Shoreline Management Planning

Prepared by:

Department of Public Works

June 14, 2016

2011 Nourishment

- Occurred between May 24, 2011 and October 27, 2011
- The largest locally funded beach nourishment accomplished to date in the United States.
- 4.6 million cubic yards along 10 miles of oceanfront
- Project construction cost $30.8 million
- Five years of environmental permitting
- Project planning, design, permitting, construction & monitoring handled by Coastal Science & Engineering (CSE)
- Project segmented into 4 reaches

Beach Maintenance Plan

- Developed per FEMA regulations 44CFR 206.226 (j)
- Qualify for FEMA Public assistance for sand losses arising from a significant storm event
- Annual post-nourishment monitoring condition surveys
- Triggers for Renourishment
  - Renourish beach at 6 years

    OR
  - Greater than 50% loss of sand placed in the system (whichever comes first)

Planning

- Per statutory guidelines the Town could not extend the contract of CSE
- Developed a Request for Qualifications
- Three Statement of Qualifications were submitted
  - Coastal Science & Engineering (CSE)
  - Coastal Planning & Engineering/CB & I
  - Moffat & Nichol
- Evaluation Committee was formed
- Interviews conducted with each of the proposers
- Board of Commissioners approved review committee recommendation at May 4, 2016 for CSE to continue services

Project Goals

- Development of a long-term Shoreline Management Master Plan (30-years)
  - Measurable & Quantifiable Goals in Design
  - Improvement to existing program
  - Identification of sand sources
  - Permitting Efficiencies
  - Structured Dune Management Program
  - Focus on highly erosive areas
  - Investigate potential to coordinate with neighboring nourishment projects
- Initiation of a short term program
- Goal to renourish in Summer 2018

Project Schedule

- Parallel tracks for the short term and long-term permitting
- 2018 Re-nourishment track is the critical path
  - **June –Sept 2016** : Project Planning Phase
    - Define Project Goals and Objectives
    - Define beach dune system & target beach conditions
    - Develop re-nourishment requirements/dune stabilization alternatives
    - Conduct borrow area survey & obtain borings
  - **Oct-Dec 2016**
    - Design Analyses for fill scenarios & cost estimates
    - Pre-Application meeting(s) with resource & regulatory agencies
    - Supporting environmental documents
    - Conduct beach survey for "winter" condition
    - Analyze and update erosion rates

Project Schedule (con't)

- **Jan –Dec 2017** : Project Design/Permitting Phase
  - Coastal Engineering Analysis
  - Complete environmental reports
  - Conduct pre-application meetings with regulatory agencies
  - Submit permit applications
  - Conduct beach survey(s)
  - Finalize Design and specifications
  - Receive Permits
- **Jan-Feb 2018**: Bidding Phase
  - Request Bids & Receive Bids
  - Select Contractor
- **May-Aug 2018**: Construction Phase
  - Construction
- **Sept-Dec 2018**: Post-Construction Survey/Final Report

Long-Term Plan (30-yr)

- Determine Scale/Protection Level
  - (Minimum-Optimal-Maximum)
- Evaluate nourishment volumes/costs
  - Relate to project scales
  - Analysis of fill section volume vs. cost
- Outline borrow requirements
  - Identify potential future borrow sites
- Model Simulations
  - Erosion scenarios and vulnerable properties
- Permitting Requirements
  - Developing a programmatic document to reduce permitting times
- Maintenance and Monitoring Requirements
  - Refine Re-nourishment triggers
- Final Report