

# Craney Island Navigational Needs Meeting

April 13, 2000

- Introductions and Overview of Goal for Meeting
- Identify Criteria for Port Design
- Alternative Footprint Discussion
  - Moffatt and Nichols
  - Corps of Engineers
- Status Review and Task Identification

## Craney Island Navigational Needs Meeting

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### Attending:

Michelle Banton	Waterways & Ports	(757)441-7491
John Stuart	Moffatt & Nichol Engineers	(804)320-1996
John Lesnik	Moffatt & Nichol Engineers	(919)781-4626
Doug Stamper	Waterways & Ports	(757)441-7861
Norm Malbon	Cost Engineering	(757)441-7707
Shana Heisey	Planning – Economics	(757)441-7102
Richard Klein	Operations Br/Design Sect	(757)441-7243
Helene Haluska	Planning	(757)441-7008
Stephen Powell	Waterways & Ports	(757)441-7788
Rich Winterfield	Waterways & Ports	(757)441-7113

The meeting began with introductions and a brief history of those who attended. The attendees represented diverse expertise backgrounds, adding significant value to the meeting. Ms. Michelle Banton indicated that this would be a “working” meeting with a goal of establishing Port Criteria, Existing Conditions, General Concerns for building the Eastward Expansion and the Port Facility, and to evaluate some port designs.

Mr. John Lesnik and Mr. John Stuart of Moffatt and Nichol Engineers displayed two port designs to discuss. Both designs were generated utilizing the Eastward Expansion of Craney Island, representing the maximum and minimum expansion scenarios, with setbacks from the channel edge of 300 feet and 830 feet respectively. The minimum design utilized simple geometric rules based on vessel maneuvering considerations in the channel and the anticipated overhang for the container cranes. For a more refined solution, it would be necessary to run vessel maneuvering simulations. Mr. Lesnik offered to set up a meeting to demonstrate M&N’s vessel maneuvering simulation capabilities if the district is interested. Mr. Lesnik explained the issues and thoughts they had while creating the port design. He noted that the existing soil conditions would be a very large design challenge to overcome. He discussed that for container terminals, rectangular spaces (or the simplest geometry) are more efficient in terms of limiting handling of containers and traffic flow. Another key element of the port design would be berths or piers. Mr. Lesnik explained that since containerization, port design has evolved to vessels berthing alongside the wharf. The container cranes used to unload the vessels are on rails to facilitate ease of movement. The booms of the cranes extend 180 feet beyond the wharf which when lifting a container causes tremendous loads on the wharf. Due to the poor foundation conditions present, a wharf structure will have to pile supported. Both designs illustrated an initial 2-berths (2400’) terminal, designed for “Suez” class vessels, with future single berth (1200’) expansions. Ms. Shana Heisey inquired into the vessel/ cargo forecast modeling. Mr. Lesnik indicated that Dr. John Ricklefs of Moffatt and Nichols Engineers New York Office would be the person to contact. It was mentioned that the Virginia Port Authority hoped to have the new terminal operational in 2015 but Mr. Lesnik added that Moffatt & Nichol is completing a

Master Plan for VPA. The outcome of that Master Plan could be some reconfiguring of VPA's existing facilities such as VPA's schedule for requiring a Craney Island terminal to meet future cargo demands might change somewhat.

Cost issues surfaced several times. Ms. Heisey explained that under current Corps policy, the study would identify the National Economic Development (NED) plan. This will be the option that provides Hampton Roads sufficient disposal capacity over the 50-year project life at the least cost. The feasibility study may also identify a locally preferred plan. If this plan is implemented the local sponsor will be required to pay 100% of all costs above those of the NED plan.

The focus of the group moved to identifying the Port Criteria, Existing Conditions and General Concerns (attached). One concern was how a port terminal on the East side of Craney Island affect the ability to direct-pump to Craney Island and how would that affect dredging costs?

As the meeting concluded, the following action items were noted:

- Corps will provide the analysis of future Dredged Material Capacity Requirements
- Corps will provide Moffatt and Nichol guidance about how to deal with Rehandling basin
- Moffatt and Nichol will provide four footprint alternatives, with revisions due in 3 – 4 weeks from Mr. John Stuart, to include:
  - Eastward Footprint with 300' channel set-back
  - Eastward Footprint with 830' channel set-back
  - Northward Footprint
  - Footprint incorporating Northward and Eastward expansions
- Moffatt and Nichol will send AutoCAD drawings of alternatives presented at this meeting to the Ms. Banton
- Moffatt and Nichol will provide cross-section alternatives for port construction.

Port Criteria	Existing Conditions	General Concerns
Rectangular spaces	Poor conditions (foundation) 90' to competent	Potential strong environmental concerns
Limit handling - # of times move	Proximity to channel (very close)	Northward expansion will have to mesh with VDOT's 3rd Crossing
Heavy loads	Heavy vessel traffic	
Wharf (pile supported) approx. 1000 psf	Rehandling basin - critical to channel maintenance and local economy (small business).	Source of fill material - conflict with beneficial use & CI management use
Storage area approx 500 psf		
Transportation Corridor - Rail / Highway		
Utility Access	Old hopper dredge mooring	Authorization does not include channel/turning basin:
Acreage - ~500-800 (~175 ac. To start, 5 additional berths @ ~90 ac each	Existing pipelines	? maybe VPA can handle legal aspects/funding
Channel buffer - influence from passing vessels		? modify NH deepening authorization
Settlement issues - limit differential settlement		Access to Craney Island by dredging equipment.
Design Vessel - at least Suez class		
Need for widening of channel or turning basin		
Retain an active rehandling basin @present location		
New work material used as fill		
Port Operational by 2015		
12 - 15' Wharf Height (max.)		