

# OCEAN CITY DREDGING PROGRAM UPDATE

Mayor Jay Gillian and City Council

Ocean City Free Public Library  
January 25, 2016 7:00 PM



# ACT / ANCHOR TEAM

## **Carol Beske, Project Principal**

- 12+ year history with Ocean City projects
- 32 years Public Involvement experience

## **Eric Rosina, Project Manager**

- 20+ years environmental impact project experience
- 15 years New Jersey permitting experience

## **Ram Mohan, PE, PhD, Dredging Engineer**

- 27+ years worldwide dredging experience
- Chairman, World Organization of Dredging Associations

## **Robert Korkuch, PE**

- 28+ years public infrastructure, municipal engineering, land planning experience

## **Michael J. McGuire, PLS**

- 32+ years surveying experience

## **Travis Merritts, PE**

- 10+ years nationwide dredge project design experience

## **Junetta Dix**

- 25+ years environmental permitting experience
- 10+ years permitting for Ocean City



Project Team

## 2015 DREDGE PROGRAM OVERVIEW

Bathymetric Survey –

“Tip to Tip – Bulkhead to Bulkhead”

- ~875,000-900,000 CY material in Ocean City waterways to be removed to -5-6' MSL
- Lagoons and areas of bay front have most sediment accumulation
- Intracoastal Waterway not at -5-6' MSL in some areas



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The ACT/Anchor Team conducted a Bathymetric Survey of Ocean City's bay front. The survey included the entire bay front, each of the lagoons and all private slip areas. In addition, the survey included historical navigable routes to the Intercoastal Waterway. We appreciate the cooperation of City residents and guests as we spent many days in the City's waterways.

Around the room we have prepared exhibits depicting the bathymetry of Ocean City's waterways. This detailed survey is a key component of future dredge permits, contract and material management models for the City.

# 2015 DREDGE PROGRAM OVERVIEW

## Snug Harbor Dredge Rebid

### Planned

- Pier to Pier Channel Dredging
- -5' MSL Dredge Design Depth
- Material Handling through Rt 52 CDF
- Material Shipment to Wildwood for Landfill Capping



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The 2015 Ocean City dredge program was limited to Snug Harbor as this was the most impacted area of the back bay. The City Contract was designed to mechanically remove sediment within the central channel area to a design depth of -5' MSL with a 1' over-dredge allowance. Materials were anticipated to be handled through the Route 52 CDF and shipped to Wildwood to be utilized as Landfill Cap material.

## 2015 DREDGE PROGRAM OVERVIEW

### Snug Harbor Dredge Rebid Achieved

- 9,600 CY Dredged by 12/31 permit limit
- -3' MSL with deeper spot depths
- Material Shipment to Wildwood for Landfill Capping and Cape Materials for blending and reuse



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The City's permits contain a prohibition for turbidity generating activity after October 1 which the team was able to have waived through December 31, 2015. This extension allowed the contractor to complete the center channel dredging to a depth of -3' MSL. Materials were handled through the Route 52 CDF for the first time since it's construction by NJDOT and shipped to both Wildwood and Cape Materials for landfill cap and blending and reuse respectively. While the team anticipated that the contractor would have time to conduct some private slip dredging before the end of the year, delays prevented this from happening.

# 2015 DREDGE PROGRAM OVERVIEW

## Permitting/Review Agencies



## Dredging Seasonal Restrictions (current permits)

- |  |                             |
|--|-----------------------------|
| ▶ Winter Flounder – South of Absecon Inlet   | January 1 – May 31 (Lifted) |
| ▶ Osprey – No Operations w/i 500' of Active Nest   | April 1 – August 15         |
| ▶ Anadromous Fish – No sediment generating activity  | March 1 – June 30           |
| ▶ Blue Crab – No Dredging  | December 1 – March 31       |
| ▶ Shellfisheries – No Dredging, No discharge Rt 52 CDF (waived through 12/31 in 2015) - Glenn Cove, Snug Harbor, Bay Front areas, North Point Lagoon | October 1 – April 31        |



Ocean City's dredging program is subject to the review of multiple State and Federal agencies. Including the NJDEP, USEPA, USACE, US Coast Guard, NOAA's National Fish and Wildlife Service, and both the US and NJ Fish and Wildlife Services.

These reviews result in restrictions that affect when dredging activities can be conducted. Even though the Winter Flounder restriction was recently lifted South of Absecon Inlet, the overlap of these timing restrictions means that the July 1 remains the start of Ocean City's dredge season under the current permits.

# 2015 DREDGE PROGRAM OVERVIEW

## CDF Capacity

- ▶ Route 52 CDF – 6,800 CY (Operational)
- ▶ CDF 83 ~100,000/300,000 CY (current/repaired)
- ▶ CDF 83 Temporary Haul Road
  - ▶ NJDEP Permit Issued
  - ▶ USACE Permit Pending (NOAA - NMFS Review)
- ▶ Construction bids received and awarded (permit pending)
- ▶ Wetland Restoration/Shoreline Resiliency Design/Permitting
  - ▶ Potential Sites Identified



In 2015, the ACT/Anchor team evaluated Ocean City's current dredging permits and programs. Maintenance of navigable waterways, development of usable CDF Capacity, and building shoreline resiliency were identified as key first steps to Ocean City's dredging program.

The team developed design plans for a Temporary Roadway to empty CDF 83 to provide a near term solution for material placement and handling. The USACE permit for this project is currently pending and construction is currently anticipated to begin when the permit is received.

In addition, the Team has worked with the City to identify key sites to strengthen the shoreline resiliency along the back bay. The team is continuing to work within the grant process (National Fish and Wildlife Foundation) to evaluate each of these site and submit permit applications to complete this important project to protect the City.

# DREDGE PROGRAM OVERVIEW

- ▶ Financial Analysis (2016-2027)
  - ▶ - 6' MSL Dredge
  - ▶ - 4' MSL Dredge
- ▶ 2016-2018 Dredging Program
  - ▶ Empty Dredge Material from CDF 83
  - ▶ Modify CDF 83 for future use
  - ▶ Obtain New USACE Permit to Dredge Bulkhead to Bulkhead Tip to Tip
  - ▶ Obtain New NJDEP Permit to Dredge Bulkhead to Bulkhead Tip to Tip
  - ▶ Permit/Conduct Wetland Restoration/Shoreline Resiliency Projects
  - ▶ Dredge shallowest City channels to -4 MSL, provide capacity for add-on private slip dredging
- ▶ 2018+ Long Term Planning
  - ▶ Develop Long Term Dredge Master Plan



The Team continues to work with the City to develop a financial model that meets the project goals. This includes the evaluation of both a 6' and 4' dredge prism across the back bay.

The near term programming looks to restore/enhance the material capacity related to CDF 83, obtain required permits for City-wide dredging and key shoreline resiliency projects, and dredge the shallowest City channels to a depth of -4' MSL. In addition, the team is aware of the need for dredge material handling capacity for the private slips and will continue to work with owners to meet this demand.

We are also evaluating our near term actions in light of developing a Long Term Dredge Master Plan for Ocean City.

## NFWF WETLAND RESTORATION GRANT UPDATE

### ▶ Project Goals

- ▶ Restore up to 150 wetland acres in Great Egg Harbor Bay
- ▶ Enhance and raise damaged wetlands to mitigate future storm impacts
- ▶ Provide healthier marsh habitats
- ▶ Facilitate beneficial use of dredged material

Coastal Resiliency  
Habitat Enhancement  
Economic Benefits

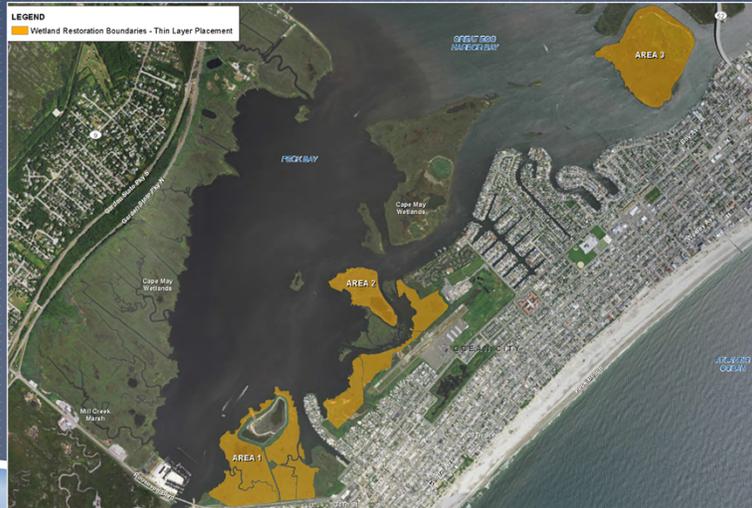
The NFWF grant obtained by the City provides for investigation and design of wetland restoration along the back bay as a beneficial reuse of dredged material. It is consistent with national practices for reusing dredged material beneficially, and helps achieve three goals – improved coastal resiliency, enhanced habitat value, and economic benefits through possible storm damage reduction.

## NFWF – TECHNICAL APPROACH

- ▶ Thin Layer Placement Technology
  - ▶ Placement of a thin layer of dredged material to enable reclamation/restoration of lost intertidal wetlands
  - ▶ Proven technology to enable reestablishment of vegetation in degraded wetlands
  - ▶ Enhances natural sedimentation process.
  - ▶ Sustainable end use of material.
- ▶ Shoreline Resiliency
  - ▶ Possible shoreline enhancement/expansion
  - ▶ Protection during storm events
- ▶ Design Approach and Path Forward
  - ▶ Obtained preliminary feedback from agencies
  - ▶ Continue with design

Thin layer placement of dredged material has been studied well in the past 20-30 years, by the U.S. Army Corps of Engineers, and its beneficial aspects well documented. While initial smothering of vegetation is expected during placement, plants normally revegetate more vigorously after one to two growing seasons. The restored marsh, if designed properly, will also provide shoreline resiliency. ACT/Anchor/JNDI met with regulatory agencies and obtained preliminary feedback on the project in January.

## NFWF - PRELIMINARY IDENTIFIED SITES



We have identified three potential areas where thin layer placement can be beneficial. The three areas are wetlands surrounding CDF 83 vicinity (Area 1), wetlands behind OCNJ airport (Area 2), and Cowpens Island (Area 3). All three areas have distinct benefits and some drawbacks. Per the feedback from the recently held regulatory agency meeting, ACT/Anchor will be preparing a detailed engineering evaluation of these alternatives. Once completed, that will be presented to the agencies for their approval.

## NFWF – CONCEPTUAL DESIGN APPROACH



The site that appears to offer the best advantage seems to be the wetlands behind the OCNJ airport.

The green lines show the possible shoreline expansion of wetlands to provide additional storm resiliency benefits.

Another habitat friendly feature that we are evaluating are the bird islands, which are raised features selectively placed over existing wetlands.

Depending on the tide levels and local topography, anywhere from 6 inches to 12 inches of material could be placed along these areas.

We will be advancing the design details for this project, and preparing construction bid documents this year.

This is part of the City's long term master plan of sustainable management of future dredged material.

# QUESTIONS/COMMENTS

Comments:

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