

MEMORANDUM OF FINDINGS

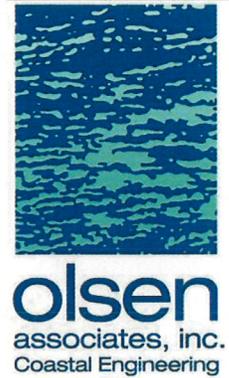
TO: Andy Sayre, Mayor – Village of Bald Head Island, N.C.

CC: Chris McCall; Charles Baldwin, Esq.

FROM: Erik J. Olsen, P.E. 

DATE: 18 August 2020

RE: Integrated Section 203 Study and Environmental Report
Wilmington Harbor, N.C. Navigation Improvement Project (Ref: WHNIP 203)



During the public review process for a proposed channel deepening project, the Village of Bald Head Island (VBHI) submitted three (3) sets of formal comments to the record detailing numerous concerns, omissions or factual information related to potential project related impacts. Many of the topics addressed in its comments related to specific experience associated with the 2000 Wilmington Harbor Navigation Channel Deepening project and some 20 years of post-construction monitoring performed by the VBHI.

On 23 July 2020, a special purpose teleconference was held between Village representatives and N.C. State Ports Authority Director, Paul J. Cozza, his staff and the consultant team retained to prepare the Section 203 Report. As a result of that meeting, the Village was provided some level of confidence that various technical issues of concern outlined in the Village’s submittals to the record would be evaluated, or studied where the requisite analyses had not been performed. In addition, it was noted by Ports Director Cozza that substantial “work” still needed to be performed during Planning, Engineering and Design (PED), as well as ironed out during the NEPA process.

Unfortunately, the most overarching concern of the Village of Bald Head Island was left unresolved. This involved a firm commitment for the continued implementation of the Wilmington Harbor Sand Management Plan (WHSMP). To that end, Ports Director Cozza recommended that, as Mayor, you communicate directly with the Wilmington District Engineer, Col. Ben Bennett in order to seek assurances from the District that this landmark Regional

Sediment Management (RSM) Plan would be continued into the future. Accordingly, the following discussion and details have been prepared for purposes of your submittal to Col. Bennett and the Wilmington District staff.

Wilmington Harbor Sand Management Plan (WHSMP)

The WHSMP was formally adopted and codified as part of the NEPA and SEPA Permit process for the federally authorized 2000 Wilmington Harbor Deepening Project as planned, designed and constructed by the Wilmington District, US Army Corps of Engineers (USACE). During the permitting and environmental assessment stage of that project, in-depth coordination by the District with various affected parties was performed in an effort to address their concerns. For purposes of mitigating both known *and* unknown aspects of the 2000 channel deepening project at the entrance to the Cape Fear River, the District formulated a unique *Sand Management Plan* intended to address both new work *and* future channel maintenance operations which historically had not included disposal of littoral sands back to the adjacent beaches, or to the nearshore active littoral zone. As such, the *Plan* acknowledged that over many decades the removal of millions of cy of beach quality material to an offshore Dredged Material Disposal Site (ODMDS) had been highly impactful to the Cape Fear inlet sand sharing system, which had preceded navigation project development and maintenance beginning in the 1800's. Accordingly, the WHSMP was intended to not only address potential new project related impacts to the two adjacent barrier islands, but also to make up for prior disposal practices which today are known to be totally inconsistent with Federal policy regarding Regional Sediment Management (RSM) and with the State of N.C. Coastal Zone Management Act (CZMA). For purposes of CZMA legal consistency, the *Sand Management Plan* formulated by the Wilmington District committed to the beach placement of beach compatible material excavated during the new work construction of channel improvements within Bald Head Reach 2, Bald Head Reach 1 and the Smith Island Range – all located within the inlet entrance to the Cape Fear River. Similarly, all future maintenance material from those three (3) reaches would be placed on the shorelines of Oak Island and Bald Head Island *at no cost to local interests* – pursuant to the tenets of the Plan which included a ratio for the future distribution of littoral material. The WHSMP, as permitted, likewise stated that the beach disposal plan codified therein would apply for the “life of the project”.

As discussed with Ports Authority representatives in the July teleconference, a major objectionable element of the current Section 203 Report, as “formulated” by their consultant team, is that it procedurally concludes that an associated Phase III Dredged Material Management Plan (DMMP) should supersede the existing WHSMP. At that time, you stated the concern to Ports Authority Director Cozza that if that were to occur, any changes in present day Regional Sediment Management practices by the Wilmington District would be unacceptable to the Village of Bald Head Island, as well as in all probability the affected communities on Oak Island. It was opined at the time by Mr. Cozza that the final decision to retain all elements of the WHSMP would be determined by the Wilmington District and that you should therefore interact directly with the District Engineer to seek assurances of same. For that purpose, I have enumerated several related technical concerns previously submitted to the Ports Authority and its consultants responsible for the formulation of the Section 203 Report.

Additional detrimental elements of the proffered Section 203 Report DMMP, are summarized as follows for consideration and action by the District staff:

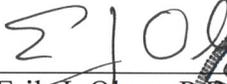
- The Report states that all material excavated from BH Reach 2 during the construction of the proposed deepening project for the entrance channel would be disposed of at the offshore dredged material disposal site (ODMDS) – in lieu of the adjacent shoreline of Bald Head Island. In contrast, all beach compatible material excavated from Bald Head Reach 2 during the 2000 Entrance Channel Deepening project was returned to the shoreline of Bald Head Island. At present, *all* channel maintenance material excavated from that channel reach *every* maintenance event is placed as beach disposal pursuant to the terms of the WHSMP. The Ports consultants noted incorrectly that much of the material associated with channel widening/deepening within BH Reach 2 is non-beach compatible. To that end we reminded them that such was the case with the 2000 Harbor Deepening project, as well as the fact that programmatically when new construction occurs – that it generally is concurrent with “channel maintenance.” Hence, the net volume of beach compatible material to be excavated at that time will be significant and should not be removed from the littoral system to the ODMDS.

- The Beneficial Use of Dredged Material section of the 203 Report (App. R) cites ER 1105-2-100 which addresses the possibility of a local non-federal sponsor paying for the incremental cost of beach disposal over and above the least cost alternative computed by the Ports Authority, or their consultants. What is *not* cited – but which is an integral precept of the present day WHSMP is that even if beach disposal of maintenance material resulted in some additional cost, the Corps of Engineers, “under authority of Section 207 of the WRDA of 1996, can elect to use a slightly more costly disposal method if there are overriding environmental and erosion control benefits associated with the more costly scheme”. *As a direct result, since 2000, all routine channel maintenance beach disposal operations have been performed at federal expense without the requirement for a local partner contribution.* Accordingly, this component at the DMMP as formulated is *unacceptable*, since it violates the codification of the guiding principles of the WHSMP, the requirements of the 2000 Harbor Deepening Project Permits, and the legal requirement for CZMA Consistency regarding the protection of the sand resources of the State of North Carolina.
- Categorization of Dredged Material – Inconsistencies are present within the report in the categorization of dredged sediment (based on suitability for beach disposal) within the three (3) entrance channel reaches subject to both deepening and widening. That is to say, as with the 2000 Harbor Deepening project, sediment “quality” varies with depth. For example, most beach quality material within areas of new excavation lies above an absolute elevation of approximately -30 ft. NAVD, or higher. Hence, when excavating to the proposed depth of -47 ft. MLLW (+2 ft.), non-suitable material will be encountered which is *not* beach compatible and *cannot* be delivered to the shorelines of Oak Island or Bald Head Island, but rather must be separated for offshore disposal. This geotechnical fact-of-life is completely absent in both the categorization of sediment to be encountered during new work – and the requisite location for placement of dredged material. As noted above, the same error occurs in the designation for disposal of *all* Reach 2 sediment to the ODMDS – when the latter channel reach is known to contain substantial quantities of beach compatible material – and that *all* ongoing maintenance material excavated episodically from that segment is today placed on the shorelines of either Oak Island or Bald Head Island pursuant to the terms of the WHSMP. It is assumed that District

engineering staff, with 20-years of institutional knowledge of channel design and maintenance requirements (since 2000), will address such issues during the PED phase for the channel deepening project – prior to its eventual implementation. Although the Village has submitted numerous technical comments and concerns regarding numerical modeling and littoral transport predictions or protocols associated with the Section 203 Report, they can be submitted independently to the District engineering staff for their consideration. Of immediate concern at present is the recognition of the Village’s strong objection to *any* potential changes in the practice of Regional Sediment Management and more specifically the WHSMP as it applies to the Cape Fear River Federal Navigation Project.

Summary

A coastal engineering review of the current Section 203 Report sponsored by the N.C. State Ports Authority, as formulated by their consultants, has disclosed material, harmful technical errors and omissions. Certain associated planning conclusions, or precepts, are contrary to the institutional and/or technical knowledge regarding the performance and maintenance of the 2000 Harbor Deepening Project, which was planned, engineered and subsequently constructed and maintained by the Wilmington District, USACE. For example, the current Section 203 Report fails to recognize numerous important components of the prior deepening project, which include strategic safeguards intended to protect *both* the sand resources of the State of N.C. and the adjacent barrier island shorelines bordering the entrance to the Cape Fear River. Codified by way of an adopted *Wilmington Harbor Sand Management Plan* for the entrance to the Cape Fear River, the currently authorized federal project has been designed and maintained in a manner intended to preclude major adverse impacts to non-federal lands. No recognition and direct engagement with local municipalities, or interests regarding this *special requirement* has occurred. As described herein, the Section 203 Dredge Material Disposal Plan is proposed to supersede the existing Wilmington Harbor Sand Management Plan. That should be avoided at all costs by the project sponsor, the USACE and all affected governmental entities.


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