the North Carolina Wildlife Resources Commission (NCWRC) and the USACE to report the above compaction conditions. GLDD has equipment on*



*site and is ready to till the beach, however, there are several questions that have arisen about whether tilling should be done at this time, and these are listed as follows:*

- It is the end of nesting season, and therefore tilling will not benefit the turtles.*
- Tilling will soften the beach to the point where it will be difficult for people to walk across the wide nourished berm.*
- When nesting resumes next spring, the beach will compact again through the action of normal processes and vehicle traffic. USFWS and NCWRC guidelines and criteria require the town to monitor the beach compaction prior to nesting season, and till the beach at that time if necessary.*

*The final decision regarding tilling activity will be made after the regulators have an on site evaluation and review of the compaction conditions.*

6) Sea Turtle Monitoring on the Beach

*Sea turtle monitoring on the beach has been conducted effectively. Representatives from NCWRC reported that the daily morning ATV monitoring for nesting activity ended on the day of this meeting. This monitoring was performed by volunteers from N.E.S.T. However, the nighttime monitoring for turtle activity in the vicinity of the active construction area will continue as scheduled until November 15 in accordance with the permits.*

7) Anticipated events and schedule for next week

*Thursday, 22 September, at 9 a.m. — Weekly project meeting at the Town Hall  
(The Town, the Contractor, and the Engineer are expected to attend.)*

Enclosure: List of attendees and their contact information