



THE CRANEY ISLAND CONNECTION

CRANEY ISLAND EASTWARD EXPANSION NEWS AND INFORMATION

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VPA LOOKS TO INITIATE CRANEY ISLAND EXPANSION CONSTRUCTION START



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THE CRANEY ISLAND CONNECTION IS PUBLISHED MONTHLY UNDER THE AUSPICES OF THE VIRGINIA PORT AUTHORITY AND THE U.S. ARMY CORPS OF ENGINEERS, TO PROVIDE READERS WITH REPORTS RELATED TO THE DEVELOPMENT OF THE EASTWARD EXPANSION OF CRANEY ISLAND. ARTICLES PRINTED HEREIN ARE FOR INFORMATIONAL PURPOSES ONLY. WE INVITE READERS TO COMMENT ON ARTICLES AND SUGGEST FUTURE TOPICS FOR CONSIDERATION.

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The Virginia Port Authority (VPA) plans to move forward with a Commonwealth Port Fund bond to initiate Craney Island Eastward Expansion construction. When issued, the bond will fund the first construction contract, which includes components of the expansion cross dike and project mitigation plan. The bond will be timed to allow dredging to occur during the winter months, By issuing the bond, dredging can proceed during the winter months, thereby avoiding the turtle migration that occurs during the spring and summer months. This issue of *The Craney Island Connection* examines project funding, construction phasing, and the first construction components, as we countdown to the start of construction.

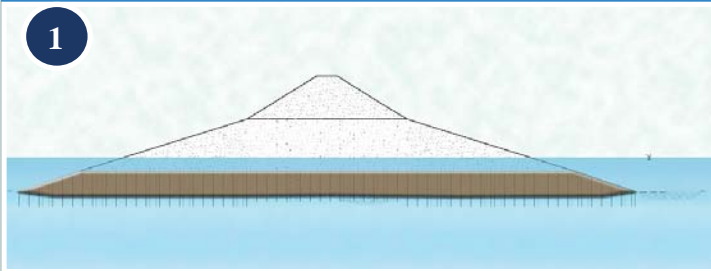
PROJECT PHASING AND FUNDING

The Craney Island Eastward Expansion is funded under a 50/50 federal-state, cost-sharing arrangement. In 2009, Congress appropriated the first Federal appropriations—\$100,00—for project construction. While this initial National investment represents only a small percent of the federal funds authorized for the project, it allows the VPA to leverage state funding and initiate construction.

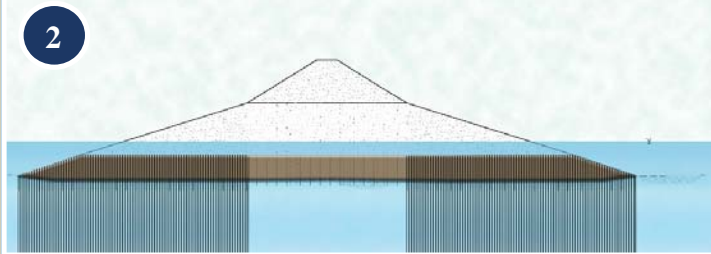
By starting dike construction, engineers will have more flexibility to drive the project schedule according to the project's dual needs—cargo and dredged material capacity demand. Accordingly, the project partners are bidding the project contracts in phases aligned to this demand, as well as available project funding.

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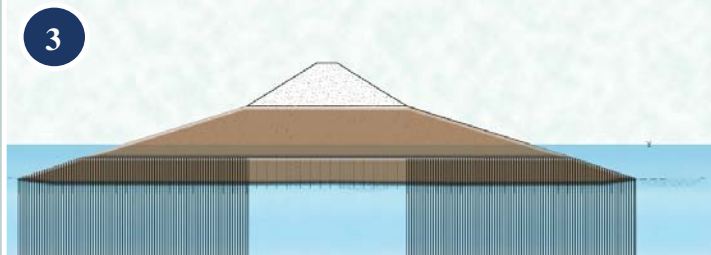
CROSS DIKE CONSTRUCTION SEQUENCE



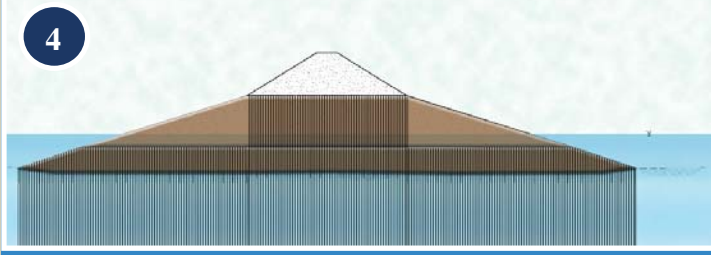
LIFT 1



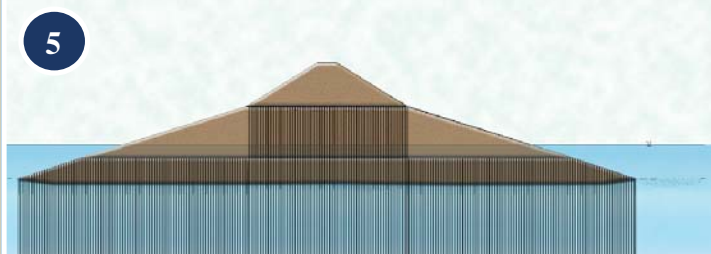
PVDS OUTER 3RD



LIFT 2



PVDS LANDSIDE

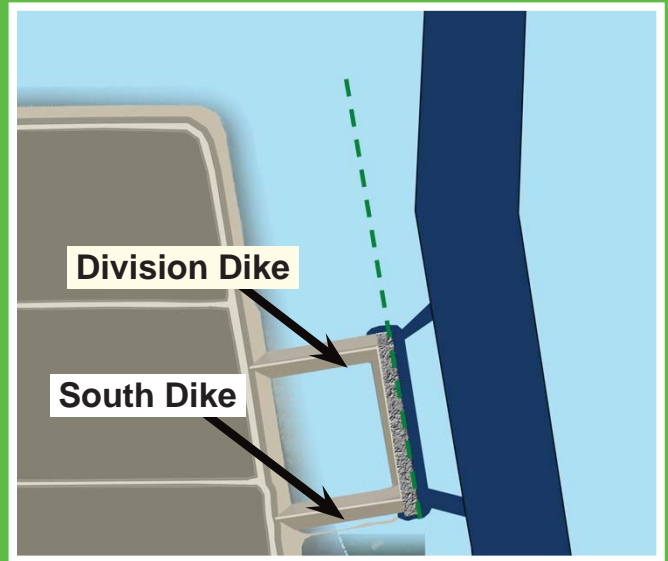


LIFT 3

To fund large capital infrastructure projects like the Craney Island Eastward Expansion, the VPA will typically issue bonds—backed by either terminal revenues, or as in this case—Commonwealth Port Funds (CPF). The CPF is a dedicated fund created in 1987 for port development and represents only 4.2% of the Transportation Trust Fund. CPF funds will account for a little over 20% of the project cost, while the majority will be covered by terminal revenue and federal investment.

The initial construction contract includes construction of the containment cell cross dikes. Additional contracts bid in 2010 include the first environmental mitigation project and the Naval pipeline relocation. Main dike construction, completion of the cross dikes, and additional mitigation projects will be bid over the course of the next several years.

By working diligently to maintain an appropriate pace of construction, the project partners can ensure that construction is completed in an efficient, cost-effective, and timely manner. The next sections explore the initial construction components in greater detail.



Eastward Expansion South Cell

CROSS DIKE CONSTRUCTION

The project expansion area consists of two cells that will be bound by perimeter dikes—three cross dikes and a main dike. The cross dikes—south, division, and north—will be constructed by placing layers of sand. The first contract includes the initial sand lift on both the south and division dikes. This material will be dredged from the Atlantic Ocean Channel and then placed in controlled lifts via barges.

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PARADISE CREEK WETLANDS



APM TERMINAL LEASE DEAL
The Virginia Port Authority and APM Terminals Virginia have reached an agreement for the state to lease the APMT Portsmouth terminal for 20 years. The deal will add much-needed cargo capacity to the Port, in the short-term. However, the Craney Island Eastward Expansion is still required to meet cargo capacity demand. The project will further position Virginia to become the leading port on the East Coast.

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The prefabricated vertical wick drains or (PVDs) will then be installed as a ground improvement technique to drain the material of excess moisture, thereby solidifying the layer. The cross dikes will be built in a step-by-step sequence to allow strength gain in the underlying material as the dikes are built higher. The construction sequence for each cross dike is illustrated in the graphic on page 2.

- **Step 1** – Sand fill is hydraulically placed approximately 900 feet wide, in thin layers
- **Step 2** – PVDs are installed along the outer 1/3rd of the 900 feet wide sand blanket
- **Step 3** – Additional sand fill is hydraulically placed
- **Step 4** – PVDs are installed along the center 1/3rd of the dike
- **Step 5** – Additional sand fill is hydraulically placed

After the dikes are built, the site will be filled with dredged material mined from the existing Craney Island facility, as well as from future dredging operations in Norfolk Harbor. Ground improvement techniques will then be used to strengthen the newly-placed material. At this time, the open-pile supported wharf structure will be built. The wharf will be capable of accommodating up to twenty-eight container cranes for cargo loading and unloading operations.

With the first phase of the marine terminal complete, the remainder of the eastward expansion will continue to

receive dredged material. At this time, the terminal will be operational. The terminal will continue being built in phases in order to meet the Port's future cargo needs.

FIRST MITIGATION CONTRACT

A separate initial contract will include the first mitigation project: creation of 10 acres of wetlands from upland area along Paradise Creek in Portsmouth, VA.

The wetland basin creation involves the excavation of about 310,000 cubic yards of material from a vacant lot adjacent to Paradise Creek, near the south boundary of the City of Portsmouth, and owned by the Elizabeth River Project.

The excavation is configured to include tidal channels, low and high marsh vegetation, and grass-covered slopes and terraces. The excavation will be followed by the creation of a park around and into the wetland basin by the Elizabeth River Project. Restored wetlands act as a natural buffer to filter run-off. Healthy wetlands filter water to improve quality, create fish and wildlife habitat, assist with flood control and erosion.

CONCLUSION

The first project construction phase includes the cross dikes and wetlands creation at Paradise Creek. It will allow the project to begin generating economic benefits for Hampton Roads, including numerous regional jobs. The combination of state and federal allocations that will fund the project recognizes these benefits, as well as the critical importance of expanding container cargo and dredged material placement capacity.

Oysters Overboard

Western Branch Middle School seventh graders in Cathy Robert's life science classes have been growing oysters at Hoffer Creek Wildlife Preserve. On May 12th, the year long project culminated when the students sailed on the Chesapeake Bay Foundation's Bea Hayman Clark environmental-education boat from Scotts Creek Marina in Portsmouth to an oyster reef in the Western Branch of the river.

When they reached the reef, the students dropped their full-grown oysters into the river to join the existing reef. In addition to planting their oysters on the trip, the students also collected crab pots and examined aquatic species that they caught from the river. Students were joined by VPA, Hoffer Creek, and Army Corps of Engineers representatives.

The students applied classroom lessons in water quality to the project and used a variety of techniques to test the health of the river. The oyster reef program will go a long way in educating students living in the region about ways they can support the long-term health of the river, In ad-

dition to providing a habitat for over 300 aquatic species, oyster reefs act as a natural water filtration system. Oysters can filter up to 60 gallons of water a day, which reduces sediments and pollutants in the water.

Chesapeake Bay Foundation educators Yancy Powell and Captain Jimmy Sollner led the trip. The pair takes more than 2,500 students on the water every year to educate them about the environmental health of Hampton Roads waterways and learn what they can do to improve it.

The oyster program is made possible through a partnership between The Virginia Port Authority and Western Branch Middle School, under the national Learn and Serve America grant program.



Students Ready to Toss Oysters Overboard Into The River



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