

November 3, 2025

**Via U.S. Mail and Email**

US Army Corps of Engineers  
Wilmington District  
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Re: Wilmington Harbor 403 Draft Letter Report and Environmental Impact Statement,  
Wilmington Harbor Navigation Project, North Carolina

**COMMENTS SUBMITTED ON BEHALF OF THE VILLAGE OF BALD HEAD ISLAND:**

This firm represents the Village of Bald Head Island (“**VBHI**”) in connection with the proposed Wilmington Harbor Navigation Project (“**Project**”). These comments are submitted on behalf of VBHI in response to the Notice of Draft Letter Report and Environmental Impact Statement (“**Notice**”) for the Project issued by the United States Army Corps of Engineers (“**USACE**” or “**Corps**”) 19 September 2025. It is our understanding that these comments will be shared with the Independent Expert Peer Review members as well.

**I. Overview of Comments**

The Draft Letter Report (“**DLR**”) and the Draft Environmental Impact Statement (“**DEIS**”) interrelate so that flaws in the DEIS affect the analysis and conclusions of the DLR, and vice versa. For example, the DEIS’s failure to identify all impacts and the costs related thereto understates the Project’s cost and results in the DLR overstating the Benefit Cost Ratio (“**BCR**”), on which a feasibility determination hinges. In addition, both documents suffer from defects in procedure and substance. The 203 process, on which both the DLR and DEIS depend, fundamentally violated the controlling statute. Despite comments repeatedly pointing this out,<sup>1</sup>

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<sup>1</sup> VBHI letter to ASA(CW), 28 Aug. 2019, with attachment; Brooks Pierce letter for VBHI to USACE Wilmington District, 11 Oct. 2019; Southern Environmental Law Center letter to USACE Wilmington District, 11 Oct. 2019; North Carolina Coastal Federation letter to USACE Wilmington District, 11 Oct. 2019; Brooks Pierce letter for VBHI to USACE Wilmington District, 30 June 2023; Southern Environmental Law Center letter to USACE Wilmington District, 30 June 2023; North Carolina Coastal Federation letter to USACE Wilmington District, 30 June 2023; Brooks Pierce letter for VBHI to USACE Wilmington District, 22 July 2024; Southern Environmental Law Center letter to USACE Wilmington District, 22 July 2024.

the 403 and NEPA proceedings did not address<sup>2</sup> or cure the resulting flaws but instead compounded them. These procedural defects led directly to substantive errors in both documents.

Broadly speaking, the DEIS fails to take the requisite “hard look” at the environmental consequences of the Project.

1. It fails to consider the **cumulative impacts** of this and previous projects, in particular the 2000 Wilmington Harbor Project (“**2000 WHP**”), and thus trivializes the devastating impacts caused by continuing to maintain and now expand the Wilmington Harbor Federal Navigation Channel (“**Channel**”). *See Nat’l Audubon Soc’y v. Dep’t of Navy*, 422 F.3d 174, 185, 196 (4th Cir. 2005) (citing prior CEQ regulations substantively identical to the version of regulations applicable here); *see* 40 CFR 1508.1(g)(3) (version eff. May 20, 2022 to April 10, 2025). *See* III C, below.
2. It fails to correctly identify and evaluate the impact of “**connected actions**,” most particularly the annual maintenance dredging that will be necessary, thereby failing to identify and account for additional required mitigation. *See Seven County Infrastructure Coalition v. Eagle County, Colorado*, 145 S.Ct. 1497, 1516 (2025) (reasoning that when there is a “reasonably close causal relationship” between the project at hand and the environmental effects of related work, the effects of the related work should be considered in the EIS). *See* III D, below.
3. It disregards the express conditions and environmental safeguards built into the 2000 WHP and thus inflicts harms previously addressed (incompletely) through the Sand Management Plan incorporated into the 2000 WHP and compounds that harm with the new harms from the currently proposed Project. *See* III E, below.

Similarly, the DLR continues to follow a flawed process and reaches unreliable conclusions regarding the issues identified in the May 2020 ASA(CW) Assessment Review (“**ASA Assessment**”).

4. It fails to implement the required procedural safeguards for developing a Report compliant with Corps guidance, as required by statute. *See* IV B, below.
5. Because the Corps’ sand modeling and related analyses were not open to the public, the results reached were flawed and demonstrably unreliable. *See* IV C, below.
6. The NED analysis failed to include the public, resulting in Project Planning Objectives (DLR p. 2-3) that are incorrectly limited to examination of alternatives at the Port of Wilmington instead of addressing the broader stated National Purpose and Need (ES-2). *See* IV D, below. Substantive comments regarding the Economic

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<sup>2</sup> DLR Appendix O (“Public Comment Summary”) details the Corps’ review process and generalizes categories of comments but does not address how they were resolved. Nor does the main DLR document or any part of the DEIS.

Considerations (DLR Attachment 5) will be submitted separately, pursuant to an extension of time graciously granted by the Corps. *See* IV D 1, below.

Ultimately, the DEIS fails to identify the full range of impacts and the costs necessary to mitigate them. As a result, the DLR conclusion of feasibility is erroneous, since the borderline BCR declines further with the omitted costs included. Accordingly, the final feasibility decision for the Project is not supported or accurate.

## **II. Interests of Party Submitting Comments**

Bald Head Island sits at the mouth of the Cape Fear River and is immediately adjacent to the Corps-constructed and -maintained Wilmington Harbor Federal Navigation Channel (“**Channel**”) which is the subject of the Project. VBHI performs the responsibilities of a municipality in areas of public safety, utilities, and public works for the island and, representing the interests of its property owners, public, and the thousands of visitors to the island. VBHI and those it represents are vitally interested in, invested in, and affected by the health of the entire Cape Fear River (“**River**”) and the near-shore it directly affects. While VBHI property owners and visitors utilize vast stretches of the River, the Channel’s most direct historical impacts on VBHI relate to the sand transport systems at the River’s mouth, which is adjacent to VBHI. The Channel’s disruption of natural sand transport systems impacts the integrity and health of VBHI’s beaches, their related fish and wildlife habitats, and their resilience against storms, which protects VBHI’s infrastructure.

The last deepening and widening (hereinafter “deepening”) of the Channel, the 2000 WHP, resulted in extreme, harmful effects to the Island’s beaches, roads, homes, infrastructure, and habitat for endangered and threatened species of sea turtles, birds (including the Rufa Red Knott, Piping Plover and Wilson’s Plover), and other wildlife. Since 2000, VBHI has spent more than \$ 70 million in public funds to address these direct impacts from the 2000 WHP and prior Corps projects. *See* Bald Head Island Mitigation Costs of Navigation Channel Impacts (**Attachment A**). Informed by the experience of the 2000 WHP, as well as through consultation with experts discussed below, our review of the documents related to the new proposed project indicates that the harms to VBHI will be at least comparable to that experienced since 2000. Those harms are not adequately addressed by the DLR and DEIS. In addition, VBHI believes there will be other synergistic, harmful effects to the River and adjacent environs, habitats, residents, and visitors.

## **III. DEIS Substantive Deficiencies**

The following comments focus on the DEIS’s failure to consider current and cumulative impacts on the **sand transport system** at the River mouth, directly impacting VBHI.

### **A. The applicable standard of review requires reasonable analysis by the Corps.**

Agencies are afforded substantial deference in NEPA cases, and a reviewing court will look to whether the agency’s decision was “reasonable and reasonably explained.” *Seven County Infrastructure Coalition v. Eagle County, Colorado*, 145 S.Ct. 1497, 1511 (U.S. 2025). The Court in *Seven County* explained that it is an agency’s job to determine the scope of environmental

effects, but that NEPA itself mandates that this scope is the “proposed action” or “the project at hand.” *Id.* at 1512. When a court is reviewing the scope of an agency’s NEPA analysis, “[s]o long as the EIS addresses environmental effects from the project at issue, courts should defer to agencies’ decisions about where to draft the line. . . .” *Id.* at 1513. Thus, a prerequisite to granting an agency review under the substantial deference standard is a determination that an agency has accurately defined the “proposed action” and its scope.

**B. Prior deepening projects have negatively impacted the stability of Bald Head Island (“BHI”).**

Before examining the deficiencies in the DEIS’s scope of analysis, it is important to understand the history of the Corps’ navigation projects leading up to the current proposed project.

1. Historic dredging has impacted BHI.

Historically, the Channel entrance severed the inlet’s ebb tidal shoal, causing the eastern lobe (Bald Head Shoal) to migrate shoreward and resulting in the western shoreline of BHI to advance seaward 1500 to 2000 feet by the mid-1920s. *See* Ex. 2, Olsen letter to USACE Wilmington District, 21 July 1999 (**Attachment B**). The shoreline remained stable until about 1974. *Id.* Between 1881 and 1970, navigation projects nearly doubled the depth of the Channel, from 20 feet to 38 feet.<sup>3</sup> These projects and their periodic maintenance dredging interrupted the easterly sand drift, eroding the submerged portions of the shoal and resulting in rapid BHI shoreline collapse and retreat (60’ per year) beginning in 1974. *Id.* In 1989, the Corps investigated VBHI claims (as asserted by Olsen), and disagreed with those conclusions, but agreed that placement of beach quality sand was feasible to address the deteriorating shoreline. *Id.* Olsen rebutted those Corps’ conclusions but concurred in the plan to place sand on the beach on pragmatic grounds.

2. The 2000 WHP leads to 2000 Sand Management Plan.

The 2000 WHP as proposed and later implemented expanded the Channel dimensions and reoriented it closer to the BHI. VBHI’s consultant Erik Olsen<sup>4</sup> again raised concerns about the proposed Project’s impacts on BHI. *Id.* This, together with similar concerns raised by North Carolina’s Division of Coastal Management and others during the CZMA review, led to creation of the Sand Management Plan (“SMP”) (**Attachment C**), which later became a condition of the CZMA concurrence and the Corps’ FONSI for NEPA purposes.

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<sup>3</sup> Lower Cape Fear River and Estuary: History and Summary of the Proposed Port Deepening Issue Roger D. Shew, Table 1, <https://eaglesislandnaturepark.org/wp-content/uploads/2024/07/Cape-Fear-River-A-Little-History-and-Information-on-Port-Deepening.pdf>

<sup>4</sup> Erik Olsen is a former (now retired) consultant to VBHI. Mr. Olsen obtained a Bachelor of Science and Master of Engineering degree in coastal engineering, and accumulated more than 50 years of experience as a professional coastal engineer.

a. *Corps studies confirm the importance of littoral cell integrity.*

Responding to the concerns articulated by Mr. Olsen, the Corps conducted studies of the rate of longshore sediment transport moving toward the Cape Fear River entrance. *Id.*, ¶ 21, p. 10. Relying on those studies, the SMP re-confirmed the importance of maintaining sand within the active littoral system.

Natural supplies from rivers and streams are not replenishing littoral sediments, particularly on the East Coast of the United States. Thus, the **removal of a cubic yard** of littoral sediment from a tidal entrance or inlet with deposition outside the active littoral zone of the beach **will ultimately cause a cubic yard deficit** somewhere within the sand sharing system affected by that particular entrance or inlet.

SMP, ¶ 20, pp. 9-10 (emphasis added). Removal of sand from the system was identified by the Corps as “a major cause of man-induced erosion.” *Id.*

From an engineering perspective, the primary requirement for the Wilmington Harbor maintenance program, apart from assuring that the channel remains open year-round, is to **prevent project induced erosion of the adjacent beaches** by conserving the limited resource, sand, **through deposition directly on the adjacent beaches.**

*Id.* (emphases added).

b. *Placement of dredged material on **adjacent** beaches is critical to avoid Corps-induced harm.*

As recognized in the SMP, the forecasted (and later realized) Project-induced harm was because the “Federal Standard” for maintaining navigation projects “has not included the disposal of littoral sands on the adjacent beaches or in the active littoral zone” and “did not consider the overall impact of removing littoral sediment from the littoral system.” SMP ¶¶ 19, 20, p. 9. To address this, the SMP states:

In order to maintain the sediment balance on both islands, littoral material removed from the entrance channel **will be placed back on the beach from whence it came.**

SMP, ¶ 20, pp. 9-10 (emphasis added). A Corps study found that 66% of the sediment shoaling at the Channel entrance comes from Bald Head Island, and 34% from Caswell Beach. *Id.*, ¶ 22, p. 10.

- c. *In the DeLony Letter, the Corps adopted the SMP findings and pledged to use conforming disposal practices.*

In response to Olsen's memo and similar concerns raised by North Carolina in its CZMA review, the Corps Wilmington District Chief Engineer, Col. James DeLony, sent a letter assuring the local mayors that sand placement will be "according to the March 31, 2000 memorandum from Erik J. Olsen, consultant to [VBHI]...." DeLony Letter, 9 June 2000, p. 2 (**Attachment D**). More specifically, he stated:

The disposal of **all beach quality dredged material** will be accomplished in **accordance with** the Environmental Assessment [...dated February 2000] and its **Sand Management Plan**....

The Corps will conduct a monitoring program ... [and] will use this monitoring data to **evaluate and adjust** the Sand Management Plan, as determined necessary, after coordination with the parties.

*Id.* p. 3 (emphases added).

- d. *North Carolina conditioned its CZMA concurrence on the DeLony Letter's assurances.*

The final State CZMA determination states:

**Based upon** our review of **the EA** [Environmental Assessment] **and the Corps of Engineers' response to comments [the DeLony Letter]**, we do not disagree with your determination that the proposed construction and changes in harbor maintenance procedures are consistent with the North Carolina Coastal Management Program to the maximum extent practicable, **provided that the project is performed according to the EA (including the Sand Management Plan** and other appendices)...and that the conditions below are met.

Letter from Donna Moffitt, Director, NCDENR/DCM, 15 June 2000 to Col. DeLony, USACE District Engineer, p. 2 (emphasis added) (**Attachment E**). Among the other conditions then listed are: "impacts of this multifaceted project will be well documented in order to evaluate the effects on these resources on the overall coastal environment," including an "integrated monitoring plan" [Condition # 1]; adherence to the SMP [Condition # 3]; Corps request for review (supported by impact documentation) for any modification in future maintenance practices [Condition 4]; and, a separate consistency review of any proposal to place maintenance dredged material outside the locations established in the SMP [Condition 5]. *Id.*, pp. 3-4.

- e. *The 2000 WHP FONSI adopted the Moffitt letter and the SMP.*

Following the CZMA concurrence, the Corps issued its Finding of No Significant Impact (FONSI), relying specifically on the Moffitt Letter and its incorporation of the assurances in the

DeLony Letter: “We will comply with the indications in the [Moffitt] letter.” FONSI, § 3.00, p. 5, final bullet point (**Attachment F**). The final EA adopts the SMP goal that displaced “sand should be retained within the active coastal sand system.” EA, §1.03, p. 3.

The sand management plan (Appendix A [to the EA]) for the deepened Wilmington Harbor project **requires** that **all** beach-quality maintenance material **be returned to the adjacent beaches**. This will result in enhancement of the regional sediment budget.

*Id.*, §5.01, p. 27 (emphasis added).

Accordingly, the final 2000 North Carolina CZMA consistency determination and the EA-FONSI were **specifically conditioned** on the Corps complying with the Moffitt letter Conditions, including the SMP, to maintain sand in the littoral system by placing it on the **adjacent** beaches—BHI and Caswell Beach—and not in the Ocean Dredge Disposal Site or other beaches beyond the littoral cell. The SMP is a 2000 WHP project “condition,” and violating its specific conditions and purpose would “remove . . . material composing such works” and impair “the ability of the project to function as authorized,” contrary to 33 USC § 408(a). It is a baseline condition of the new proposed Project.<sup>5</sup> Without that protection, the damage from the 2000 WHP and associated maintenance dredging will be amplified and added to the new damage from the proposed Project.

3. Post-2000 WHP Impacts show continued disruption of the sand transport system that supports BHI.

Once implemented, the 2000 WHP continued to disrupt the sand transport system, undermining the BHI shoreline and causing an annual sand deficit despite periodic beach renourishment associated with Channel maintenance dredging. *See* Foth Review<sup>6</sup> (**Attachment G**). VBHI has expended over \$ 70 million addressing the damages caused directly by the navigation project since 2000. *See* Attachment A. The DeLony letter stated the Corps would monitor and adjust the placement volumes if the actual sharing ratio resulted in imbalance with the demonstrated impacts. No adjustment has been made despite the subsequent 20 years of monitoring data showing a significant sand deficit at BHI and excess sand at Caswell Beach and the correct ratio (BHI to Caswell) closer to 7:1 instead of 2:1. *See* Foth Review, (Attachment G), p. 11. In addition, the 2025 maintenance dredging project proposes to deposit sand dredged from the Channel on Oak Island beaches east of Caswell Beach and thus outside the recognized River

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<sup>5</sup> Although a particular method for establishing baseline conditions is not required by NEPA, “baseline conditions must be based on accurate information and defensible reasoning.” *Western Watersheds Project v. Schultz*, 2025 WL 2410283 at \*5 (D. Mont. Mar. 27, 2025) (quoting *Great Basin Resource Watch v. Bureau of Land Mgmt.*, 844 F.3d 1095, 1101 (9th Cir. 2016)).

<sup>6</sup> The “Foth Review” critically analyzes the DEIS with respect to sand transport and was prepared by Foth Infrastructure, LLC of Jacksonville, FL, who serve as consultants to VBHI and are well-recognized experts in coastal engineering.

mouth littoral cell, despite VBHI's objections<sup>7</sup> and in violation of the Conditions in the Moffitt letter (Attachment E, Conditions 3 and 5). And the DEIS proposes to continue these practices. DEIS p. 2-18, Table 2-7. The proposed Project will thus perpetuate and exacerbate the damage to BHI and the sand that forms it. Foth Review (Attachment G), p. 10, ¶¶ 1 and 2.

**C. Sand impacts are cumulative impacts that the DEIS fails to consider.**

1. CEQ regulations and extensive case law require analysis of cumulative impacts.

NEPA requires the Corps to take a “‘hard look’ at an action’s environmental impacts.” *Nat’l Audubon*, 422 at 185. The Corps’ “obligations under NEPA are case-specific” and the requisite “‘hard look’ is necessarily contextual.” *Id.* at 186. But no matter that context, the “hallmarks of a ‘hard look’ are thorough investigation into environmental impacts and forthright acknowledgement of potential environmental harms.” *Id.* at 187. The document memorializing that “hard look” is the EIS which “shall provide full and fair discussion of significant environmental impacts.” 40 C.F.R. § 1502.1 (version eff. Sept. 14, 2020).

NEPA and the operative CEQ regulations “specify that the EIS should contain,” among other items, “the environmental effects and impacts of the proposed action . . . and **the cumulative impacts of it combined with other past, present, or foreseeable future actions.**” *Nat’l Audubon*, 422 F.3d at 185, 196 (citing prior CEQ regulations substantively identical to the version of regulations applicable here<sup>8</sup>) (emphasis added); *see* 40 CFR 1508.1(g)(3) (version eff. May 20, 2022 to April 10, 2025) (“Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.”). “Cumulative environmental impacts are, indeed, what require a comprehensive impact statement.” *Kleppe v. Sierra Club*, 427 U.S. 390, 413 (1976). As CEQ noted in a 2005 guidance memorandum:

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<sup>7</sup> Correspondence from the Corps regarding the 2025 O&M dredging focuses on areas where the SMP uses general language (“Oak Island”) and does not address the overall specifically articulated goal of littoral cell protection, which does not encompass all of Oak Island. *See Attachment K.*

<sup>8</sup> Oddly, the DEIS states it is applying the “2020 Council of Environmental Quality NEPA regulations.” ES-1. But the Corps’ March 10, 2023 withdrawal of its September 12, 2019 Notice of Intent indicated that a **separate** environmental review process would be implemented. *See* Withdrawal of Notice of Intent, 88 Fed. Reg. 14993 (Mar. 10, 2023). Nothing in the June 7, 2024 Notice of Intent indicated the Corps would be applying CEQ regulations from 2020 instead of the then-applicable version—restating NEPA’s cumulative effects requirement—which remained in place from May 20, 2022 to April 10, 2025. *See* 89 Fed. Reg. 48602 (June 7, 2024). It would be particularly troubling if the Corps is attempting to avoid analyzing the cumulative impacts of the Project by applying a short-lived and highly questionable version of CEQ regulations. In any event, judicial interpretation of NEPA to require evaluation of cumulative effects necessarily controls over conflicting regulatory pronouncements. *See, e.g.,* National Environmental Policy Act Implementing Regulations Revisions, 87 Fed. Reg. 23453, 23466 (April 20, 2022) (“[R]estoring language on direct, indirect, and cumulative effects better promotes NEPA’s statutory purposes and is more consistent with the extensive NEPA case law. *See* 42 U.S.C. 4321-4332.”)

[I]nformation about the effects of past actions that were similar to the proposed action may be useful in describing the possible effects of the proposed action. In these circumstances, agencies should consider using available information about the effects of individual past actions that help illuminate or predict the direct or indirect effects of the proposed action and its alternatives.

*Guidance on the Consideration of Past Actions in Cumulative Effects Analysis* (June 24, 2005), available at: <https://www.energy.gov/nepa/articles/guidance-consideration-past-actions-cumulative-effects-analysis-ceq-2005>.

Failure of an EIS to comprehensively evaluate cumulative impacts is a fatal flaw. *League of Wilderness Defs.-Blue Mountains Biodiversity Project v. U.S. Forest Serv.*, 549 F.3d 1211, 1218 (9th Cir. 2008) (“[T]he Forest Service’s almost complete failure to include the relevant past-timber-sale inputs in the FSEIS itself fails to survive arbitrary and capricious review.”); *N. Carolina All. for Transp. Reform, Inc. v. U.S. Dep’t of Transp.*, 151 F. Supp. 2d 661, 698 (M.D.N.C. 2001) (“Failing to perform a cumulative impact analysis with no explanation for why such an analysis was not performed fails to examine an important aspect of the environmental issues involved with the [Project]. As a result, Defendants violated NEPA by inadequately addressing cumulative impacts in the FEIS.”) (awarding attorneys’ fees to challengers to inadequate EIS); *Georgia River Network v. U.S. Army Corps of Engineers*, 334 F. Supp. 2d 1329, 1338–39 (N.D. Ga. 2003) (FONSI case) (“Even a slight increase in adverse conditions that form the existing environmental context may threaten significant harm: ‘[o]ne more factory . . . may represent the straw that breaks the back of the environmental camel.’” (quoting *Hanly v. Kleindienst*, 471 F.2d 823, 831 (2nd Cir.1972))).

Failing to acknowledge—and then analyze—cumulative impacts of the Project will render the final EIS inadequate as a matter of law. “If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and publish a supplemental draft of the appropriate portion.” 40 C.F.R. § 1502.9(b) (version eff. Sept. 14, 2020); *see also* 33 C.F.R. § 230.13(b) (version eff. until July 2, 2025) (“A supplement to the draft or final EIS should be prepared whenever required as discussed in 40 CFR 1502.09(c).”).

For example, the Fourth Circuit affirmed that the Navy’s assessment of cumulative impacts for an outlying landing field was inadequate when the Navy failed to offer “any analysis of the possible cumulative effects of the proposed action.” *Nat’l Audubon*, 422 F.3d at 196. “The critical omission [was] the failure to discuss the potential cumulative effects of” the landing field. *Id.* at 197.

2. The DEIS does not evaluate the cumulative effect of the Corps’ navigation projects impacting BHI.

The DEIS only uses the word “cumulative” eleven times, in the context of sea-level change, bed shear stress from vessel passage, flooding, and blast pressure. Nowhere does the DEIS address the Project’s cumulative impact on the shoal that supports BHI. The 2000 SMP and experience gained over more than 20 years of its implementation require the Corps to consider the Project’s

incremental change and impact **in addition** to the historic impacts on the BHI shoal from the past channel deepening projects and other causes (sea level rise, storm intensity, etc.). Here, the Corps has decades of experience with the impacts of dredging on the shoal that supports BHI. It cannot satisfy its NEPA obligations by ignoring that experience, readily available data, and the cumulative impact of the Project on the stability of VBHI and its shoreline.

The DEIS includes no comprehensive modeling of the adjacent beaches as an integrated, dynamic system. VBHI offered Stantec (the Corps' consultant) 20 years of *actual* shoreline monitoring (some which was conducted pursuant to a 2005 settlement agreement with the Corps) which confirms the ongoing beach erosion directly related to the Channel and its annual re-dredging and the recurring, persistent sand deficit, as predicted by Olsen in 1999. That data offer was never accepted nor the data considered in the DEIS analyses. The importance of monitoring 2000 WHP's actual impacts, and adjusting for them, was anticipated in the Moffitt letter (Attachment E) when it included Conditions to that effect. The DEIS again ignores this.

Instead, the DEIS again mis-analyzes the Project impact and ignores relevant data, repeating—and indeed amplifying—errors from prior Channel projects. The model used under-predicts the impacts actually observed over the last 20 years by a factor of **more than five-and-a-half times**. Foth Review, (Attachment G), p. 8. The model used is so deficient that the Foth Review, after pointing out its many deficiencies, concludes: “As presented in the DEIS, GenCade is not capable of accurately computing sediment transport in this setting and should not be relied upon for impact assessment or project design decisions affecting the Bald Head Island shoreline.” *Id.*, p. 3. In other words, **the Project's impact on BHI was not analyzed in the DEIS, despite a demonstrated history of adverse effects**. The Corps must acknowledge and comprehensively study impact on the near-shore sand systems from: (a) the natural effects of the River; (b) historical deepening projects; and (c) the proposed Project. *See* III E, below.

3. Lack of adequate documentation defeats NEPA's purpose of public involvement.

The DEIS documentation is rife with unclear and undocumented procedures, as noted throughout the Foth Review. Without an evaluation of cumulative impacts, the Corps' analysis is incomplete. NEPA regulations require that relevant “incomplete but available information” must be included in the EIS. *See* 40 C.F.R. § 1502.21(b) (version eff. from Sep. 14, 2020 to June 30, 2024). The Fourth Circuit has held that “agencies violate NEPA when they fail to disclose that their analysis contains incomplete information.” *N. Carolina Wildlife Fed'n v. N. Carolina Dep't of Transp.*, 677 F.3d 596, 601–02 (4th Cir. 2012). Lack of information ultimately raises the question of whether the public was afforded its “opportunity to play a role in the decision-making process.” *Id.* at 604.

**D. Annual maintenance dredging is a “connected action,” which must be assessed in this EIS.**

The DEIS fails to identify and therefore evaluate important “connected actions,” most significantly annual maintenance dredging.

1. CEQ regulations and case law required analysis of connected actions in an EIS.

“Connected actions” must be identified and their impacts evaluated as part of the DEIS:

To determine the scope of environmental impact statements, **agencies shall consider:**

- (1) Actions (other than unconnected single actions) that may be **connected actions**, which means that they are **closely related** and therefore should be discussed in the same impact statement. Actions are connected if they:
  - (i) **Automatically trigger other actions** that may require environmental impact statements.
  - (ii) **Cannot or will not proceed unless other actions are taken** previously or simultaneously; or
  - (iii) **Are interdependent parts of a larger action and depend on the larger action for their justification.**
- (2) Alternatives, which include the no action alternative; other reasonable courses of action; **and mitigation measures** (not in the proposed action).
- (3) Impacts.

40 CFR § 1501.9(e) (emphases added) (version eff. Sep. 14, 2020 to June 30, 2024). This is reinforced by the requirement to discuss in the environmental evaluation “any irreversible and irretrievable commitments of Federal resources which would be involved in the proposed agency action should it be implemented.” ” 42 U.S.C. § 4322(C)(v); *see also* 40 CFR § 1502.16(a)(4) (version eff. Sep. 14, 2020 to June 30, 2024).

As the Supreme Court explained in *Seven County*, if there is a “reasonably close causal relationship” between the project at hand and the environmental effects of related work, then the effects of the related work should be considered in the EIS. *See* 145 S.Ct. at 1516. Generally, the Court explained that “other future or geographically **separate projects** that **may** be built (or expanded) as a result of or in the wake of the immediate project under consideration” are not included within the scope of a project for NEPA purposes. *Id.* at 1515 (emphasis added). However, the Court clarified that “environmental *effects* of the project at issue may fall within NEPA even if those *effects* might extend outside the geographical territory of the project or might materialize later in time . . . .” *Id.* at 1515 (emphasis in original).

2. Annual re-dredging of the Channel is a connected action.

Here, the proposed deepening project has an integrated and close causal relationship with the effects of the planned maintenance dredging. The Corps would not recommend spending \$ 1.4

billion of public funds to deepen and widen the Channel, only to then ignore it and allow it to revert (through natural sloughing and siltation) to its natural, shallower state, rendering the Channel useless for its intended Project purpose. Maintenance dredging is neither hypothetical nor geographically distinct from the Corps' proposed Project. Rather, it is planned, necessary, and **will** occur within the same Project footprint as the deepening work studied in the Corps' DEIS. For these reasons, maintenance dredging is a connected action the impacts of which should be included in the Corps' NEPA analysis. Relatedly, the long-term costs associated with these connected actions must be included in the DLR's NED evaluation.

When maintenance is necessary and foreseeable, "the effects of such maintenance must be addressed within [an] EIS." *Sierra Club v. Bosworth*, 199 F.Supp.2d 971, 985 (N.D. Cal. 2002). While the DEIS accounts for the future cost of maintenance dredging, **it does not consider and evaluate the environmental impact of that activity**, as required for a connected action. *See, e.g., Seven County*, 145 S. Ct. 1497, 1516, (U.S. 2025) ("In this case, the Uinta Basin Railway was the relevant project. NEPA therefore required the Board to consider the environmental effects of that 88-mile railroad line's construction **and operation.**" (emphasis added)).

At the 8 Oct. 2025 Corps Open House, several representatives mentioned that there are current discussions and tentative plans to conduct environmental studies (EAs or EISs) of the contemplated maintenance dredging plans. While laudable, those studies are required now,<sup>9</sup> as part of this Project. The impacts identified should be included **here** because that is what is required for a connected action.

3. The DEIS fails to analyze the impact of the projected maintenance dredging schedule and deposition plan.

The DEIS ignores the SMP principles of protecting the littoral cell at the River's mouth and violates Conditions 3 and 5 in the Moffitt letter (Attachment E) by proposing deposition of dredged material beyond the adjacent beaches in that cell. *See* Foth Review, p. 10, ¶ 2 and Corps correspondence (Attachment K). In addition, the new Channel design will reduce the frequency of necessary maintenance dredging, thus reducing the frequency and quantity of regular renourishment of the adjacent beaches, further exacerbating the deleterious effects on the beaches and their dependent habitats and infrastructure. Foth Review, ¶ 1. These factors, plus the cumulative impact of maintenance dredging, renders the failure to consider this connected action in this DEIS arbitrary and capricious.

4. Failure to analyze impacts of maintenance dredging reduces mitigation requirements and could impact the BCR.

If impacts requiring mitigation are identified, then a plan of mitigation is also required, which cannot be relegated to reliance on annual maintenance, which is a discretionary Corps activity.<sup>10</sup> Further, if that mitigation is required for impacts to fish or wildlife or their habitat

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<sup>9</sup> *See, e.g.*, 40 C.F.R. § 1501.9(e)(1) (version eff. Sep. 14, 2020 to June 30, 2024).

<sup>10</sup> When the Corps failed to follow the dredging schedule in the SMP adopted as a condition of the FONSI for the 2000 WHP, the VBHI sued, but the Fourth Circuit Court of Appeals ruled that "the

requiring mitigation (and that won't be known until the analysis is performed), WRDA requires that such mitigation be provided **at the time** of the Project's construction. 33 U.S.C. § 2283(a)(1). Although annual dredging is currently included as a Project maintenance cost, it is discounted over the Project life, thus deflating the BCR impact. If beach nourishment is a required WRDA mitigation, future mitigation projects (like annual beach renourishment) must be provided through an **up-front and enforceable** mechanism. The DEIS would have to identify that assurance mechanism, the additional cost of which must be added. The financial assurance **and** cost of that mitigation must be provided at the Project beginning, eliminating the future discounting of this expense, and increasing the BCR Project cost, decreasing the BCR ratio.

VBHI and the Bald Head Island Conservancy have both alleged that the former 2000 WHP *and* the annual re-dredging degrade the beach and nearshore habitat utilized by various species, some endangered. *See* footnote 1, above. The annual re-dredging will continue under the Project, and the on-going effects will continue. If the Corps were to properly consider the impacts of annual re-dredging to beach and nearshore habitat, then periodic beach renourishment should be considered a required mitigation measure under WRDA, rather than an O&M annual maintenance expense (which is how the Corps has classified this cost in the past).

**E. The SMP, as a base condition, informs a thorough sand transport analysis and shows the need for mitigation of continuing impacts.**

Since the 2000 WHP, the inadequacy of the SMP to ameliorate the Wilmington Harbor Navigation Project's impacts have been clear: VBHI has expended more than \$70 million since the last 2000 WHP Channel deepening project. It has consulted with recognized experts who, while acknowledging the natural impacts on an island at the mouth of a river, also opine (based on detailed scientific study) that the historic Channel deepening projects are having, and will continue to have, major exacerbating effects on the sand that creates and supports BHI, increasing the expenses for VBHI to mitigate the impacts caused by the Corps. *See* Olsen History, above and Foth Review, (Attachment G), p. 10 ¶ 1.

Without a holistic appraisal of these dynamic forces, the true impact of the proposed Project cannot be adequately judged, and the Corps' analysis cannot satisfy the NEPA requirement to analyze the cumulative impacts (detailed above). As the Foth Review demonstrates, the DEIS failed to analyze the integrated sand transport system at the mouth of the River and therefore ignored the impacts to the adjacent beaches there, including BHI. Using an overly simplistic model, the Corps projects impacts more than five-and-a-half times less than those **actually** observed based on historical data. When the DEIS's methodology is parsed, it shows that shoaling of the actual shorelines was not studied. And the DEIS simply ignores demonstrated cumulative impacts (based on over 20 years of actual data). Thus, the DEIS fails to recognize and analyze the at forces at work and thus the true impact of the Project.

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Corps' continuing implementation of the Wilmington Harbor Project, as revised, does not constitute final agency action that is subject to judicial review under the APA." *Vill. of Bald Head Island v. U.S. Army Corps of Eng'rs*, 714 F.3d 186, 196 (4th Cir. 2013). Thus, the Corps could not be forced to follow the SMP schedule.

The new design for the Channel will reduce the frequency of necessary maintenance dredging, thus reducing the frequency and quantity of regular renourishment of the adjacent beaches. This changed maintenance regime will further exacerbate the deleterious effects on the beaches and their dependent habitats and infrastructure.

These errors are significant—beyond agency analytical discretion—and therefore arbitrary and capricious. Specifically, commenters (VBHI and BHI Conservancy) pointed out the model inadequacies in advance and requested a more accurate analytical approach. The understanding of the negative cumulative impacts of the Project finds support in 20 years of observations and data. But the retained consultant for the DEIS ignored such data, which was offered to it (and was known to the Corps, as a participant in the post-2000 WHP monitoring studies). Moreover, the DEIS entirely disregards the SMP and its underlying principles of protecting littoral cell integrity. *See, e.g.*, Foth Review (Attachment G). Accordingly, in its current form, the DEIS fails to satisfy the applicable NEPA requirements.

#### **IV. DLR Deficiencies**

The Project arises from a public notice on June 12, 2018 by the North Carolina State Ports Authority (“NCSPA”) of its initiation of a WRDA Section 203 Feasibility Study. Section 203 provides a mechanism by which “[a] non-Federal interest may undertake a federally authorized feasibility study of a proposed water resources development project and submit the study to the Secretary.” 33 U.S.C. § 2231(a)(1).

##### **A. The APA provides the standard of review for the 203 WRDA analysis.**

The DLR is part of completing the § 203 review under WRDA, and the Corps’ compliance with the requirements of WRDA are reviewable under the APA. 5 U.S.C. § 704. When reviewing agency action under the APA, courts will consider whether the agency acted in a way that was “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.” 5 U.S.C. § 706(2)(A); *see also Environmental Defense v. U.S. Army Corps of Engineers*, 515 F.Supp.2d 69 (D.C. Dist. 2007) (applying this standard of review in a WRDA case).

##### **B. Required procedural safeguards were not followed.**

Under Section 203, the Secretary “shall issue guidelines for feasibility studies of water resources development projects to provide sufficient information for the formulation of the studies.” 33 U.S.C. § 2231(a)(2). The Secretary has issued such guidelines, or “Engineer Regulations,” for a proper feasibility study, including ER 1105-2-100: Planning Guidance Notebook (April 22, 2000) (“PGN”). “Planning for Federal water resources projects constructed by the Corps of Engineers... is based on the Principles and Guidelines (P&G) adopted by the Water Resources Council.” *Id.* at ¶ 1-1, p. 1-1. *See* DLR p. 1-9. WRDA Section 203 directs the Secretary to review “whether or not **the study, and the process** under which the study was developed, **each** comply with Federal laws and regulations applicable to feasibility studies of water resources development projects.” 33 U.S.C. § 2231(b) (emphasis added).

The process undertaken by NCSPA to develop the NCSPA 203 Report did **not** comply with the congressionally directed guidelines. The many deficiencies have been pointed out to the Corps on several occasions.<sup>11</sup> Section 203 requires the Secretary to certify that “**the process**” complied with Federal laws and regulations. In the ASA Assessment, the process deficiencies pointed out in the comment letters were not addressed, and the subsequent 403 Review Plan and NEPA process have likewise failed to cure them. Therefore, it would violate § 203 for the Secretary to certify this Project to Congress.

Full public involvement was required throughout the 203 process at **each** stage. PGN at 2-15 and Appendix B, B-1 through B-4. None of the Guidance’s public involvement requirements were observed. As detailed in our letter dated 29 August 2019, **the public was excluded by NCSPA from involvement in the preparation of the 203 Report at every stage, and public comment was foreclosed.** NCPSA held one open house, euphemistically called a workshop, consisting only of several posters depicting portions of the proposed project. There were no presentations or speakers. The only vehicle for submitting public comment or input was a website, which NCSPA never activated. As a result, contrary to the PGN § 2-3, the public was excluded from every step of the Planning Process, including the Purpose and Need analysis, formulation of planning objectives, and consideration of alternatives other than deepening the Cape Fear River. **The entire 203 Report and the analyses by the NCSPA consultants were created in private, and it was wrong for the Corps to rely on them in the subsequent DLR and DEIS preparation.**

The 403 process did not cure these defects. In response to a 13 September 2019 Corps Notice (later withdrawn) requesting public comment on “initial scoping” for the Project, VBHI pointed out,<sup>12</sup> *inter alia*, the deficiencies in the 203 process and specifically requested that:

- the Draft 203 Report be disregarded and reopened;
- the Corps create active stakeholder groups to allow the required public participation;
- the Corps make the underlying data publicly available;<sup>13</sup> and
- the Corps reopen consideration of: (a) federal purpose and need; (b) impacts to sand systems, estuarine erosion, and salinity; (c) sea-level rise (SLR); and (d) mitigation assurance mechanisms.

When the Corps published the subsequent Notice of Early Scoping Public Comment Period, VBHI again raised the same process and substance concerns,<sup>14</sup> making specific suggestions and requests for public involvement and again highlighting the areas of purpose and need, economics analysis, prior project failures, sand transport impacts, and other impacts.

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<sup>11</sup> See footnote 1 above.

<sup>12</sup> Brooks Pierce letter, 11 Oct. 2019. See also NC Coastal Federation letter, 11 Oct. 2019.

<sup>13</sup> NCSPA has systematically refused to comply with public records request regarding this Project, as noted in previous Brooks Pierce comment letter and never rebutted by NCSPA.

<sup>14</sup> Brooks Pierce letter, 30 June 2023.

The 403 Review Plan<sup>15</sup> and the NEPA process (which starts with and is built on the flawed 203 Report) do not cure these failures. As a result, **the DLR cannot be certified as complying with § 203**. The DEIS, where it relies on and incorporates DLR conclusions, is likewise flawed. Two areas deserve specific mention—the analysis for sand modeling and the National Economic Development (“NED”) interest

**C. The sand modeling analyses were biased and improperly closed to the public.**

VBHI requested that: (a) the sand analysis be opened to public involvement; (b) the Corps include VBHI in any new sand analyses; and (c) the Corps conduct additional, comprehensive sand transport studies.<sup>16</sup> The Corps ignored these requests.

Instead, the Corps, through its consultant Stantec, continued to rely on the closed 203 studies. Appendix B to the DEIS recites the development of the models that purportedly analyze shoreline and sand impacts as part of the NEPA analysis. § B-1.2.2. Model development included the transfer of the 203 Report data and analyses developed by Moffatt and Nichol (“M&N”) for NCSPA and a three-day closed door “In-Person Workshop” with M&N. *Id.* Other consultants, including VBHI’s consultant Erik Olsen, were not invited despite the specific requests to open this process. Recall that Mr. Olsen’s work was central to the development of the SMP incorporated into the 2000 WHP. Moreover, M&N is an active advocate for views adverse to VBHI: it was not only the consultant that prepared the 203 Report for NCSPA (denying any impacts to BHI), it is the regular consultant to the Town of Oak Island, which has, over VBHI’s objections, been advocating for shifting dredged sand outside the Channel littoral cell onto non-adjacent beaches at the east end of Oak Island, to the permanent detriment of the beaches on BHI and Caswell Beach.<sup>17</sup> The O&M Channel maintenance for 2025 has, in a proposal guided by Oak Island and M&N, adopted this disposal strategy, and it appears to be perpetuated in the DEIS. *See* Attachment K and DEIS, p. 2-18, Table 2-7.

The analytic approaches favored by M&N in its 203 Report, and adopted by the Corps’ consultant in the DEIS, have again been demonstrated to be inadequate and inaccurate. *See* Foth Review (Attachment G). Inexplicably, the DEIS analyses refused to employ **actual** monitoring data that shows large discrepancies between the model’s predictions and known results. They refused to include input from other consultants, including the one most involved in creation of the

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<sup>15</sup> The 403 Review Plan was previously posted on the Wilmington District website as provided for in that Plan (¶ 6 A 7).

<sup>16</sup> Brooks Pierce Letters to USACE, 11 Oct. 2019 and 30 June 2023.

<sup>17</sup> On 15 Feb. 2024, Public Notice SAW-2018-02230 was issued by the Corps of an application by the Town of Oak Island, with M&N acting as its agent, seeking (not as a part of the annual maintenance dredging) to remove 3 million yds.<sup>3</sup> of sand from the Channel and place some of it outside the SMP littoral cell confines on western beaches of the Town. VBHI opposed the application, and the Town subsequently withdrew the part of the M&N plan to deposit Channel sand on Town western beaches. The DEIS will now accomplish the original M&N plan.

SMP, despite specific requests. They also ignore specific criticism of the 1D tools previously selected by M&N. For example:

Erosion of BHI beaches and sediment movement from east to west (from BHI's south and west beaches to the river channel) were severely underestimated during the 2000 channel realignment. Sediment fluxes along BHI's incredibly dynamic south and west beaches need to be carefully measured, and **a fine-scale 3D model of sediment movement at the river mouth should be constructed**, using **current** and **location-specific** data.

Bald Head Island Conservancy Initial Scoping Comments (a 501(c)(3) focused on sea turtle nesting and barrier island conservation), 30 June 2023, pp. 1-2 (emphasis in original) (**Attachment H**).

In contrast to the notably “closed-door” sand impact analysis, other DEIS mitigation planning embraced the public involvement requested,<sup>18</sup> as did beneficial use planning.<sup>19</sup> The Corps should consider whether the potential conflicts of interest inherent in the M&N sand impacts analysis taint its outcomes and, as VBHI has previously urged, conduct a new, fulsome, and public analysis of this crucial issue, using the open processes employed elsewhere in the DEIS.

**D. The national economic development (“NED”) analysis followed an improper analytical process.**

1. The NED analysis should have been transparent and open to public input.

The ASA Assessment was expansive in its criticism of the 203 Report's NED analysis because of its lack of realistic or well-documented support. *See* Comments A1-4, C3-9. The June 2024 public information session conducted by the Corps immediately prior to the issuance of the NOI stated that the NCSPA assumptions would be largely disregarded and new assumptions would be used by the Corps. VBHI specifically asked what the new NED analysis would entail—a process that should have included the public. But, a month after that request and immediately **after** the close of the NOI comment period, the Corps responded saying the process would remain closed. *See* Email Correspondence (**Attachment I**). As a result, there has never been the opportunity for meaningful public engagement in the analysis of the NED need for this Project:

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<sup>18</sup> “Two interagency technical working groups (TWG) made up of state and federal resource agencies met throughout the project. The TWGs contributed expertise and information to support the identification of impacts and the development of compensatory mitigation plan alternatives. The views of resource agencies, including the U.S. Fish and Wildlife Service and National Marine Fisheries Service, and others were considered in the development of the draft plan and the final recommended plan. These organizations will be offered an opportunity to continue to play a role in the design and implementation phases of the mitigation work when the project is authorized and funded.” Appendix M, p. M-3.

<sup>19</sup> “USACE Wilmington District developed a working group of stakeholders, local and federal agency members, and beneficial use specialists to conceptualize potential beneficial use applications in the Spring of 2024.” Appendix D, p. D-12.

the NCSA 203 process and the subsequent Corps Review Plan have been conducted behind closed doors. The NOI's offer to accept public comment, when the process to be used is not revealed, does not afford meaningful public involvement.

In addition, the DLR Economic Considerations document (DLR Attachment 5) does not fully explain the details of the economic assumptions supporting the analysis and its conclusions, contrary to the guidance requirements, which require the following:

Provide adequate supporting documentation to allow reviewers to understand the models and assumptions used to estimate benefits and costs. For commercial navigation studies, the systems models used in the estimates of navigation benefits are to be fully described and their strengths and limitations presented.

PGN, Appendix G, Ex. G-1, § 3b, p. G-7. VBHI made a FOIA request for additional information underlying DLR Attachment 5 (Economic Considerations) and has obtained from the Corps a two-week extension to 17 Nov. 2025<sup>20</sup> for submitting comments on the substance of the Economic Considerations. VBHI has retained a maritime transportation expert<sup>21</sup> for those comments and **will therefore reserve its substantive critique of the Economic Considerations until it files supplemental comments.**

2. The NED analysis did not follow the PGN procedural guidance.

Because the 203 process was controlled by NCSA and the public was excluded, the development and formulation of problems and opportunities, which drives selection of the planning objectives, ignored the National interest and focused exclusively on Wilmington Harbor, thereby precluding consideration of alternatives.

The first step in which the public was excluded was consideration of the **Federal** objective, which "is to contribute to national economic development (NED) consistent with protecting the Nation's environment..." PGN ¶ 2-2, p. 2-1. The potential **problems and opportunities** must be evaluated **before** the project-specific **planning objectives** are formulated. Most importantly: "Problems and opportunities should be defined in a manner that does not preclude the consideration of alternatives to solve the problems and achieve the opportunities." PGN ¶ 2-3, p. 2-2. Finally, "the next task is to define the study **planning objectives** and the constraints that will guide efforts to solve these problems and achieve these opportunities." PGN ¶ 2-3(a)(4), p. 2-3 (emphasis added). These steps were not followed.

The Federal need identified in the DEIS as follows:

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<sup>20</sup> See **Attachment J** (email granting extension).

<sup>21</sup> Dr. Asaf Ashar, emeritus research professor of ports, shipping, and intermodal transportation, University of New Orleans.

The purpose of the proposed action is to contribute to the consideration of national economic development (NED) by addressing transportation inefficiencies for the forecasted vessel fleet, consistent with protecting the Nation's environment. Contributions to the NED are increases in the net value of the national output of goods and services. The need for the proposed action is to address the constraints that contribute to inefficiencies in the existing navigation system's ability to safely serve forecasted vessel fleet and cargo types and volumes.

DEIS, § 1.4, p. 1-8. The 203 Report defines the problems and opportunities (the second analytical step) exclusively in terms of Wilmington impacts instead of first considering the National need (the first analytical step). As noted earlier, this was an NCSPA private analysis. The problems and opportunities were never re-examined publicly except in the context of the Planning Objectives (discussed below), which is backwards under the PGN.

The Federal problem is the emergence of larger container ships challenging the capacity of many ports (not just Wilmington) and limited Federal funds to assist all ports in accommodating the challenges these vessels present. The Federal opportunity is the coordination of a national maritime transportation strategy that makes the best and least environmentally damaging use of the facilities of **all** east coast ports, and targets Federal dollars for port enhancements in a way that advances that overall strategy in a rational manner. The relevant Federal interest NED analysis is not the Wilmington Harbor impact on NED but the total impact on NED of the strategy that best addresses these new challenges. Less than 1.5% of containerized cargo on the East Coast passes through Wilmington Harbor.<sup>22</sup> Savannah handles 16 times more than Wilmington, Norfolk 10 times more, and Charleston 7.9 times more. *Id.* As a result, **by defining the problems as Wilmington problems instead of National problems, alternatives were eliminated in the formulation of the Planning Objectives.**

3. The Planning Objectives were pre-determined, **before** the NEPA process.

The Planning Objectives are critical: they control the scope of alternates considered. Contrary to the statement in the DLR (p.2-2), the "NEPA scoping process" was **not** "used to develop objectives": **the Planning Objectives were developed BEFORE the NEPA process began—before the public was allowed in.** The final Planning Objectives are:

Planning Objective 1: Contribute to National Economic Development (NED) by reducing origin to destination transportation costs, at the Port of Wilmington from 2037 to 2086.

Planning Objective 2: Contribute to NED by reducing waterborne transportation costs at the Wilmington Harbor Federal navigation project by accommodating the transit of larger and more efficient vessels, from 2037 to 2086.

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<sup>22</sup> DLR Attachment 5-Economic Considerations, p. 14, Table 5.4 (East Coast Ports total 16.9 million TEU; Wilmington handles 231,452).

DLR, p. 2-3; DEIS § 2.1.5, p. 2-4. Both objectives are identical to those the Corps posted on boards in the June 2024 public meetings immediately **before** the NOI for the current DEIS. [https://www.saw.usace.army.mil/Portals/59/siteimages/Public%20Affairs/403/Public%20Meeting%202024/Final\\_Boards\\_PIM\\_June\\_2024.pdf](https://www.saw.usace.army.mil/Portals/59/siteimages/Public%20Affairs/403/Public%20Meeting%202024/Final_Boards_PIM_June_2024.pdf). Both objectives are also identical to those stated in the 203 Report four years earlier (p. 146, Objectives 1 and 3, with date adjustments), generated privately by NCSPA.<sup>23</sup>

4. The Planning Objectives prevented consideration of other alternatives.

Selection of Wilmington-specific planning objectives eliminated consideration of other viable alternatives:

- (1) North Carolina has another port in Morehead City, which also serves key nearby military installations that could benefit from improvements to that port. The water-side constraints there are significantly less than Wilmington's 28-mile river approach, but its land-side constraints are greater. Solving the land-side constraints would significantly reduce future O&M costs compared to the annual \$14 million O&M budget in Wilmington, but no exploration was done of how the \$1.4 billion budgeted for this Project might have been used in Morehead City to better long-term effect.
- (2) The Federal nature of the problem is highlighted by the emergence of Supermax vessels, with drafts up to 66 feet. There will be few ports that can accommodate these vessels in the near future. Off-loading at major ports will either concentrate delivery ports further, reducing the flow of goods through secondary ports, or re-vitalize the need for inter-port transportation to distribute this cargo to other points of distribution, or some combination. Federal expenditures at those ports to facilitate this inter-port alternative might better address the long-term Federal needs. Any 50-year analysis of the need for deepening the River Channel to accommodate NeoPanamax vessels should have included this alternative to future distribution needs.

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<sup>23</sup> Similarly, the objectives stated in the Corps' presentation at the Early Public Scoping meeting in June 2023, prior to the beginning of the NEPA process, are Wilmington specific and mirror the 203 Report. "OBJECTIVES. Developed from the Purpose & Need Statement Contribute to national economic development to: 1. Reduce total costs to transport import and export cargo through Wilmington Harbor 2. To address physical constraints that induce navigation safety-related operating practices that contribute to delays, including limited passing and one-way traffic in some reaches."

[https://www.saw.usace.army.mil/Portals/59/siteimages/Public%20Affairs/403/WH%20403%20Early%20Public%20Engagement%20Presentation\\_06\\_15\\_2023.pdf](https://www.saw.usace.army.mil/Portals/59/siteimages/Public%20Affairs/403/WH%20403%20Early%20Public%20Engagement%20Presentation_06_15_2023.pdf). The Notice pursuant to which that meeting was held was subsequently withdrawn. <https://www.govinfo.gov/content/pkg/FR-2023-03-10/pdf/2023-04904.pdf>.

Consideration of these alternatives (and possibly others) was eliminated by the actual process of selecting Objectives without any public input.

If the original 203 process had been conducted in accordance with the law, or if the Project had received traditional federal agency analysis, the NED analysis would have been completed **with** public participation **before** the NEPA process. Alternatives to deepening 28 miles of the Cape Fear River could have been suggested and explored. The public should have had the benefit of knowing the 203 required findings, and their supporting analyses, **before** being asked to comment on the NEPA process for this Project, especially since this was the last opportunity for public comment before presentation of the completed DEIS.

## V. Conclusion

The harm to Bald Head Island and the VBHI caused by the past and on-going Wilmington Harbor Navigation projects is beyond dispute. In 2000, the Corps denied that the 2000 WHP would have any adverse effect on BHI, but, to resolve the State of North Carolina's CZMA Consistency objection, agreed to the SMP. Twenty-five years and over \$ 70 million dollars of damages later, the effects of Channel realignment, deepening, and widening on the immediately adjacent BHI are documented by decades of shoreline monitoring data. The inadequacy of maintenance dredging beach renourishment has been demonstrated. Despite these facts, the DEIS's purported "analysis" of impacts to BHI:

- ignored the actual historical data;
- relied exclusively on a closed-to-the-public process by a single consultant;
- ignored the criticisms of the tools selected and favored by that consultant, including that the consultant's tools produced predictions inconsistent with observed history;
- ignored the principles embraced by the SMP, which was a condition of the FONSI in the 2000 WHP; and,
- failed to consider cumulative impacts and connected actions, as required by law.

These failures violate NEPA and WRDA and constitute an abuse of agency discretion.

We believe that if the Corps were to comply with NEPA and properly consider the cumulative impacts and connected actions of the proposed project as described above, the Corps would recognize its mitigation obligations under NEPA and WRDA and create a mitigation plan that would place sand on BHI with greater frequency and in greater quantity, resulting in significantly higher Project cost and lower BCR. Finally, if those analyses were opened to meaningful public involvement, the statutory requirements of § 203 could also be, for the first time, actually addressed.

Very truly yours,



William P. H. Cary  
Counsel for Village of Bald Head Island

Cc: Peter Quinn, Mayor, Village of Bald Head Island  
Justin McCorcle, Wilmington District Counsel, U.S. Army Corps of Engineers  
Tancred Miller, Director, Division of Coastal Management, NC DEQ  
Cameron Luck, Federal Consistency Coordinator,  
Div. of Coastal Management, NC DEQ  
Heather Coats, Beach & Inlet Management Project Coordinator,  
Div. of Coastal Management, NC DEQ  
George Kassler, Mayor, Town of Caswell Beach  
Elizabeth White, Mayor, Town of Oak Island  
Mike McIntyre, Ward & Smith  
The Honorable Thom Tillis  
The Honorable Ted Budd  
The Honorable David Rouzer

# VILLAGE OF BALD HEAD ISLAND COMMENTS

3 NOV. 2025

## ATTACHMENTS

- Attachment A:** Bald Head Island Mitigation Costs of Navigation Channel Impacts
- Attachment B:** Olsen Letter to USACE 21 July 1999
- Attachment C:** Sand Management Plan
- Attachment D:** DeLony Letter 9 June 2000
- Attachment E:** Moffitt Letter 15 June 2000
- Attachment F:** Finding of No Significant Impact  
Wilmington Harbor 2000 (excerpt)
- Attachment G:** Foth Review of Wilmington Harbor DLR and DEIS for VBHI
- Attachment H:** Bald Head Island Conservancy  
Initial Scoping Comments-30 June 2023
- Attachment I:** E-Mails Regarding Public Participation in NED
- Attachment J:** E-Mails Regarding Comment Period Extension
- Attachment K:** Correspondence with USACE Regarding 2025 Maintenance Dredging

# **ATTACHMENT A**

**VILLAGE OF BALD HEAD ISLAND COMMENTS**

**3 Nov. 2025**

**BALD HEAD ISLAND**

**MITIGATION COSTS OF NAVIGATION CHANNEL  
IMPACTS**

**Bald Head Island  
Mitigation Costs of Navigation Channel Impacts**

**Previous Projects**

• Engineered Beach Project 2009/2010		
• Dredging Contract	\$	14,800,000
• Interest Expense	\$	1,536,000
• Permitting – <i>Land Management Group, Inc., Olsen Associates, Inc., Legal</i>	\$	1,000,000
• Sand Filled Geotextile Groinfield		
• 1995	\$	320,000
• 2005	\$	850,000
• 2009/2010	\$	1,150,000
• Road Overwash		
• South Bald Head Wynd Road Repair 2004	\$	250,000
• Sandbag Revetment Wall	\$	250,000
• Sandpiper Trail Sandbag Wall + 2009 Repairs	\$	65,000
• 2007 Sand Placement (Assist USACOE- limited funds)	\$	900,000
• Periodic Beach Profile Monitoring	\$	595,000
• Required Jay Bird Shoal Biological Monitoring per Permit	\$	50,985
• Required Beach Front Biological Monitoring per Permit	\$	30,030
• Install Emergency Sandbag Revetment at the Point	\$	230,000
• Repair & Maintenance of Revetment at the Point	\$	8,000
• BH Creek 2006 dredging Project w/ sand placed on West Beach	\$	737,858
<b>Total</b>	<b>\$</b>	<b><u>22,772,873</u></b>

**Additional Expenditures Reimbursed through FEMA Public Assistance Funds**

• Bald Head Creek Dredging Project (Emergency Sand Source to mitigate Erosion due to Hurricane Irene)	\$	1,230,000
• Sand-filled Tube Groin Field Repairs due to Hurricane Irene	\$	<u>650,000</u>
	\$	<u>1,880,000</u>

**Additional Expenditures Reimbursed through State of NC/DENR Water Resources Development Grant Funds**

• Bald Head Creek Dredging Project 2006 (Southwind Construction Co.)	\$	<u>260,000</u>
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**Bald Head Island  
Mitigation Costs of Navigation Channel Impacts**

**The Terminal Groin Project (2015)**

- Terminal Groin GO Bond Expenditures @ 2-28-18 (2015 Project)
 

Engineering/Design/Modeling/NEPA EIS costs		\$ 1,177,000
(Phase I Construction/Orion w/ Corps 2015 O&M Sand)		
• Terminal Groin Construction, part of the T6 project, placing approximately 1 million for the fillet sand to place behind the T6 structure		\$ 7,876,858
• Harbor Jetty Extension w/ Spurs		\$ 1,456,316
• West Beach and Row Boat Row (Bald Head Creek Dredging)		\$ 1,261,026
o Army COE Reimbursement	\$ 105,341	
o MECA Reimbursement	830,514	
o Contract Reimbursements	<u>140,363</u>	
• Total	\$ 1,076,218	<u>\$ (1,076,218)</u>
Total Cost, Phase I		<u>\$ 9,517,982</u>
  
- Breakwaters Project:
  - Construction of two detached rock breakwaters located north of the Marina
    - o Intercoastal Maine, LLC \$ 895,052

**Sand Re-nourishment / Groin Tube Project (2018-19)**

- Sand Re-nourishment / Groin Tube Replacements (2019 Project)
 

(Phase II Construction/ SJ Hamill Construction, Bradley Textile Tubes)		
• Beach Nourishment 1million cubic yards, including mobilization		\$ 11,767,000
• Groin Tube manufacture and installation		1,514,429
• Engineering Costs		445,000
• Legal Costs		<u>\$ 62,500</u>
Total Cost, Phase II		<u>\$ 13,788,929</u>

**Marina Channel Maintenance Program**

*(Grant received from Department of Environmental Quality Resource Development Project to reimburse the Village for 66% of the cost, current expiration of Grant May 2019.)*

- Village portion of expenses paid for Dredging the Channel:  
2017 – 2023: \$ 289,140

**Bald Head Island  
Mitigation Costs of Navigation Channel Impacts**

**Sand Re-nourishment / Groin Tube Project (2024-25)**

- Sand Re-nourishment / Groin Tube Replacements (2025 Project)  
Beach Fill Construction/Marinex, Flint Textiles Geotubes, McPherson Marine Service
  - Beach Nourishment 1 million cubic yards, including mobilization \$ 16,175,000
  - Groin Tube Installation \$ 1,517,430
  - Tube manufacturing (Flint) \$ 446,425
  - Engineering Costs – JBS Borrow Site Permitting \$ 230,200
  - Beach Fill Design/Construction Document (including groins) \$ 350,000
  - Construction Management/observation \$ 425,000
  - Legal – Construction Contracts Review/Bid \$ 7,500

Total Cost \$ **19,151,555**

**Beach Monitoring**

Annual Shoreline Monitoring Program Expenses (last 10 years): **\$2,000,000**  
(Includes spring/fall surveying and aerial imagery documentation w/ final report from Coastal Engineer)

**Total Accumulated Costs Associated with the Mitigation of the Navigation Channel \$69,303,391**

Overall Total To Date - \$71,732,531

(25-year average expenditure annually - \$2.87M)

# **ATTACHMENT B**

**VILLAGE OF BALD HEAD ISLAND COMMENTS**

**3 Nov. 2025**

**OLSEN LETTER TO USACE 21 JULY 1999**

July 21, 1999

District Engineer  
U.S. Army Corps of Engineers  
Wilmington District  
P.O. Box 1890  
Wilmington, NC 28402-1890



Coastal Engineering

Attn: Mr. John Meshaw, (CESQW-TS-PE)

Re: Wilmington Harbor Navigation Project - Ocean Bar Channel Realignment  
Comments To The File

Dear Mr. Meshaw:

This letter is submitted to the District on behalf of the Village of Bald Head Island and constitutes a second response to your Request-For-Comments dated June 22<sup>nd</sup>, 1999 regarding the above-referenced project improvements. This information serves to augment both our comments dated July 2, 1999 (see Exhibit No. 1) and a "Position Paper" dated March, 1999 (see Exhibit No. 2). The comments presented herein address both the selected entrance channel alignment, which will directly impact the existing Bald Head Island shoreline, and our ongoing request to the District regarding long-term project mitigation, appropriately placed beach disposal, and the placement of sand at Bald head Island during sea turtle nesting season of Year 2000. Accordingly, please consider the following additional information submitted to the file:

#### 1.) Project Impacts

a.) **Sediment Budget** - The proposed entrance channel realignment proposes to excavate well in excess of 6M cy of high quality sand from the existing *sand sharing system* directly seaward of Bald Head Island (BHI). For purposes of discussion, the latter can be considered to be all offshore portions of the seabed eastward of the existing Wilmington Harbor entrance channel centerline. In addition, project construction will remove several million cubic yards of "mixed quality" sand, (i.e., materials with greater than 10% fines) from existing shoals directly seaward of BHI.

It is reliably predicted that the adjacent shoal system seaward of BHI will adjust to the new channel alignment -- thereby resulting in the requirement for the continued removal of sand by maintenance dredging from the channel fairway as well as from project wideners. Within the first 10 years, or more, following entrance channel reconfiguration, the continuing loss of material from the BHI sand sharing system due to maintenance will be significant.

olsen  
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Meshaw/Wilmington District  
Page Two of Four  
July 21, 1999

*It is the position of the Village of Bald Head Island that the cumulative removal of material from the adjacent seaward sand-sharing system of Bald Head Island must be adequately mitigated by the project sponsor and the Wilmington District, COE.*

b.) **Alongshore Sediment Transport Potential** - A 2<sup>nd</sup> source of anticipated impact to Bald Head Island as a result of entrance channel construction is a modification of alongshore littoral transport potential. Although the District staff is performing analyses of this phenomenon, it is acknowledged that it's quantification is often difficult -- particularly, with the type of bathymetric conditions under consideration. Hence, predicted positive or negative changes in littoral transport potential often result in non-conclusive opinions regarding impacts, or the lack thereof.

*It is the position of the Village of Bald Head Island that any identification of project related mitigation predicated solely upon variations in littoral transport at BHI will be unacceptable. The Village will be satisfied with nothing less than mitigation based upon readily identified and easily quantified sediment budget impacts as discussed in item "a" above.*

c.) **Current Flow Field Modification** - The impinging hydraulic flow of the existing navigation channel along West Beach at BHI is considered to be a factor contributing to existing shoreline erosion at that location. Proposed channel modifications within the Jay Bird shoals segment of work could exacerbate existing West Beach impacts by way of increased flow magnitude. Moreover, the reorientation of the channel seaward of BHI from sta. 90+00 seaward could result in a meander phenomenon type impact along the West Beach shoreline between sta. 0+00 and sta. 60+00. The District has not performed any level of numerical hydrodynamic modeling to address such impacts.

*It is the position of the Village of Bald Head Island, that the District must recognize, monitor and directly mitigate, as necessary, any reconfiguration of the West Beach shoreline resulting from entrance channel reorientation. Such mitigation could potentially require structures necessary to restrict channel migration in the future.*

## 2. Timing of Mitigation

It is relatively clear that no landform adjacent to the Wilmington Harbor Entrance Channel has been more adversely affected over time than BHI. Similarly, it is reasonable to assume that due to the reorientation of the entrance channel from sta. 90+00 seaward, BHI will experience substantial immediate and long term impacts to its sand sharing system. Hence, the timing of beach disposal operations at Bald Head is extremely important with respect to the mitigation of project impacts.

Meshaw/Wilmington District  
Page Three of Four  
July 21, 1999

*It is the position of the Village of Bald Head Island that the Wilmington District should initiate a contract sufficient to allow for beach disposal at Bald head Island at as early a date as possible during Year 2000. It is the opinion of the Village that a favorable Section 7 Consultation can be achieved in order to sufficiently protect sea turtle nesting at Bald Head Island during summer construction. The Village has volunteered to assist the District in this regard.*

### 3. Brunswick Beaches Consortium (BBC)

The Wilmington District has formulated a tentative broad-based, countywide beach disposal program utilizing the 8M cy+ of beach quality sand to be excavated as a result of the Entrance Channel improvements. As discussed above, the vast majority of that sand will be derived solely from the sand sharing system of BHI and as such must be ultimately mitigated for (by the District and the project sponsor) at that location.

Although the Village of Bald Head Island is a contributing member of the BBC, neither the potential lack of fiscal resources nor the global interests of that entity, or its individual members, should influence in any way the Wilmington District's beach disposal scheduling or mitigation requirements for Bald Head Island. The Village of BHI has the resources, expertise and intentions of assisting the District in the construction of a suitably sized beach disposal project at as early a date as possible next year. Based upon the total length of shoreline along South Beach and West Beach at BHI subject to sand placement, the District proposal of an initial disposal of 1.5M cy of sand at that location is considered to be insufficient to meet current needs and potential near term impacts of entrance channel realignment.

*The Village of Bald Head Island does not object to the initial construction of beach disposal projects at other Brunswick County locations which seek to maximize public benefits associated with channel construction. It is the position of the Village of BHI, however, that such disposal efforts must not reduce the direct mitigation commitments which need to be obligated at BHI for purposes of addressing both project construction and future maintenance.*

### 4. Legal Action(s)

As of this date, the Village is laboring under the assumption that the Environmental Assessment (EA) and other studies, or analyses, being prepared by the Wilmington District, COE will both adequately and equitably address the mitigation requirements of BHI. Those mitigation considerations should address a Beach Disposal Plan at that location which obligates both an adequately sized initial effort as well as the continued disposal of future maintenance material that consists of sand, at no cost to local interests.

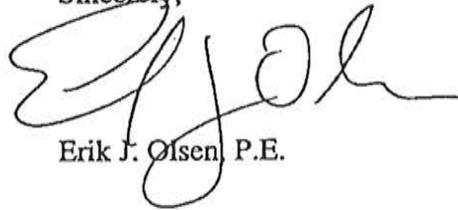
Meshaw/Wilmington District  
Page Four of Four  
July 21, 1999

*Without an appropriate finding and adequate assurances required to provide comprehensive project mitigation at BHI, the Village will consider legal recourse to protect its interests. Although it is not our intent, such legal action could unfortunately delay the proposed entrance channel improvement project.*

The Village of Bald Head Island appreciates the District's consideration of this submittal in your formulation of the final EA and attendant project formulations necessary to allow for construction of the reconfigured Wilmington Harbor Entrance Channel.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'EJO', written over the word 'Sincerely,'.

Erik J. Oisen, P.E.

EJO:lfm

Enc:

cc: Kitty Henson, Mayor  
Wade Horne, Village Manger  
Tom Jarrett, P.E.  
W. Bissett, P.E.

# EXHIBIT No.1

July 2, 1999

District Engineer  
US Army Corps of Engineers  
Wilmington District  
P.O. Box 1890  
Wilmington, NC 28402-1890



Coastal Engineering

Attn: Mr. John Meshaw, (CESAW-TS-PE)

Re: Wilmington Harbor Navigation Project - Ocean Bar Channel Realignment

Dear Mr. Meshaw:

This letter is submitted to the District on behalf of the Village of Bald Head Island and is in response to your solicitation of June 22<sup>nd</sup>, 1999 regarding the above-referenced project improvements. As the District files will show, the Village has requested beach disposal along the entirety of both West Beach and South Beach. Similarly, the Village is prepared to accommodate 3M cy or more of sand (in-place) in a design configuration (see attached correspondence dated June 14, 1999 to D. Wayne Bissette, P.E.).

As a result of chronic beach erosion, the Village of Bald Head Island requests an initiation of sand placement at as early a date as possible in Year 2000. Accordingly, we strongly urge the District to initiate a Section 7 Consultation for purposes of allowing beach fill placement during the turtle nesting season next year. I have both personally met and discussed this recommendation with various District staff. Accordingly, we are gratified that the District is presently considering this option by way of soliciting public comment.

It is our opinion that a favorable Section 7 Biological Opinion can be rendered by the U.S.F.& W.S. sufficient to allow oceanfront construction during turtle nesting season at Bald Head Island next year. We are relatively confident in that regard for the following reasons:

- The beaches of Bald Head Island are sufficiently eroded such that large scale nest relocation is presently necessary in order to protect the species,
- The local Bald Head Island Conservancy is well skilled at implementing a suitable *Sea Turtle Protection Plan* during the period of construction. Note - the Village is presently seeking the support of the Conservancy's Board in this regard.

olsen  
associates, inc.

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Jacksonville, FL 32210  
(904) 387-6114  
(Fax) 384-7368

- The placement of sand at Bald Head Island beginning in April of 2000 will advance both the Navigation Project construction schedule as well as the attendant COE beach disposal plan for other locations within Brunswick County, and
- The allowance of sand placement during turtle nesting season in areas where impacts can be avoided will allow for the preservation and beneficial use of over 8M cy of beach quality sand. Conversely, the placement, or transfer, of this resource to the ODMDS or other non-beach locations, due to scheduling constraints, would constitute an extremely significant adverse physical and economic impact to Brunswick County.

For the record, we would note that the Village formally objects to the potential placement of sand on their beaches where disposal is "limited to the area below the high tide line," as described in the District's Request For Information dated June 22, 1999. It is our position that the placement of disposal material in an appropriate beach nourishment design configuration will render the greatest level of protection to both existing development and endangered species. With regard to future turtle nesting habitat, it should be intuitively obvious that the highest level of benefit will be achieved through the construction of a wide, dry beach berm which exhibits longevity after restoration. The latter would be expected to provide the longest duration of nesting habitat, thereby offsetting the continuing need to relocate nests along any section of erosional shoreline so improved. Furthermore, we do not know of any scientific data, or turtle impact studies, which argue for sand placement below the MHWL. Our firm's collective personal observation is that sand placement at that location to either avoid Easement requirements, or to placate environmental "concerns," ultimately compromises nesting habitat. That is to say, such placement techniques commonly result in a saddle, or low area, in the beach between the existing dune or upland and the outer limit of sand fill. Such low areas can subject nests to inundation -- as well as obscure turtle crawl processes both during nesting and hatchling return to the ocean. Hence, such fill placement techniques should be avoided due to potential adverse impacts to the species.

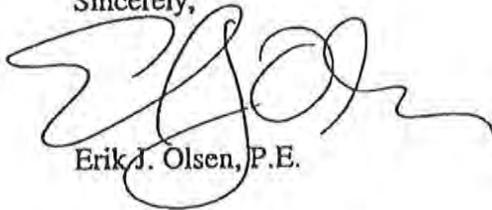
In summary, the Village supports the placement of beach compatible materials, but only in a strategic design configuration. It is the Village's intent to provide the District with a preferred design plan to be incorporated into project contract documents. The Village opposes the placement of beach quality sand within the ODMDS or in the nearshore littoral zone. The Village does not object to the placement of non-beach compatible material within the old ocean bar channel; however, it is requested that the Wilmington District develop a protocol for the definition of non-sandy sediments mutually acceptable to the Brunswick Beaches Consortium. The reconfiguration of the Cape Fear River Ocean Bar channel will necessitate both initial *and* long term mitigation at Bald

Page Three of Three  
July 2, 1999

Head Island. Hence, a disposal plan for sand derived from future channel maintenance is of significant interest to the Village of Bald Head Island.

Thank you for your consideration in these matters.

Sincerely,

A handwritten signature in black ink, appearing to read 'EJO', with a stylized flourish extending to the right.

Erik J. Olsen, P.E.

EJO:lfm

Enc:

cc: Wade Horne, Village Manager  
Bald Head Island Nature Conservancy, Inc.

# EXHIBIT No.2

## POSITION PAPER

### OPINIONS AND RECOMMENDATIONS REGARDING THE CAPE FEAR RIVER ENTRANCE CHANNEL AND BEACH EROSION AT BALD HEAD ISLAND, N.C.

Village of Bald Head Island  
March, 1999

#### *HISTORICAL PERSPECTIVE AND EXISTING CONDITIONS*

Since about 1974, beach erosion along Bald Head Island has been manifest as chronic and severe shoreline recession along the South Beach (most particularly the western portion) and selected reaches of the West Beach (ref. Figure 1). Most recently, erosion stress has accelerated along central South Beach. Long-term shoreline retreat has averaged over 30-ft per/yr at the former Inn location, 10 to 25 ft/yr elsewhere along the western portion of South Beach, and 3 to 5 ft/yr along the West Beach.

The island's erosion is the apparent result of several combined factors: (1) divergent alongshore sediment transport gradients, (2) tidal currents and proximity to the Cape Fear River Entrance, and (3) impacts of the adjacent federal navigation project.

Along South Beach, the net alongshore transport potential diverges at a nodal point between Sea Oats Trail and Silversides Trail. To the west, transport accelerates rapidly westward due to both wave and tidal current forces. To the east, transport accelerates rapidly eastward. Simplistically, this means that sand is stripped off of central South Beach and transported to the west and east. Toward the west, it deposits as a spit and/or is lost from the island to the Cape Fear River Entrance. To the east, predicted deceleration in the transport potential within 3000 ft west of the Point allows some deposition of this sand (and therefore local beach stability or periodic accretion), though most of the sand is ultimately lost to Frying Pan Shoals at Cape Fear.

Likewise, sand is lost from West Beach via wave stress that transports sand *northward* toward the marina entrance and marshes, and via ebb tidal currents that transport sand *southward* toward the spit between the South and West Beach. These ebb currents, in addition to the flood currents along South Beach, episodically "trim" the spit and ultimately move sand from the island toward the adjacent, deep navigation project channel. The proximity of West Beach to the federal navigation channel provides little width upon which to create (or enhance) a stable beach along much of the West Beach shoreline. The latter is similarly adversely affected by the orientation of the Smith Island Range navigation channel segment and the resultant directionality and impingement of ebb tidal flow upon the West Beach shoreline.

It is submitted that the construction and maintenance of the Cape Fear River Federal Navigation Project, at its current location, permanently interrupted the pre-existing natural sand bypassing system between Caswell Beach and Bald Head Island. Initially, the entrance channel severed the inlet's ebb tidal shoal, causing the eastern lobe (Bald Head Shoal) to migrate shoreward and onshore toward Bald Head Island. As a result, the western shore of the island responded by advancing some 1500 to 2000 feet between the late 1800's and the mid 1920's.

Between about 1925 and 1971, the net shoreline location remained relatively stable; however, during the same period, the submerged portions of the offshore shoal that had led to the previous unprecedented accretion were eroding as a result of the navigation project channel's interruption of easterly sand drift. Beginning in about 1974, the shoreline abruptly responded to the eroding seabed and commenced a trend of rapid retreat -- reaching 60 feet per year along portions of the recently developed Bald Head Island oceanfront.

It appears, therefore, that the island's present day beach erosion trend results predominantly from ongoing "deflation" (recession) of the beach growth that occurred in the early 1900's when Bald Head Shoal migrated onshore. That migration was associated with the early navigation project's severance of the natural ebb tidal shoal. The island's oceanfront was developed when the shoreline was at the anomalously advanced location that had resulted from the onshore movement of the severed shoal. The existing navigation project's continued interruption of the Cape Fear River sand bypassing system, including the historic removal of sand from the system by maintenance dredging, has led to the retreat of this "advanced" shoreline location and is expected to continue to contribute to beach erosion and shoreline recession in the future. It is likely that proposed navigation project improvements, and in particular realignment of the existing entrance channel, could further exacerbate the condition.

### *PRIOR FEDERAL ACTIONS*

In 1989, the Wilmington District, US Army Corps of Engineers, performed a Section 111 Reconnaissance Report at the request of the Village of Bald Head Island. The purpose of this preliminary study was to make an initial determination as to whether or not continued dredging of the Cape Fear River entrance channel was causing or accelerating erosion on the Island. Authority for the investigation was provided by Section 111 of the Rivers and Harbors Act of 1968.

The District concluded at the time that "no evidence exists to connect the severe erosion of the west end of Bald Head Island with maintenance dredging in the Cape Fear entrance channel." Hence, mitigation of the erosion under Authority of Section 111 was not determined to be warranted.

The District, however, did favorably determine that placement of beach quality, dredged material recovered from the Cape Fear River entrance channel on the westward end of Bald Head Island was feasible and satisfied the criteria necessary for 50-50 cost sharing under the provisions prescribed by Section 933 of WRDA (1996).

Likewise, in 1989, the coastal engineering firm of Olsen Associates, Inc. as consultant to the Village, rendered a contradictory opinion regarding the probability of a cause and effect relationship between ongoing erosion trends at Bald Head Island and the construction and maintenance of the adjacent navigation channel. Pragmatically, however, the firm noted that Section 111 of the Rivers and Harbors Act of 1968 held virtually no promise as a potential mechanism for seeking federal mitigation, solely on the basis that it requires a concurrent congressionally authorized Shore Protection Project. Accordingly, even if the federally constructed navigation works were definitely proven to have had a large scale quantifiable adverse impact on Bald Head Island, Section 111 expenditures by the Wilmington District to resolve the problem could, in all probability, not be made due to Policies implemented by Higher Authority.

As a result, Olsen Associates, Inc. supported the District's finding that beach disposal via Section 933 constituted the most advantageous (and timely) opportunity for initiating a program of erosion control along South Beach at Bald Head Island. Since that date, two Section 933 projects have been constructed: 350,000 cy in 1991 and 450,000 cy in 1997.

### *PROPOSED NAVIGATION PROJECT MODIFICATIONS*

Initial plan formulation of modifications to the Wilmington Harbor Navigation Project has resulted in a recommended increase in the authorized channel depth for the ocean entrance channel from -40 ft to -44 ft, MLW. Actual depths constructed would exceed the authorized depth by 2 to 3 feet. Unfortunately, geotechnical studies have shown substantial quantities of rock to exist above elevation -40 MLW, within portions of the existing entrance channel alignment.

Subsequent Value Engineering analyses by the Wilmington District have recommended for the adoption of an alternate ocean entrance channel alignment for purposes of avoiding the substantial additive costs of rock removal. Similarly, portions of the outer channel extension were found to have seabeds which include hard corals. Accordingly, several alternate alignments are presently under consideration. As shown by Figure 2, the channel alignments under evaluation all turn easterly directly seaward of Bald Head Island. Several alternatives likewise include modifications westward of BHI in the vicinity of Jay Bird Shoals. The latter would result in a more shore perpendicular alignment of ebb tidal flow from the Cape Fear River in the vicinity of Bald Head Island.

As of January 1999, Wilmington District staff were evaluating issues regarding potential post-construction shoaling; navigability; environmental impacts and construction costs for each alternative channel alignment.

#### *CONSIDERATIONS TO BALD HEAD ISLAND*

Long term impacts of the existing navigation project channel alignment and authorized dimensions are expected to be occurring at Bald Head Island as a result of:

- a.) the elimination of natural pre-project sand bypassing phenomena associated with shoal migration at the mouth of the Cape Fear River;
- b.) the fixation of the navigation channel alignment at one location in extremely close proximity to the Bald Head Island shoreline;
- c.) continuous and long-term impacts to the sediment budget of the local sand sharing system extending from the Cape Fear Shoals to portions of Oak Island;
- d.) resultant significant long-term deflation of the ebb tidal shoals seaward of Bald Head Island;
- e.) the accentuation of the hydraulic gradients of flood tidal flows along the South Beach and West Beach shorelines of Bald Head Island and the increase in magnitude and frequency of occurrence of a major nearshore marginal flood tidal channel at the western extremity of South Beach, and
- f.) The directionality of ebb tidal flow directly toward West Beach resulting from the artificially maintained alignment of the Smith Island Range.

All of these phenomena exist today; and it is abundantly clear that most (if not all) of these phenomena will be exacerbated by the implementation of a channel realignment within the corridor under consideration (see Figure 2). It is therefore altogether reasonable to expect that the shoreline of Bald Head Island will react both adversely and concurrently with both initial construction of a channel re-alignment -- as well as its continuing maintenance into the future at a new location within the existing, undisturbed portions of the ebb tidal shoal platform.

#### ***PROPOSED MITIGATION BY FEDERAL INTERESTS***

For purposes of offsetting anticipated navigation project impacts associated with channel realignment and project deepening, three (3) mitigation elements should be implemented as part of *both* project construction and future project maintenance. The work should be performed integrally with the federal navigation project at 100% federal cost. The mitigation elements are as follows:

- a.) *Beach Fill* - At a *minimum*, some 2-3 Mcy of beach quality sand should be placed along the South Beach shoreline on Bald Head Island as advance fill. The fill should address the entire 16,000 ft. of shoreline and should be placed in accordance with a rational design based upon both existing and anticipated future littoral transport trends. Depending upon the condition of the shoreline at the time of project construction and the channel alignment selected by the Wilmington District, additional limited advance filling of West Beach should likewise be performed as a mitigation measure.
- b.) *Fill Maintenance* - Continuing maintenance of both the South Beach and West Beach shorelines should be performed utilizing beach quality sand excavated during annual channel maintenance. The *minimum* initial equivalent annualized requirement is presently estimated at 350,000 cy/yr. An updated maintenance requirement should be continually computed in the future based upon the best available data. The stipulated volume should be updated annually based upon a comprehensive monitoring program of both affected shorelines on Bald Head Island. All fill should be placed in such a manner that it results in the greatest spatial and temporal benefit to the affected shorelines, both developed and undeveloped.
- c.) *Nearshore Disposal* - Should beach quality sand in excess of initial or annual fill requirements become available, preference should be given to additional beach width enhancement. Should annualized beach filling be restricted due to permitting conditions, or other extenuating circumstances, nearshore disposal of "excess" material below the MLWL should be considered in the immediate vicinity of Bald Head Island. All such material placement should be strategically performed *only* in the more dynamic portions of the nearshore zone where direct benefit to the active littoral system can be assured via onshore transport by natural forces.

- d.) *Damages* - In the event that mitigation via item "a" through "c" above prove insufficient to offset project related impacts to Bald Head Island, the District must commit to the construction of additional structural or non-structural alternatives. Such mitigation must be provided at no expense to local interests, although the consent of local interests must be obtained in the selection of a preferred alternative.

Just as various federal agencies have determined that rock removal during project construction is uneconomical and that associated resource impacts are environmentally unacceptable, the Village of Bald Head Island feels similarly compelled to be adequately considered in the issue of ongoing and future erosional impacts due to navigation channel modifications. As a stakeholder in the process of "resource" impact evaluation, the Village believes that partnering with the District is possible, assuming that an adequate comprehensive Mitigation Plan between the two parties is reached. To that end, the Village is of the opinion that existing North Carolina Statutory requirements, as well as the necessity to be consistent with the State's Coastal Zone Management Plan, provide ample justification for the implementation of the mitigation elements discussed herein.

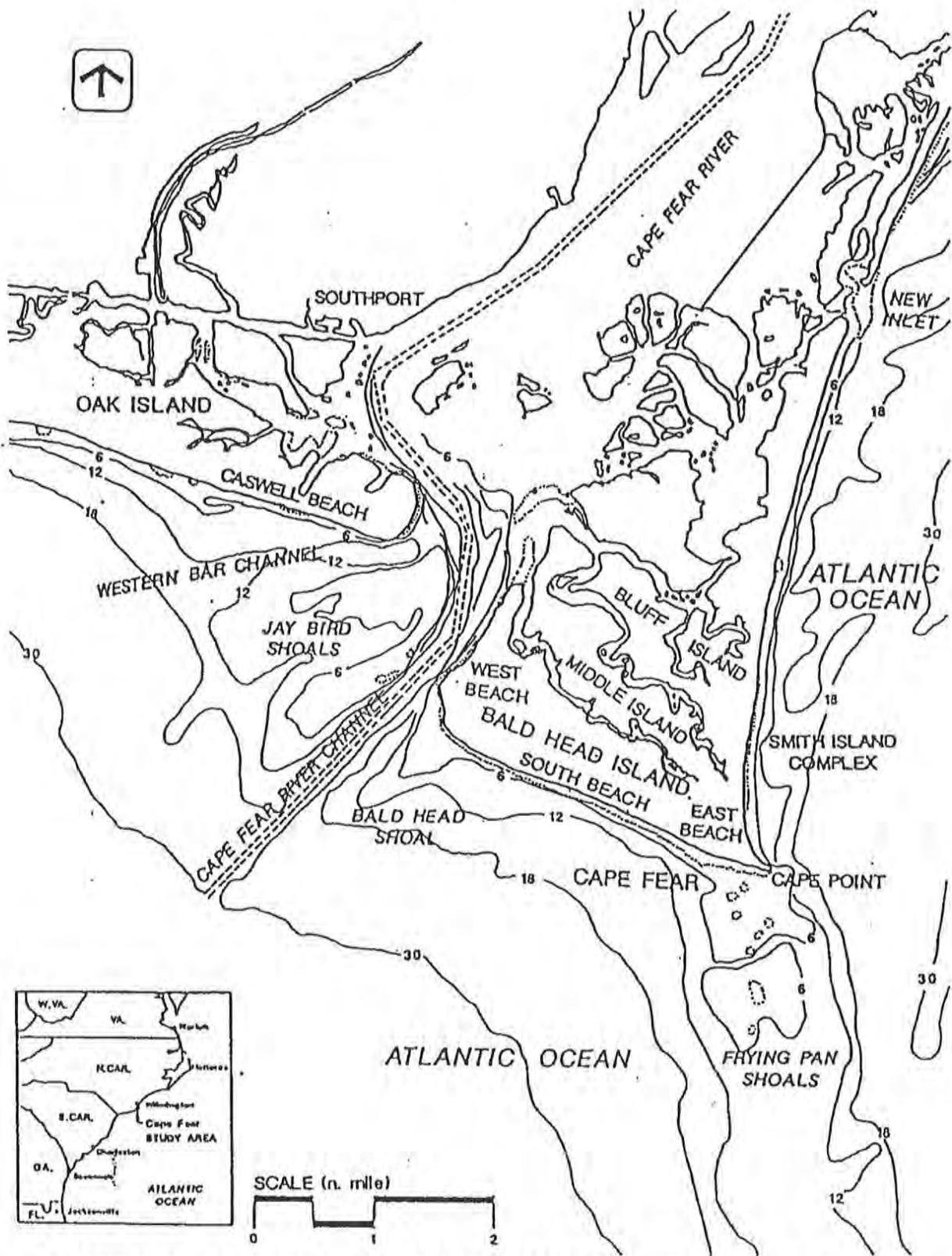
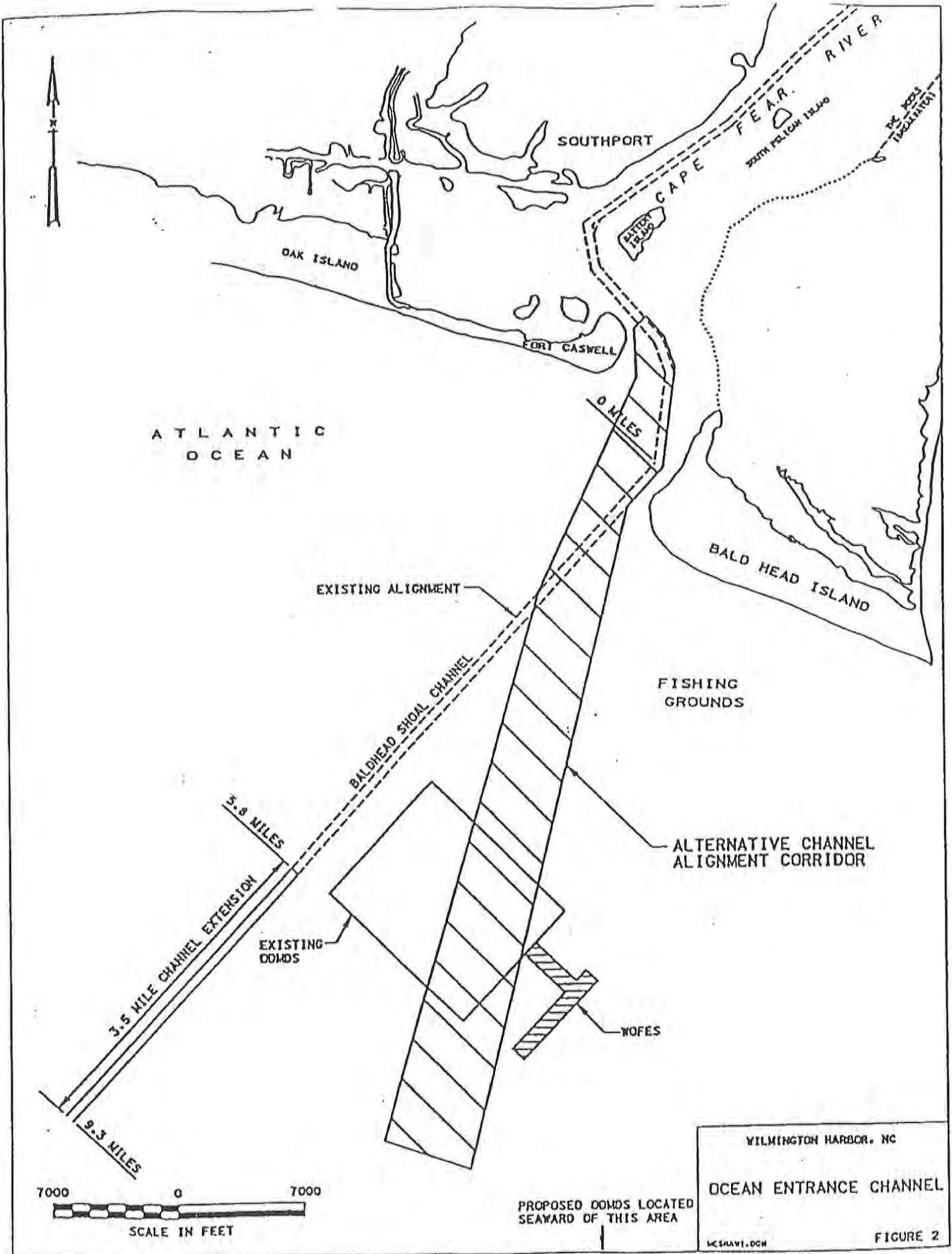


FIGURE 1 Vicinity map of Bald Head Island, North Carolina, USA.



WILMINGTON HARBOR, NC  
 OCEAN ENTRANCE CHANNEL  
 FIGURE 2

**ATTACHMENT C**  
**VILLAGE OF BALD HEAD ISLAND COMMENTS**  
**3 Nov. 2025**

**SAND MANAGEMENT PLAN**

## WILMINGTON HARBOR

### SAND MANAGEMENT PLAN OCEAN ENTRANCE CHANNELS AND INNER HARBOR FROM SNOWS MARSH THROUGH HORSESHOE SHOAL CHANNELS

1. **General.** Deepening of Wilmington Harbor will involve the removal of large quantities of material including beach quality sand. Most of the beach quality material to be removed during deepening will come from the Ocean Entrance Channels consisting of the following ranges: Baldhead Shoal; Smith Island; Baldhead - Caswell; Southport; Battery Island, and Snows Marsh seaward of station 10+00. These ranges are shown on *Figure 1*. Beach quality sands will also be removed from portions of the Inner Harbor channel extending from the upper 1000 feet of the Snows Marsh Range through the Horseshoe Shoal Range. These Inner Harbor channel ranges are also shown on *Figure 1*. A maximum of 6.0 million cubic yards of beach quality material will be removed from the lower portion of the Snows Marsh Range seaward through the Baldhead Shoal Range. Approximately 0.6 million cubic yards of beach quality material will be removed from the upper Snows Marsh Range through the Horseshoe Shoal Range. Sand management plans for these two segments of the harbor are developed below for both the new work material; i.e., the beach quality material to be removed during deepening; and future maintenance of these harbor segments that will involve the removal of littoral shoal material.

#### Ocean Entrance Channels - Sand Management Plan

2. **Introduction.** The sand management plan for the ocean entrance channels addresses dredging and disposal issues associated with the realigned Baldhead Shoal Channel as well as the Smith Island, Baldhead - Caswell, Southport, Battery Island, Lower Swash, and Snows Marsh Channels. Construction of the ocean entrance channels into Wilmington Harbor will entail the removal of approximately 15.5 million cubic yards of material, up to 6.0 million cubic yards of which is beach quality sand. Beach quality sand exists throughout all of the entrance channel except the new Baldhead Shoal Channel. Within the Baldhead Shoal Channel, beach quality sand is located between stations 0+00 and 120+00. Between station 0+00 and approximately 66+00, the entire channel prism is considered to be beach quality material. Between station 66+00 and 120+00, beach quality material is layered with the material lying above elevations ranging from -30 to -41 feet MLLW. Material below these depths contains a high percentage of clay and silt and is not suitable for beach disposal. Seaward of station 120+00, the new work material contains high concentrations of silt and clay and is not suited for placement on the beach. The beach quality material will be dredged primarily from the portion of Jay Bird Shoal which overlays the west side of the realigned bar channel and from Baldhead Shoal. Baldhead Shoal forms the east boundary of the existing channel, however, the realigned bar channel will cut across the seaward portion of this shoal. The present alignment of the ocean bar channel and that of the new bar channel are shown on *Figure 1*. As shown on *Figure 1*, the new bar channel passes through the eastern side of the existing Ocean Dredged Material Disposal Site (ODMDS).

3. The Brunswick County beach towns of Bald Head Island, Caswell Beach, Oak Island, and Holden Beach have expressed an interest in receiving the beach quality material. Under Section 933 of the Water Resources Development Act of 1986 (Public Law 99-662), the Federal Government can cost share up to 50 percent of the added cost of depositing the material on the beach providing certain criteria are met. The primary requirement for Federal participation is that any added cost for placing sand on a particular beach segment must be economically justified. A base disposal plan associated with the least costly means of placing the beach quality material and a Section 933 disposal plan are discussed in the following paragraphs. In addition, a disposal plan for the annual maintenance material is presented following the disposal plan for the new work material.

**4. Plan Formulation – Ocean Entrance Channels New Work Material Disposal Plan.**

The disposal plan for the new work material contained in the 1996 project feasibility report had all of the material from the Lower Big Island Range through the existing Baldhead Shoal Channel going to the ODMDS. It should be mentioned that the disposal plan in the feasibility report did not include consideration of the realigned Baldhead Shoal Channel. The alignment of the new Baldhead Shoal Channel came from a recommendation contained in a Value Engineering Study that demonstrated significant construction cost savings could be realized by avoiding rock in the existing Baldhead Shoal Channel. In any event, increased utilization of the existing ODMDS for disposal of maintenance and new work material has resulted in the existing ODMDS for Wilmington Harbor approaching full capacity. This combined with the passage of the realigned Baldhead Shoal Channel through the existing ODMDS has necessitated the development of a new ODMDS. The new ODMDS, which is being developed in cooperation with the Environmental Protection Agency (EPA), is located approximately 5 miles offshore of the existing ODMDS as shown on *Figure 1*. The new ODMDS is expected to be available for use by the end of 2001, consequently, the existing ODMDS must have sufficient capacity to accommodate the new work and maintenance material expected to be removed through the year 2001.

5. The remaining capacity of the existing ODMDS was estimated assuming that the area could be filled to an average elevation of 26 feet below mean lower low water (mllw). All future placement of dredge material in the existing ODMDS will take place west of the new channel alignment. In addition, no material would be placed in a 2,500-foot wide corridor parallel to and west of the new entrance channel in order to reduce the chance deposited material will move into and shoal the new channel (see *Figure 1*). The size of the corridor through the ODMDS is needed to prevent the return of deposited material into the channel and was based on the distance between the western toe of the existing ODMDS and the existing ocean entrance channel, which, as shown on *Figure 1*, is about 2,500 feet. Based on these assumptions, the remaining capacity of the existing ODMDS is approximately 17.8 million cubic yards.

6. Deepening of the Wilmington Harbor project is scheduled to begin in May 2000 with the award of a contract to construct the offshore portion of the Baldhead Shoal Channel seaward of station 120+00. The material to be removed from this segment of the new channel, which totals about 6.6 million cubic yards, contains significant quantities of silt and clay and will have to be deposited in the existing ODMDS. The contract for the

landward segment of Baldhead Shoal Channel and the other ocean entrance channels, which will include up to 6.0 million cubic yards of beach quality sand and 2.8 million cubic yards of material not suited for placement on the beach, will be awarded near the end of calendar year 2000. Work on the inner portions of the project from upper Snows Marsh Range to Horseshoe Shoal Range that contains 0.6 million cubic yards will also be performed in early 2001. The economic and engineering viability of options for the disposal of the beach quality material to be removed from upper Snows Marsh to Horseshoe Shoal is presented later in the section of this report entitled "Inner Harbor - Sand Management Plan." Finally, a contract for removal of rock and other sediments from the Big Island Range will be awarded in 2000 as a test to help determine contract scopes for rock removal from other sections of the harbor. All of the material from the Big Island Range (approximately 2.2 million cubic yards) will be deposited in the ODMDS. In summary, construction of the deeper channel between 2000 and 2001 will involve the removal of approximately 18.2 million cubic yards of material with all of this material scheduled to be placed in the existing ODMDS.

7. During the new ocean entrance channel construction period, periodic maintenance of the existing ocean entrance channel will have to continue as will the maintenance of the interior portions of the harbor. This maintenance material, which averages around 800,000 cubic yards per year from the entrance channel and 300,000 cubic yards from the interior channels, is normally placed in the ODMDS. In addition to the Wilmington Harbor maintenance material, material removed for maintenance of the Military Ocean Terminal at Sunny Point (MOTSU) is also normally placed in the ODMDS. Maintenance of MOTSU averages 1 million cubic yards per year. Thus, the combined volume of new work and maintenance material to be removed from Wilmington Harbor and MOTSU between 2000 and 2001 could total 22.4 million cubic yards, exceeding the remaining capacity of the existing ODMDS by more than 4.6 million cubic yards.

8. **Base Disposal Plan-New Work Material.** With the capacity of the existing ODMDS insufficient to accommodate the dredged material disposal volume requirements through 2001, the logical solution is to place up to 6.0 million cubic yards of beach quality material on adjacent beaches. The only other option would be to delay the construction of the harbor deepening project by at least one year which is not acceptable to the State of North Carolina, the project sponsor. Placement of up to 6.0 million cubic yards of new work material on the beach would reduce the volume of material to be placed in the existing ODMDS through the year 2001 to 16.4 million cubic yards, effectively depleting the remaining capacity of the existing ODMDS. Once the new ODMDS becomes operational, all future dredge material requiring ocean disposal will be placed in the new area.

9. The disposal of up to 6.0 million cubic yards of new work beach quality material would be distributed along 16,000 feet on Bald Head Island and 25,000 feet on Oak Island-Caswell Beach. Deposition on Bald Head Island would occur along 2,000 feet of West Beach, which faces the Cape Fear River Entrance, and along 14,000 feet of South Beach. Disposal on Oak Island-Caswell Beach would begin at the west boundary of the Fort Caswell Baptist Assembly grounds and proceed west. The 25,000-foot disposal area on Oak Island-Caswell Beach would extend the fill to the east end of the sea turtle habitat area

on Oak Island. These disposal areas are shown on Figure 2. The sea turtle habitat, which is basically a beach fill with a small dune feature to prevent nesting sea turtles from crossing into the ocean front road, will be constructed under authority of Section 1135 of the Water Resources Development Act of 1986. Construction of the sea turtle habitat will be completed in April 2001. The combined total of new work material to be deposited on Bald Head Island under the base plan would be 2,580,000 cubic yards. The balance of the new work beach quality material (up to 3,420,000 cubic yards) would be equally distributed along the 25,000-foot disposal area on Oak Island-Caswell Beach. The base plan beach fill placement characteristics associated with placement of up to 6.0 million cubic yards of new work material are presented in *Table 1*. Based on the characteristics of the sediment to be removed, about 83 percent of the dredged material is expected to remain in place. The lower placement rates used on West Beach and at the west end of South Beach are intended to reduce the possibility of increased sediment transport from the disposal area back into the navigation channel. Following initial adjustments, the deposited material will begin to erode at a rates comparable to or slightly faster than the erosion rates experienced on the existing beach. The base disposal plan addresses provisions for the disposal of up to 6.0 million cubic yards of beach quality material, however, the maximum volume may be reduced by 20 to 30 percent depending on the final quantitative and qualitative sand analysis and actual dredging operations associated with the dredging contractors decisions to obtain the total allowable overdepth.

**Table 1**  
**Base Plan Beach Disposal Characteristics**

Location	Length along Shoreline (feet)	Disposal Rate (cubic yds per ft)	Initial Placement Width Range (feet)	Adjusted Placement Width Range (feet)	Initial Placement Volume (cubic yds)	Net In-place Volume (cubic yds)
Bald Head Island	16,000				2,580,000	
West Beach	2,000	120	190 to 210	95 to 105	240,000	200,000
South Beach	2,000	120	190 to 210	95 to 105	240,000	200,000
South Beach	12,000	175	280 to 300	140 to 150	2,100,000	1,734,000
Oak Is - Caswell Beach	25,000	137	220 to 240	110 to 120	3,420,000	2,839,000
Totals	41,000				6,000,000	4,973,000

10. **Section 933 Disposal Plan – New Work Material.** The Brunswick County beach towns of Bald Head Island, Caswell Beach, Oak Island, Holden Beach, Ocean Isle, and Sunset Beach formed the Brunswick County Consortium for the purpose of working together to assure that the beach quality material is placed on the beach. Since Ocean Isle has received approval for a Federal Storm Damage Reduction Project, it is not vying for any of the Wilmington Harbor material. Construction of the Ocean Isle project is scheduled to begin in 2000. As mentioned above, a segment of Oak Island, lying between East 26<sup>th</sup> Street and East 58<sup>th</sup> Street, has been approved for a Section 1135 sea turtle habitat. The length of shoreline included in the sea turtle habitat consist of an 8,900-foot main section and 1,600-foot transitions on each end of the main fill. Construction of the sea turtle habitat will involve the removal of about 1.6 million cubic yards of material from an existing upland dredged material disposal area located adjacent to the Atlantic Intracoastal Waterway (AIWW). The expected in place volume resulting from this project is 1.34 million cubic yards. Within the main portion of the sea turtle habitat, the placement rate will be approximately 130 cubic yards/foot of beach. Accordingly, no material from the Wilmington Harbor project will be placed in the main portion of the sea turtle habitat. Some harbor material will be placed in the habitat transition areas to make up the difference in the volume that will be placed under Section 1135 and the rate of fill proposed under Section 933. This volume difference is around 25,000 to 30,000 cubic yards. As discussed below, disposal of material from the Wilmington Harbor project along Oak Island could occur at rates varying from 78 to 110 cubic yards/foot of beach. While these placement rates are less than the placement rate within the main portion of the Sea Turtle Habitat project, the relative protrusion in the shoreline resulting from the sea turtle project would be less than that which would have been produced in the absence of the harbor material. The reduction in the relative seaward protrusion of the shoreline within the habitat area resulting from the placement of the harbor material on the beach would also reduce the expected rate of loss from the habitat project due to end losses.

11. The shoreline segments that could receive material from Wilmington Harbor as a result of the Section 933 study include: 16,000 feet on Bald Head Island; 25,000 feet on Caswell Beach and the east end of Oak Island; 25,600 feet on the west end of Oak Island lying west of the sea turtle habitat; and 10,600 feet on the east end of Holden Beach. This represents a total shoreline length of 77,200 feet. These shoreline segments are shown on *Figure 2*. The distribution of available beach quality sand along the Brunswick County beaches will depend on the final results of the Section 933 study, analysis of project engineering and economic constraints, and the desires of the project sponsor and the Brunswick County consortium. To account for variations in sand placement along the Brunswick County beaches under the section 933 authority, *Table 2* presents the maximum beach fill disposal characteristics associated with the maximum beach fill for each beach segment resulting from the various possible distributions of beach quality material. Although the final distribution of the beach quality material for the Section 933 work along the Brunswick County beaches has not been determined, the total placement will not exceed 6.0 million cubic yards. Six million cubic yards of beach quality material to be removed from the channel equates to 5.0 million cubic yards of in place sand on the beach based on a retention rate of 83 percent discussed previously. Following the initial adjustments, erosion of the fill material will occur at rates equal to or slightly higher than the historic erosion

rates. The Section 933 disposal plan addresses provisions for the disposal of up to 6.0 million cubic yards of beach quality material, however, the maximum volume may be reduced by 20 to 30 percent depending on the final quantitative and qualitative sand analysis and actual dredging operations associated with the dredging contractors decisions to obtain the total allowable overdepth.

**Table 2**  
**MAXIMUM**  
**Section 933 Disposal Characteristics**

Location	Length along Shoreline (feet)	Disposal Rate (cubic yds per ft)	Initial Placement Width Range (feet)	Adjusted Placement Width Range (feet)	Initial Placement Volume (cubic yds)	Net In-place Volume (cubic yds)
Bald Head Island	16,000				2,200,000	1,826,000
West Beach	2,000	120	190 to 210	95 to 105	240,000	200,000
South Beach	2,000	120	190 to 210	95 to 105	240,000	200,000
South Beach	12,000	143	220 to 240	110 to 120	1,720,000	1,426,000
Oak Island	50,500				4,740,000	3,933,000
East Oak Island Caswell Beach	25,000	110	170 to 190	85 to 95	2,750,000	2,283,000
West Oak Island Caswell Beach	25,600	78	120 to 140	60 to 70	1,990,000	1,650,000
Holden Beach	10,600	78	120 to 140	60 to 70	830,000	690,000

### Inner Harbor – Snows Marsh Range to Horseshoe Shoal Range Sand Management Plan

12. **Introduction.** The sand management plan for the inner harbor addresses dredging and disposal issues associated with the Snows Marsh and Horseshoe Shoal channels. An estimated 0.6 million cubic yards of beach quality material will be removed from this

portion of the project. Disposal islands 3 and 4, located near the intersection of Horseshoe and Snows Marsh channels, are at maximum capacity and contain an estimated 1.3 million cubic yards of beach quality material. Maintenance material removed from this area is predominately sand of beach quality. Existing maintenance dredging operations in this area utilizes the offshore disposal area. The removal of the existing material from disposal islands 3 and 4 in conjunction with the new work dredging will facilitate placement of future maintenance material in islands 3 and 4. Future maintenance material placed in islands 3 and 4 would be used to nourish adjacent beaches.

**13. Plan Formulation.** The disposal plan for material presented in the June 1996 Cape Fear-Northeast Cape Fear Rivers project feasibility report proposed the placement of all dredge material from these channel reaches in the offshore disposal area. Subsequent investigations of material characteristics have shown that this material is of beach quality and this valuable resource would be best utilized to meet nourishment needs of the nearby beaches. Placement options for the 0.6 million cubic yards of new work material from the navigation channel includes potential placement of this material on Carolina Beach, Kure Beach, or Fort Fisher for 7,000 feet south of the southern terminus of the rock revetment. Placement options for the new work material from the navigation channel combined with pump out of islands 3 and 4 includes provisions for placement of 1.9 million cubic yards of material on adjacent beaches including Carolina Beach, Kure Beach, the Fort Fisher area, Bald Head Island, or Caswell Beach. Final placement decisions for the new work and maintenance material associated with the inner harbor from the Snows Marsh reach through the Horseshoe Shoal reach will assure that the dredge material disposal occurs in the least costly, environmentally acceptable manner, consistent with engineering requirements established for the project.

### **Maintenance Material Disposal Plan**

**14. Plan Formulation.** Maintenance of the Wilmington Harbor Entrance Channel has historically required the removal of between 850,000 to 1,000,000 cubic yards of material each year. The maintenance material has normally been deposited in the ODMDS. Of the total volume removed each year, about 300,000 to 400,000 cubic yards has been littoral material derived from the adjacent beaches on Oak Island and Bald Head Island. This volume of littoral sediment constitutes 40 to 50 percent of the gross littoral transport along the Brunswick County beaches. Littoral material deposits in the bar channel primarily as a result of the eastward movement of Jay Bird Shoal and the westward movement of Bald Head Shoal into the channel area. The littoral sands generally deposit in channel reaches between channel stations 0+00 and 120+00. Seaward of station 120+00, the shoal material consist primarily of riverine silts and clays. While the new ocean bar channel will have an alignment different from the existing bar channel, shoaling patterns in the new channel, particularly in the vicinity of Jay Bird Shoal and Bald Head Shoal, are expected to be similar to the existing channel. The rate of shoaling of littoral sand in the new channel is estimated to be 545,000 cubic yards per year. The higher rate of deposition of littoral material in the new bar channel compared to the existing is due to channel modifications that would widen the channel to the west along the Smith Island Range and portions of the Baldhead Shoal range and cut across the seaward portions of Bald Head Shoal, as shown

on *Figure 1*. The volume of riverine silts and clays that will shoal the seaward portions of the new entrance channel are projected to be 538,000 cubic yards per year or about the same as that which occurs in the existing entrance channel.

15. The dredged material disposal plan for the entrance channel maintenance material was developed in accordance with U.S. Army Corps of Engineers policy with regard to the disposal of dredged material from Federal navigation channels. The Corps policy is contained in 33 CFR Parts 335-338 reads as follows:

**"It is the Corps' policy to regulate the discharge of dredged material from its projects to assure that dredged material disposal occurs in the least costly, environmentally acceptable manner, consistent with engineering requirements established for the project."**

The policy further states:

**"The least costly alternative, consistent with sound engineering practices and selected through the 404(b)(1) guidelines or ocean disposal criteria, will be designated the Federal standard for the proposed project."**

(Note: Section 404 guidelines of the Clean Water Act apply to beach nourishment, island creation, or construction of underwater berms whereas ocean disposal is covered by the Ocean Dumping Act.)

Finally, with specific reference to the disposal of maintenance material, the policy states (33 CFR Part 337.9):

**"(a) District engineers should identify and develop dredged material disposal management strategies that satisfy the long-term (greater than 10 years) needs for Corps projects. Full consideration should be given to all practicable alternatives including upland, open water, beach nourishment, within banks disposal, ocean disposal, etc."**

16. The Federal policy notwithstanding, the State of North Carolina adopted a set of policies in 1992 designed to insure that beach quality sand not be removed from the active beach system. The U.S. Department of Commerce, pursuant to the Federal Coastal Zone Management Act of 1972, has incorporated these policies into the North Carolina Coastal Management Program. As a result, the State of North Carolina includes these policies in its consistency review of Federal activities. In 1993, the North Carolina General Assembly enacted a statute that put the coastal management policy into law. While there is continuing legal debate over the applicability of the State Law to Federal projects, the Federal Government is required to be consistent with the State's coastal management program to the maximum extent practicable. Accordingly, the disposal plan for the maintenance material removed from the Wilmington Harbor entrance channel will attempt to satisfy these State requirements.

17. Based on the Corps policy given above, three factors were considered in the development of a dredged material disposal plan for maintenance of the harbor entrance, namely; engineering requirements of the project, environmental impacts, and cost. These factors are discussed below.

18. **Engineering Requirements.** The construction and maintenance of a deep ocean entrance channel through a tidal inlet will have the same impact on the movement of littoral sediment past the entrance as stabilizing structures such as jetties. However, the impacts of a dredge channel on the adjacent shorelines are generally more subtle than the impacts associated with stabilizing structures. In the case of stabilizing structures, there is usually a visible build-up of material adjacent to the updrift structure with corresponding erosion downdrift of the opposite structure. These impacts are normally clearly visible and measurable within distances of thousands of feet of the structures. Navigation projects that include stabilizing structures are generally formulated to include some means to bypass sand from one side of the entrance to the other in order to prevent project induced erosion on the adjacent beaches. Dredged channels, on the other hand, do not cause material to build-up on one side of the inlet or the other, rather, the impact of sediment removal from the dredged channel tends to be diffused throughout the impacted area. Since this diffusion process can extend over miles of shoreline, the erosive impact of the sediment removed from the navigation channel and its deposition outside the active littoral zone is difficult to detect in the short term since the magnitude of the impact may be of the same order as normal temporal fluctuations in the shoreline position. Also, where stabilizing structures generally have a well-defined impact on the predominant downdrift beach, channel projects affect both sides as material is deposited in the navigation channel from both the updrift and downdrift beaches.

19. The Wilmington Harbor project, historically, has not included the disposal of littoral sands on the adjacent beaches or in the active littoral zone. This has been primarily due to the maintenance practices that were established with the inception of the project over 100 years ago. Dredging technology that existed during the early history of the project dictated maintenance procedures and dredged material disposal practices. In this regard, hopper dredges, with hopper doors that opened by swinging down, were highly efficient in removing shoal material from channels but were restricted by their loaded drafts and swinging hopper doors to depositing the dredged material in relatively deep water. As a result, the "Federal Standard" for maintaining navigation projects, like Wilmington Harbor, became the cost and impacts associated with hopper dredging and ocean disposal of the dredged material in water depths of 30 feet or more.

20. The early establishment of the "Federal Standard" for maintenance of Wilmington Harbor did not consider the overall impacts of removing littoral sediment from the littoral system. This was due in part to the limited coastal development that existed when the projects were first constructed, but also due to lack of sufficient scientific understanding of coastal processes and the sand sharing system associated with tidal inlets and adjacent beaches. Years of research by the U.S. Army Corps of Engineers and practical knowledge gained from the operation of the numerous coastal navigation projects around the country has resulted in the realization that littoral material must be conserved. Natural supplies

from rivers and streams are not replenishing littoral sediments, particularly on the East Coast of the United States. Thus, the removal of a cubic yard of littoral sediment from a tidal entrance or inlet with deposition outside the active littoral zone of the beach will ultimately cause a cubic yard deficit somewhere within the sand sharing system affected by that particular entrance or inlet. The impact of the removal of littoral sediment from the active littoral zone through channel maintenance is identified as a major cause of man-induced erosion in the U.S. Army Corps of Engineers Shore Protection Manual. From an engineering perspective, the primary requirement for the Wilmington Harbor maintenance program, apart from assuring that the channel remains open year-round, is to prevent project induced erosion of the adjacent beaches by conserving the limited natural resource, sand, through deposition directly on the adjacent beaches.

21. Wave transformation/sediment transport studies were conducted by the Coastal and Hydraulics Laboratory (CHL), U.S. Army Corps of Engineers, Engineer Research and Development Center, for the Wilmington District, to determine the theoretical rate of longshore sediment transport moving toward the Cape Fear River Entrance. The results of this study are reported in reference 3.

22. The results of the sediment transport analysis for the existing condition near the Cape Fear River entrance found that sediment transport potential to the east off Caswell Beach is 270,000 cubic yards per year while a comparable rate to the west off Bald Head Island is about 527,000 cubic yards per year. Combining these two transport rates results in a gross transport of littoral sediment moving into the entrance of 797,000 cubic yards per year. In terms of percentages, approximately 66 percent of the sediment shoaling the entrance channel comes from Bald Head Island while 34 percent is derived from Caswell Beach. In order to maintain the sediment balance on both islands, littoral material removed from the entrance channel will be placed back on the beach from whence it came. Accordingly, two out of every three cubic yards of littoral shoal material removed from the entrance channel will be placed back on Bald Head Island and the remaining cubic yard placed on East Oak Island-Caswell Beach. The disposal locations on each island will be based on the results of annual beach profile monitoring surveys. In general, the material will be placed primarily along portions of South Beach and West Beach on Bald Head Island and on East Oak Island-Caswell Beach beginning at a point just east of the Carolina Power and Light Company cooling water discharge canal.

23. The distribution of littoral shoal material between Bald Head Island and East Oak Island - Caswell Beach given above will be accomplished by placing material from two consecutive maintenance operations on Bald Head Island with the third operation involving placement on Oak Island-Caswell Beach. Historically, littoral sediment shoaling in the entrance channel has been the highest in the Smith Island Range as a result of the eastward encroachment of Jay Bird Shoal into the channel. In 1991, a 50-foot channel widener was constructed along the west side of the Smith Island Range and was effective in trapping east moving sediment off of Jay Bird Shoal but was not large enough to significantly increase the time between maintenance dredging operations. In 1996, the widener was increased to 100 feet, which increased the maintenance cycle for this segment of the entrance channel to approximately every two years. The design of the deeper

channel into Wilmington Harbor includes a 150-foot channel widener west of the Smith Island Range, as shown on *Figure 1*. Consequently, maintenance dredging of the Smith Island Range and the landward end of the Baldhead Shoal Range should only be required every two years. Based on a two year maintenance cycle, 1,090,000 cubic yards of littoral material will be placed on Bald Head Island in year 2 and year 4 following the initial deepening of the harbor with this same volume placed on Oak Island-Caswell Beach during the 6<sup>th</sup> year following channel deepening. This disposal cycle is planned for the life of the project. The equivalent annual deposition of material would be 363,000 cubic yards per year to Bald Head Island and 182,000 cubic yards per year to Oak Island-Caswell Beach.

24. **Environmental Impacts.** The dredged material disposal plan for the new work material and that for the sandy maintenance material would not only improve the condition of the beaches adjacent to the harbor entrance but would maintain the beaches in a more stable condition. The wider more stable beaches, particularly along Bald Head Island and the East Oak Island-Caswell Beach disposal areas, would provide improved sea turtle nesting habitat compared to the present condition of these beaches. Even in their present state, the shorelines of East Oak Island, Caswell Beach, and Bald Head Island provide some of the most important sea turtle nesting habitat in North Carolina. In this regard, statistics compiled by the North Carolina Wildlife Resources Commission over the last 6 years (1994 to 1999 inclusive) show that approximately 33 percent of the sea turtle nest in North Carolina occurred on these three beaches. This relative high percentage of the total statewide nests is even more impressive given that these beaches constitute only 5 percent of the entire shoreline of North Carolina.

25. The disposal of material on the beach will have some short term negative impacts including the temporary increase in turbidity during the disposal operation and the smothering or otherwise displacement of organisms that live in or near the beach foreshore. Turbidity caused by the disposal operation normally does not persist more than one or two tidal cycles (12 to 24 hours) following the cessation of the disposal operation. With regard to the smothering or displacement of the nearshore organisms, studies by the University of Virginia for the U.S. Fish and Wildlife Service on Pea Island have shown that the organisms generally return to the area in about one year. The disposal plan for the maintenance material discussed above would involve the placement of material on Bald Head Island in intervals of 2, 4, and 8 years while disposal on Oak Island-Caswell Beach would occur in 6 year intervals. Thus, the nearshore organisms would not be completely eliminated from the area as a result of the disposal operation. In summary, the positive environmental impacts associated with the deposition of the littoral shoal material on the beach versus depositing it in an ocean disposal site far outweigh the negative impacts.

26. **Cost.** The "Federal Standard" for constructing and maintaining navigation channels focuses on the least costly method of disposing the material, even though policy dictates that the environmental and engineering requirements must also be considered. With respect to the disposal plan for the new work entrance channel material, the limited capacity of the existing ODMDS dictates that the beach quality material be placed on the adjacent beaches, otherwise, the construction of the deeper project would have to be

delayed by about a year. Even if the project were to be delayed a year to allow ocean disposal of the beach quality material, cost comparisons indicate that beach disposal would still be the most cost effective disposal option.

**27. Maintenance Material Disposal.** Even if beach disposal of the maintenance material resulted in some additional cost, the Corps of Engineers, under authority of Section 207 of the Water Resources Development Act 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 disposal scheme.

**28.** Future disposal of maintenance material in the ocean will be in the new ODMDS located 5 miles farther offshore than the existing ODMDS. This additional haul distance almost doubles the cost of ocean disposal. As a result, beach disposal of the beach quality maintenance material becomes the least costly option, particularly if maintenance of the beach quality material is only required every two years. While the intent of the sand management plan is to return littoral material to the beach, the primary purpose of the project is to provide safe navigation through the ocean entrance into Wilmington Harbor. In this regard, there may be occasions during the life of the project when problem shoals occur in the entrance channel between normal 2-year maintenance cycle. In order to prevent disruption of navigation, these shoals must be removed in an expedient manner. If the size of these problem shoals are small (for example less than 100,000 cubic yards), mobilization and demobilization of an ocean certified pipeline dredge may not be economical. Therefore, on these occasions, removal of the shoals could be accomplished with a hopper dredge with disposal of the material in the ODMDS. In any event, a comparison of the cost for ocean disposal versus beach disposal of the littoral material is provided in *Table 3*. This cost comparison is made over a 6 year period which corresponds to the time period associated with the sand sharing formula between Bald Head Island and Oak Island-Caswell Beach.

**29. Summary.** The sand management plan developed for the new work beach quality material and maintenance material to be removed from the entrance channels into Wilmington Harbor includes the following:

(a) Disposal of the new work beach quality material on Bald Head Island and Oak Island-Caswell Beach.

(b) In the absence of Section 933, up to 2,580,000 cubic yards of the new work material would be placed on Bald Head Island and up to 3,420,000 on Oak Island-Caswell Beach.

(c) Under Section 933, the material would be distributed along Bald Head Island, Caswell Beach, Oak Island, and Holden Beach.

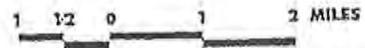
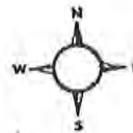
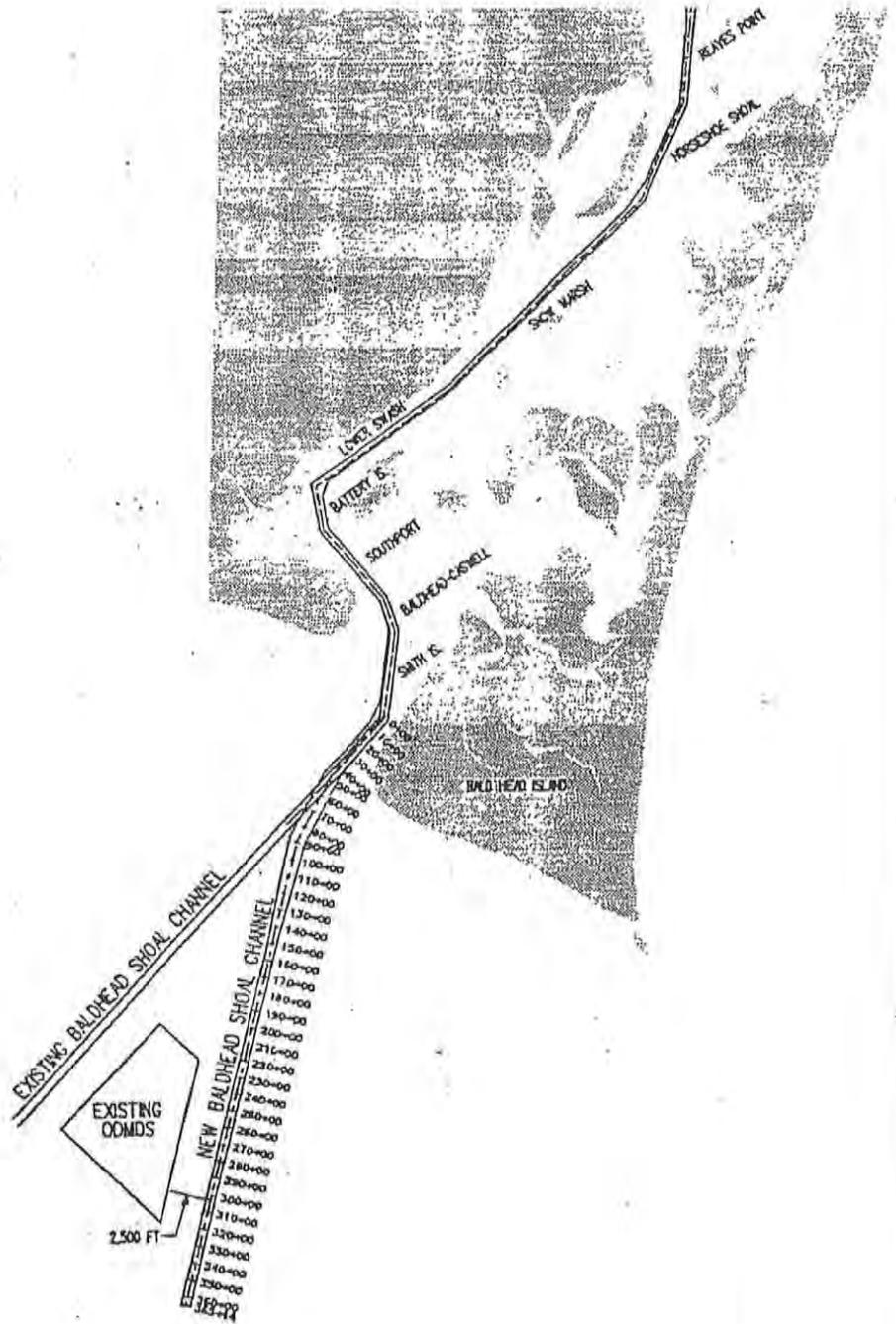
(d) Beach quality maintenance material will be deposited directly on Bald Head Island and Oak Island-Caswell Beach with Bald Head Island receiving 2 yards for every yard placed on Oak Island-Caswell Beach.

**Table 3**  
**Cost Comparison – Ocean Disposal versus Beach Disposal**  
**Ocean Entrance Channel Maintenance Material**

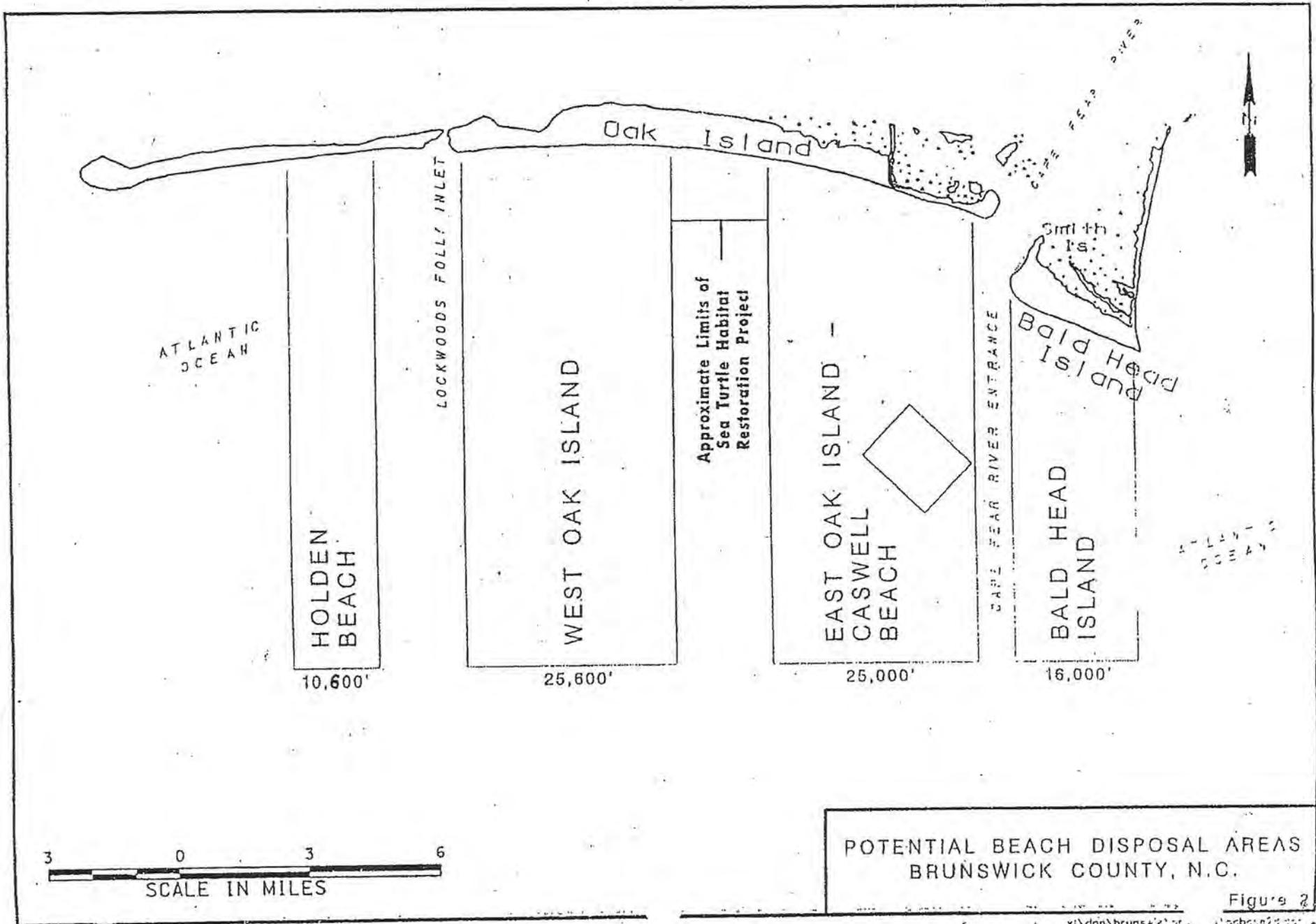
Item	Quantity	Unit	Unit Cost	Cost
<b>Beach &amp; Ocean Disposal – Maintenance Material</b>				
<b>Year 1: Hopper Dredge Silt &amp; Clay</b>				
Mob & Demob Hopper	1	job	\$331,000	\$331,000
Dredging w/ Ocean Disposal	538,000	CY	\$4.00	\$2,152,000
<b>Total Year 1 Dredging Cost</b>				<b>\$2,483,000</b>
<b>Year 2: Hopper Dredge Silt &amp; Clay</b>				
Mob & Demob Hopper	1	job	\$331,000	\$331,000
Dredging w/ Ocean Disposal	538,000	CY	\$4.00	\$2,152,000
Mob & Demob Pipeline Dredge	1	job	\$948,000	\$948,000
Dredging-Disposal on Bald Head	1,090,000	CY	\$3.10	\$3,379,000
<b>Total Year 2 Dredging Cost</b>				<b>\$6,810,000</b>
<b>Year 3: Hopper Dredge Silt &amp; Clay</b>				
Mob & Demob Hopper	1	job	\$331,000	\$331,000
Dredging w/ Ocean Disposal	538,000	CY	\$4.00	\$2,152,000
<b>Total Year 3 Dredging Cost</b>				<b>\$2,483,000</b>
<b>Year 4: Hopper Dredge Silt &amp; Clay</b>				
Mob & Demob Hopper	1	job	\$331,000	\$331,000
Dredging w/ Ocean Disposal	538,000	CY	\$4.00	\$2,152,000
Mob & Demob Pipeline Dredge	1	job	\$948,000	\$948,000
Dredging-Disposal on Bald Head	1,090,000	CY	\$3.10	\$3,379,000
<b>Total Year 4 Dredging Cost</b>				<b>\$6,810,000</b>
<b>Year 5: Hopper Dredge Silt &amp; Clay</b>				
Mob & Demob Hopper	1	job	\$331,000	\$331,000
Dredging w/ Ocean Disposal	538,000	CY	\$4.00	\$2,152,000
<b>Total Year 5 Dredging Cost</b>				<b>\$2,483,000</b>
<b>Year 6: Hopper Dredge Silt &amp; Clay</b>				
Mob & Demob Hopper	1	job	\$331,000	\$331,000
Dredging w/ Ocean Disposal	538,000	CY	\$4.00	\$2,152,000
Mob & Demob Pipeline Dredge	1	job	\$1,275,000	\$1,275,000
Dredging-Disposal on Oak Island-Caswell	1,090,000	CY	\$4.60	\$5,014,000
<b>Total Year 6 Dredging Cost</b>				<b>\$8,772,000</b>
<b>Total 6-Year Dredging Cost</b>				<b>\$29,841,000</b>

<b>Ocean Disposal of All Maintenance Material</b>				
Yearly Hopper Dredge Cost for Ocean Disposal of all Maintenance Material				
Mob & Demob	1	job	\$331,000	\$331,000
Dredging w/ Ocean Disposal	1,083,000	CY	\$4.40	\$4,765,200
<b>Total Annual Dredging Cost</b>				<b>\$5,096,200</b>
<b>Total 6-Year Dredging Cost</b>				<b>\$30,577,200</b>

Date Revised: 02/04/00-sv



WILMINGTON HARBOR  
SAND MANAGEMENT PLAN  
BALDHEAD SHOAL ALIGNMENTS



# **ATTACHMENT D**

**VILLAGE OF BALD HEAD ISLAND COMMENTS**

**3 Nov. 2025**

**DELONY LETTER 9 JUNE 2000**



DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS

P.O. BOX 1890  
WILMINGTON, NORTH CAROLINA 28402-1890

June 9, 2000

IN REPLY REFER TO

Project Management Branch

Honorable Freeman A. Berne  
Mayor of the Village of Bald Head Island  
Post Office Box 3009  
Baldhead Island, North Carolina 28461

Honorable Harry Simmons  
Mayor of Caswell Beach  
707 Caswell Beach Road  
Caswell Beach, North Carolina 28465

Honorable Joan Altman  
Mayor of Oak Island  
4601 East Oak Island Drive  
Oak Island, North Carolina 28465

Honorable James W. Lowell  
Mayor of Holden Beach  
110 Rothschild Street  
Holden Beach, North Carolina 28462

Dear Mayors:

After years of effort by many, it is a pleasure to see the various elements of the Wilmington Harbor Navigation project (hereinafter the "Project") coming together. As we approach the decision point for the Finding of No Significant Impact (FONSI), I want to bring everyone up to date on the status of our plan to place beach quality sand excavated for the project on Bald Head Island, Caswell Beach, Oak Island, and Holden Beach.

As you know, the details of our plan are presented in the Environmental Assessment, in particular, Appendix A - Sand Management Plan, in the Wilmington Harbor Monitoring Plan, and in the Section 933 Evaluation Report. The shoreline segments recommended to receive sand are the Village of Bald Head Island (up to 16,000 linear feet), Caswell Beach (up to 25,000 linear feet), Oak Island (up to 25,600 linear feet), and Holden Beach (up to 10,600 linear feet). This represents a maximum shoreline length of 77,200 linear feet.

Bald Head Island will be the site of initial beach disposal associated with construction. This site, along with the easternmost 25,000 linear feet of Caswell Beach-Oak Island, represents the least cost alternative of disposal available to the Project; accordingly, placement will be accomplished at Project cost and at no cost to the Village of Bald Head Island.

Placement will be according to the March 31, 2000 memorandum from Erik J. Olsen, consultant to the Village of Bald Head Island referencing the Village of Bald Head Island Beach Disposal Plan (2000/2001) (enclosed and incorporated by reference) to the U.S. Army Corps of Engineers, Wilmington District (hereinafter "Corps").

Once disposal has begun at the Village of Bald Head Island, fill operations will continue until the estimated minimum of 1,536,000 cubic yards of sand in the channel prism allocated to the Village of Bald Head Island (based on channel surveys conducted in October and December 1999) have been dredged and placed on the beach in accordance with the March 31, 2000 memorandum. Assuming a potential effective reduction of 20 percent in the gross fill dredged, the final in-place fill volume is expected to range between 1,228,000 cubic yards and 1,536,000 cubic yards.

Project construction beach disposal operations at the Village of Bald Head Island will be performed along both West Beach and South Beach, as indicated by the March 31, 2000 memorandum. The Village of Bald Head Island will provide all requisite easements necessary to construct the template(s) provided for by the March 31, 2000 memorandum.

Once the placement of beach quality sand at the Village of Bald Head Island is complete, placement along approximately 25,000 linear feet of shoreline at the easternmost end of Caswell Beach-Oak Island will be accomplished. Placement will be made in accordance with the template agreed to by the Corps, NCDENR, and the communities of Caswell Beach and Oak Island. The final in-place fill volume is expected to range between 1,451,000 cubic yards and 1,814,000 cubic yards. Since this reach comprises the balance of the least cost alternative for disposal available to the Project, placement will be at Project cost and at no cost to those communities. All requisite easements will be provided by the communities at no cost to the Project.

Under the provisions of the draft Section 933 report, the remaining beach quality sand will be placed along approximately 25,600 linear feet of the westernmost shoreline of Oak Island and along approximately 10,600 linear feet of the eastern shoreline of Holden Beach. Placement will be made in accordance with the template agreed to among the Corps, NCDENR, and the affected beach communities and cost shared at the rate of 65 percent Federal (currently estimated at \$6,500,000) and 35 percent non-Federal (currently estimated at \$3,500,000). The final in-place fill volume along the cost shared reach of Oak Island is expected to range between 1,272,000 cubic yards and 1,590,000 cubic yards. The final in-place fill volume along the cost shared reach of Holden Beach is expected to range between 528,000 cubic yards and 660,000 cubic yards. The communities will provide all required easements at no cost to the Project.

After construction of the Smith Island and Bald Head Island Shoal portions of the project, the U.S. Army Corps of Engineers will conduct periodic maintenance dredging of the navigation channels. The disposal of all beach quality dredged material will be accomplished in accordance with the Environmental Assessment of Preconstruction Modifications of Authorized Improvements, Wilmington Harbor, North Carolina, dated February 2000 and its Sand Management Plan (Appendix A), and the Wilmington Harbor Monitoring Plan (enclosed and incorporated by reference). The associated disposal will be as called for therein, namely:

- Year 2: Placement at Bald Head Island (estimated @ 1Mcy)
- Year 4: Placement at Bald Head Island (estimated @ 1 Mcy)
- Year 6: Placement at Caswell Beach and easternmost end of Oak Island (estimated @ 1 Mcy).

This disposal cycle is planned for the life of the project. As provided on page 8 of the Environmental Assessment and on page 12 of the sand management plan, in some cases problem shoaling involving small quantities of sand may develop in the channel between regular dredging events, making use of a pipeline dredge unfeasible and the sand may need to be deposited in the ocean disposal area.

Prior to each disposal operation at either the Village of Bald Head Island, or Caswell Beach, or the easternmost shoreline of Oak Island, the community receiving the sand may provide advance guidance to the Corps regarding placement distributions and fill template design. The Corps will follow that guidance to the maximum extent practicable.

The Corps will conduct a monitoring program as referred to in the Environmental Assessment and Sand Management Plan, and as set out in the Wilmington Harbor Monitoring Plan, which is enclosed and incorporated by reference. An annual report will be prepared, as described in the Monitoring Plan. The Corps will use this monitoring data to evaluate and adjust the Sand Management Plan, as determined necessary, after coordination with interested parties.

All initial and future disposal activities at the Village of Bald Head Island, Caswell Beach, and easternmost Oak Island, (as described in the Environmental Assessment and its Sand Management Plan, and in the Wilmington Harbor Monitoring Plan) will be at no cost to either community.

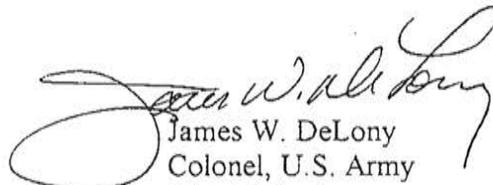
If the Project causes significant adverse effects on adjacent beaches, the Corps and the Sponsor will respond by adjusting the Sand Management Plan, after consultation with interested parties. If the Project causes significant adverse effects that cannot be dealt with by

modifications to the Sand Management Plan, the Corps and the Sponsor will promptly seek and use their best efforts to implement appropriate corrective measures, such as additional nourishment, subject to consistency review.

Our current schedule for execution of the FONSI is June 14, 2000. Our current schedule for our higher headquarters approval of the draft Section 933 Evaluation Report is July 31, 2000. We expect to award a contract to construct the inshore reaches of the Ocean Bar entrance channel on or about November 15, 2000. We are moving prudently but aggressively to make this important Project a reality.

The support of the members of the Brunswick Beaches Consortium and our Project sponsor represented by Mr. John Morris in optimizing this unique opportunity for nourishing your beaches has been wise, energetic, and timely. We salute your efforts and look forward to continued close coordination through to the successful completion and operation of the Project and the associated beneficial use of beach quality sand.

Sincerely,



James W. DeLony  
Colonel, U.S. Army  
District Engineer

Enclosures

Copies Furnished:

Mr. John N. Morris, Director  
Division of Water Resources  
North Carolina Department of Environment  
and Natural Resources  
1611 Mail Service Center  
Raleigh, North Carolina 27699-1611

Ms. Donna D. Moffitt, Director  
Division of Coastal Management  
North Carolina Department of  
Environment and Natural Resources  
1638 Mail Service Center  
Raleigh, North Carolina 27699-1638

# **ATTACHMENT E**

**VILLAGE OF BALD HEAD ISLAND COMMENTS**

**3 NOV. 2025**

**MOFFITT LETTER 15 JUNE 2000**



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
DIVISION OF COASTAL MANAGEMENT  
RECEIVED  
EXECUTIVE OFFICE

June 15, 2000

2000 JUN 26 A 11: 03

JAMES B. HUNT JR.  
GOVERNOR

BILL HOLMAN  
SECRETARY

DONNA D. MOFFITT  
DIRECTOR

Colonel James W. DeLony  
District Engineer  
U.S. Army Corps of Engineers  
Wilmington District  
P.O. Box 1890  
Wilmington, NC 28402-1890

Action: PM-C  
CF: DE  
DX  
DP  
TS  
OC

REFERENCE: DCM00-14 EA and CD - Preconstruction Modifications of Authorized Improvements, Wilmington Harbor 96 Project

Dear Col. DeLony:

On May 17, 2000 the State of North Carolina completed its review, pursuant to 15 CFR 930 Subpart C - Consistency for Federal Activities, of the referenced document describing proposed modifications to the authorized Wilmington Harbor 96 Project in New Hanover and Brunswick Counties, North Carolina. The Corps of Engineers submitted the document to the state on February 17, 2000, and the project was assigned the number DCM00-14 for our review purposes.

During the course of our review several environmental concerns were raised by state agencies regarding potential impacts on the resources of the coastal zone. These comments were forwarded to the Corps for its consideration. As the consistency deadline was approaching, we extended our original consistency deadline 15 days, pursuant to 15 CFR 930.41, at the end of March. On April 10, 2000, our review was again extended to allow concerned state agencies to review the Corps' responses to comments on the Environmental Assessment (EA). The Division of Coastal Management received the Corps' responses on May 3 and again solicited comments from concerned state agencies.

The modifications that the Wilmington District Corps of Engineers seeks authorization for are as follows:

1. Construction and maintenance of the Wilmington Harbor entrance channel along a new alignment across the ocean bar.
2. Backfilling the abandoned channel length with dredged material not suited for beach or littoral zone disposal.



MAILING: 1638 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27600-1638  
PHYSICAL: 2728 CAPITAL BLVD., RALEIGH, NC 27604  
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DN

Col. James W. DeLony

June 15, 2000

Page 2

3. Placement of material dredged from the new channel alignment and other portions of the project on area beaches in New Hanover and Brunswick Counties.
4. Establishment of a comprehensive plan for dredging and disposal operations for each portion of the harbor, including hopper dredge with overflow.
5. Utilization of blast pressure criteria to measure impacts of blasting on aquatic resources and the elimination of the bubble curtain during blasting operations.
6. Placement of dredged material that does not go to the old channel, the littoral zone, the beaches, or other existing disposal sites, into the Offshore Dredged Material Disposal Site (ODMDS).

The Corps proposes to construct the new entrance channel alignment and place all suitable material on the nearby beaches over an approximately eighteen month period covering two winter seasons and one summer season. Turtle monitoring and shorebird surveys of affected beaches will be conducted. Details of the disposal operations for construction and maintenance of the channel are documented in a Sand Management Plan (SMP). In addition, the Corps has clarified details of the placement, timing, costs, and amount of sand to be deposited on the beaches of Bald Head Island, Caswell Beach, Oak Island, and Holden Beach in a letter dated June 9, 2000 from Colonel James W. DeLony, District Engineer, to the mayors of the respective beach towns. We understand that disposal of dredged material from construction and maintenance of the project will be conducted according to the SMP and letter, as agreed to by the NC Division of Water Resources, the Brunswick County beach communities and the Corps of Engineers. We also understand that the use of hopper dredge with overflow will be limited to times of year and reaches of the project in which impacts on coastal resources will be minimized.

Based upon our review of the EA and the Corps of Engineers' response to comments, we do not disagree with your determination that the proposed construction and changes in harbor maintenance procedures are consistent with the North Carolina Coastal Management Program to the maximum extent practicable, provided that the project is performed according to the EA (including the Sand Management Plan and other appendices) and the Corps' responses to comments from the EA, and to Colonel DeLony's letter of June 9, 2000 (including attachments), and that the conditions below are met.

Col. James W. DeLony

June 15, 2000

Page 3

1. Principal amongst the issues raised were potential impacts on sea turtles, shore and water birds, beach and benthic infauna, fisheries, and water quality parameters. It is extremely important that the impacts of this multifaceted project be well documented in order to evaluate the effects on these resources and on the overall coastal environment. The Corps of Engineers will pursue an integrated monitoring plan to address the resources noted in the first sentence of this paragraph, and will coordinate all monitoring efforts with the appropriate state agencies. This will include but not be limited to the North Carolina Division of Coastal Management, the Wildlife Resources Commission, the Division of Marine Fisheries, and the Division of Water Quality. We understand that the Corps intends to initiate monitoring coordination with the resource agencies in June of 2000.
2. As additional mitigation for impacts on fisheries resources, a fish passage structure will be constructed at Lock and Dam 1 on the Cape Fear River. In addition, fish passage alternatives for Lock and Dams 2 and 3 will be investigated. The Corps of Engineers and, as the Wilmington Harbor Project Sponsor, the State of North Carolina, have agreed to these actions.
3. The placement, timing, costs, and amount of sand to be deposited on Bald Head Island, Caswell Beach, Oak Island, and Holden Beach, both during construction and future maintenance; monitoring; and response to impacts shall be in accordance with Col. DeLony's letter of June 9, 2000, to the mayors of the respective towns receiving the sand (attached and incorporated by reference). If the towns, Corps, and project sponsor's representative mutually agree to modifications to the SMP or Col. DeLony's June 9, 2000 letter, those modifications shall be submitted to the North Carolina Division of Coastal Management for a determination of whether another consistency review is necessary on the modifications.
4. The state must have the opportunity to review the project, including monitoring results, to determine if it continues to be consistent with the North Carolina Coastal Management Program in two situations: 1) After five years from the date of this letter, and 2) before any subsequent modifications for future maintenance or other requests to modify the Wilmington Harbor 96 Project are considered. The Corps shall request this review and provide documentation of impacts (or lack thereof) on the coastal resources of concern.

Col. James W. DeLony  
June 15, 2000  
Page 4

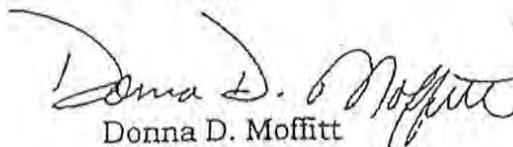
5. If in the future the Corps considers requesting authorization to conduct hopper dredging with over flow or to place maintenance dredge spoil on a beach, outside of the established time periods or locations, a separate consistency review will be required for each of these activities.

While the State of North Carolina supports beach nourishment and the placement of suitable spoil material on the beaches, we remain concerned about the short term and long term impacts on the biologic and ecologic resources of the coast. We maintain that the best time for such beach nourishment and renourishment is outside of the period of peak impacts on infauna, sea turtles, and fisheries. The State discourages individuals and agencies from seeking authorization to perform work outside established moratoria, and caution that our response is not to be interpreted as a precedent assuring authorization for future renourishment or disposal of sand on beaches outside of established dredging and disposal moratoria. We understand that summer beach disposal is necessary only during the construction phase of the project and that maintenance of the harbor channels will be conducted within established biological time frames.

Finally, with the increasing number of beach disposal and renourishment projects, much of the state's southern coast beaches will be in the placement or recovery phases in any given year. To this end, the Division of Coastal Management requests that the Corps consider combining the monitoring studies and environmental considerations of this project, the Wrightsville Beach, Carolina Beach, Kure Beach projects, and all of the Brunswick County Beaches projects to achieve a more comprehensive and cumulative impact analysis. Although these projects are separate in authorization and funding, we feel that concurrent studies could provide beneficial insights on impacts to resources from beach disposal and nourishment along this extended reach of shoreline.

If you have any questions regarding our findings, conditions, or recommendations, please contact Ms. Caroline Bellis, Division of Coastal Management, at (919) 733-2293. Thank you for your consideration of the North Carolina Coastal Management Program.

Sincerely,

  
Donna D. Moffitt

Col. James W. DeLony  
June 15, 2000  
Page 5

Attachment

cc: Bob Stroud, Division of Coastal Management, Wilmington  
Franklin McBride, NC Wildlife Resources Commission  
Bennett Wynne, NC Wildlife Resources Commission  
Ruth Boettcher, NC Wildlife Resources Commission  
Fritz Rohde, NC Division of Marine Fisheries  
Mike Street, NC Division of Marine Fisheries  
John Dorney, Division of Water Quality  
Frank Yelverton, US Army Corps of Engineers  
John Meshaw, US Army Corps of Engineers

# **ATTACHMENT F**

**VILLAGE OF BALD HEAD ISLAND COMMENTS**

**3 Nov. 2025**

**FINDING OF NO SIGNIFICANT IMPACT**

**WILMINGTON HARBOR 2000 (EXCERPT)**



**US Army Corps  
of Engineers®**

Wilmington District

# **FINDING OF NO SIGNIFICANT IMPACT**

**PRECONSTRUCTION MODIFICATIONS  
OF  
AUTHORIZED IMPROVEMENTS**

**WILMINGTON HARBOR  
NORTH CAROLINA**

**August 2000**

and about \$20 million for elimination of the air curtains. Environmentally the new ocean bar channel would avoid live coral bottom. The air curtains are eliminated because they did not provide the environmental protection anticipated, and environmental impacts in their absence are anticipated to be minor.

**3.00 PUBLIC AND AGENCY COORDINATION:** On February 7, 2000, the EA referenced above was mailed to Federal and State agencies and the interested public for a 30-day review and comment period. Based on a request from the North Carolina Clearinghouse and others, the response date was extended about 2 weeks until April 3, 2000. Everyone providing comments on the EA will be mailed a copy of the Finding of No Significant Impact (FONSI). A notice of availability of FONSI will be mailed to others on the project mailing list. Comments on the EA were received from the following:

**Federal Agencies**

- US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
- US Environmental Protection Agency, Region IV
- US Department of the Interior, Fish and Wildlife Service

**State Agencies**

- North Carolina Ports
- NC Department of Environment and Natural Resources
- NC Division of Coastal Management
- NC Department of Cultural Resources
- NC Division of Water Quality
- NC Department of Commerce
- NC Wildlife Resources Commission
- NC Division of Marine Fisheries

**Local Agencies**

- Brunswick Beaches Consortium

**Elected Officials**

- New Hanover County Board of Commissioners
- Representative Daniel F. McComas
- Mayor Harry Simmons, Town of Caswell Beach
- Mayor Joan L. Altman, Town of Oak Island

**Conservation Groups**

- National Audubon Society

**Interested Businesses, Groups, and Individuals**

- Burlington Industries, Inc.
- H. Spalding Craft
- Star Shipping, Inc.
- Solar International Shipping Agency, Inc., General Agent for Yang Ming Line
- Andrew Koepfel

- OxyChem
- Morehead City Terminals, Inc.
- Hanjin Shipping Company, Ltd.
- North Carolina Citizens for Business and Industry
- Frank S. Conlon
- Laela S. Sayigh
- Brooks, Pierce, McLendon, Humphrey & Leonard, L.L.P, firm representing Village of Bald Head Island

In addition, all the required environmental clearances or coordination documents have been received for the proposed action. They were received after April 3, 2000, the end of the EA comment period, and are as follows:

- Water Quality Certification No. 3085 issued October 17, 1996, was modified by letter dated April 10, 2000 to cover the proposed action.
- Supplement to the Final Fish and Wildlife Coordination Act Report, Wilmington Harbor, North Carolina, 96 Act, New Hanover and Brunswick Counties, North Carolina, April 2000, transmitted by letter dated April 28, 2000. Responses to recommendations are indicated in Paragraph 5.06 above.
- US Fish and Wildlife Service Biological Opinion for the Proposed Preconstruction Modifications of Authorized Improvements, Wilmington Harbor, North Carolina, May 3, 2000. We will comply with the incidental take statement, associated reasonable and prudent measures, and terms and conditions implementing them.
- Environmental Protection Agency letter of May 1, 2000, indicating concurrence with our Tier 1 evaluation under the Ocean Dumping Act that the new work and maintenance dredged material is acceptable for ocean disposal in the Wilmington ODMDS.
- National Marine Fisheries Service Biological Opinion for the Proposed Preconstruction Modifications of Authorized Improvements, Wilmington Harbor, North Carolina, August 3, 2000. We will comply with the incidental take statement, associated reasonable and prudent measures, and terms and conditions implementing them.
- NC Division of Coastal Management letter of June 15, 2000, providing a statement of concurrence that the proposed action is consistent with the NC Coastal Management Program. We will comply with the conditions indicated in the letter.

**4.00 RESPONSES TO COMMENTS ON THE EA AND RESOLUTION OF ISSUES:** All comments received on the EA and other correspondence indicated above were considered in making the decision to sign a FONSI. Copies of the letters commenting on the EA are included in Attachment 1. Pertinent comments from each commentator are summarized and addressed below. All comments received on the EA have been resolved either through providing additional information in this FONSI or agreeing to develop appropriate monitoring as indicated in paragraph 11 of this FONSI. As indicated in paragraph 1.00 above, monitoring is proposed for limited aspects of the project where some uncertainty exists regarding project impacts. However, the results of this monitoring are not anticipated to alter the Corps position that the proposed modifications will not significantly affect the quality of the human environment.

# **ATTACHMENT G**

**VILLAGE OF BALD HEAD ISLAND COMMENTS**

**3 Nov. 2025**

**FOTH REVIEW OF WILMINGTON HARBOR DLR AND  
DEIS FOR VBHI**



## MEMORANDUM

Foth Infrastructure & Environment, LLC  
2618 Herschel Street  
Jacksonville, FL 32204  
(904) 387-6114

October 30, 2025

TO: The Village of Bald Head Island

FROM: Chris Creed, P.E.  
Steve Howard, P.E.

RE: Review of Wilmington Harbor 403 Letter Report and Draft Environmental Impact Statement for the Village of Bald Head Island

---

Foth Infrastructure & Environment, LLC has reviewed the Wilmington Harbor 403 Letter Report and Draft Environmental Impact Statement (DEIS) and identified deficiencies in engineering analyses and conclusions therein. Our review focused on potential effects from channel deepening and subsequent channel use by commercial ship traffic to areas of the Village of Bald Head Island's shoreline. Our specific concerns are related to shortcomings in the numerical modeling approach and an underestimation of the proposed project's contributions to shoreline erosion. In summary, several important points discussed in detail in this report are noted below:

- 1) The version of the Delft3D model applied in this study was not clearly stated in the DEIS, nor whether the same version was used consistently across all phases of the modeling effort.
- 2) According to the DEIS, wave-driven suspended and bedload sediment transport in Delft3D were disabled reducing total transport to only current components. Waves play a critical role in shaping morphology along the ocean-facing sandy beaches like those of Bald Head Island bounding the Cape Fear River Entrance. The omission of all explicit wave-related sediment transport terms in the Delft3D model was not explained and the calibration/verification procedures used to justify this decision was not detailed in the DEIS.
- 3) The model calibration and evaluation appear to emphasize channel shoaling, which may not represent sediment dynamics on adjacent shorelines unless sediment sources and alongshore transport rates for Bald Head and Oak Islands were explicitly computed and

used in the calibration. There is no clear documentation in the DEIS if this was performed.

- 4) The DEIS attributes channel shoaling variability largely to differences in dredge quantities. The DEIS also acknowledges that dredged quantities and measured shoaling rates are not directly comparable. There is no apparent attempt to distinguish between actual shoaling rates and one-off dredge events, and this conflation complicates interpretation of the model's predictive capabilities.
- 5) Based upon tabulated comparisons in the DEIS for the Inner Ocean Bar Channels in the vicinity of Bald Head Island, the model significantly overpredicts shoaling in the Smith Island reach and underpredicts shoaling in the Bald Head Island reaches—by as much as 2.9 times while the overall total shoaling volumes are similar. This indicates that similar total shoaling volumes may be coincidental rather than evidence of model accuracy. Such discrepancies risk misrepresenting the real-world sand distribution with significant inlet management implications.
- 6) The gravity-driven process of slope avalanching is of critical importance to the Village of Bald Head Island, given the proximity of the planned channel deepening to the shoreline. According to the DEIS, this functionality was implemented by using default values for the critical subaqueous slope parameter and time-dependent function. However, if this functionality was activated, one would expect significant slope modifications throughout model results, including along the navigation channel side slopes. Such slope modifications are not readily apparent in the DEIS results, as such it is not apparent if this functionality was correctly implemented in the model.
- 7) A primary objective of the DEIS was to quantify potential impacts to adjacent shorelines. However, the DEIS states "*Higher observed bed shear stresses suggest a potential for increased sediment resuspension and erosion, but no quantification of erosion rates or shoreline change is presented in this report.*", suggesting the investigation is incomplete.
- 8) The median grain size parameter (D50) is highly influential to morphological model results. However, different values for D50 were applied in the morphological model (0.22 mm) while significantly higher values were used for the evaluation of secondary ship wakes (e.g. 0.38 mm at "Bald Head Shoal 1"). This discrepancy for such an influential and easily verifiable model parameter was not explained.
- 9) The DEIS predicts shoreline impacts adjacent to the inlet using the one-line GenCade model. However, the application of GenCade in this context represents a severe oversimplification of the physical processes governing sediment transport in the areas of concern to the Village of Bald Head Island. Furthermore, the DEIS mischaracterizes prior work by other consultants to support a poorly

calibrated GenCade model. Specifically, sediment transport rates computed by GenCade are more than five and a half times lower than both the works cited and those derived from long-term beach profile monitoring. This discrepancy underscores the model's inability to reliably estimate sediment transport along Bald Head Island.

As presented in the DEIS, GenCade is not capable of accurately computing sediment transport in this setting and should not be relied upon for impact assessment or project design decisions affecting the Bald Head Island shoreline.

- 10) Additional observations on the DEIS which are not specifically related to numerical modeling are also included.

### **Wave-related Sediment Transport**

According to the DEIS, the calibrated non-cohesive sediment transport model applied values of zero (0.0) to both the *susW* and *bedW* parameters. In a Delft3D coastal morphology model, setting these parameters to zero disables the wave-related components of suspended load (*susW*) and bed load (*bedW*) sediment transport. These parameters normally scale the magnitude of wave-induced transport formulations, where waves influence sediment dynamics through enhanced bed shear stress, orbital velocities, asymmetric effects, and interactions with currents. Under this calibration, the model ignores these processes and reduces total transport to current-only components, controlled by the analogous parameters *sus* and *bed*, which were each set to their default values of 1.0.

The coastlines bounding the Cape Fear River Entrance are ocean-facing sandy beaches where waves play a critical role in shaping morphology. With the published calibration, bed-level changes driven by wave propagation would be absent or substantially diminished. Instead, morphological updates rely solely on current-driven processes, making the simulations potentially suitable for current-dominated cases but inaccurate for combined wave-current systems. This approach may affect depth-integrated mass conservation and bed updating equations, potentially producing stable but unrealistic bed compositions or elevations over time.

The appropriateness of omitting all explicit wave-related sediment transport terms from modeling the physics governing morphological changes along Bald Head and Oak Islands was not explained in the DEIS. Additionally, a description of how the calibration and verification procedures justified this decision was not provided in the DEIS. It is unclear in the DEIS if wave-current interactions were represented through alternative mechanisms (e.g., eddy diffusivity or other coupling approaches) and how sensitivity analyses of these settings influenced predicted sediment transport along the beaches adjacent to the inlet.

## **Channel Shoaling**

It appears that the model calibration and evaluation were focused primarily on shoaling rates within the navigation channel. However, depending on the origin of the shoal material, these rates may or may not reflect sediment dynamics along the adjacent islands. It is unclear in the DEIS if sediment transport rates along the shorelines of Bald Head and Oak Islands were computed or otherwise considered during calibration and verification.

The cited variability in channel shoaling is largely attributed in the report to differences in dredge quantities. By extension, model skill is assessed relative to these uncertainties. Yet, as acknowledged in Section B-9.5.2 (*Data Uncertainty*), dredged volumes and measured shoaling rates are not directly comparable metrics. Table 9-11 does not attempt to distinguish between actual shoaling rates and one-off dredge volumes, which complicates interpretation of model skill.

Further, based on Table 9-8 alone, the model significantly overpredicts shoaling in the Smith Island reach and, except for one data point, underpredicts shoaling in the Bald Head Island reaches—by as much as 2.9 times (Bald Head Shoal 2, relative to the 2015/16 condition survey). These discrepancies could lead to serious misinterpretations regarding sand distribution and inlet management, suggesting that similarities in total shoaling volumes may be more coincidental than indicative of model accuracy.

Finally, page B-207 states: *“The extents of the polygon used to extract sedimentation volumes should be carefully considered when interpreting modeled output.”* How should a reviewer interpret this statement in the context of evaluating the polygon selection described in the report? Clear guidance on this point is essential for assessing the reliability of the reported sedimentation volumes.

## **Slope Avalanching**

The Village has repeatedly requested that the modeling effort accurately consider the effects of slope avalanching resulting from dredging of the nearshore beach platform. The gravity-driven process of slope avalanching is of critical importance to the Village of Bald Head Island, given the proximity of the planned channel deepening to the shoreline. The most recent response to this request indicated slope avalanche was considered and directed us to review the relevant appendix in the DEIS document. Based on the information provided there, it appears the modelers attempted to activate subaqueous dune-front slumping within Delft3D.

According to the DEIS, this was implemented by specifying a critical subaqueous slope using the parameter *WetSlope* and a time function for resolving slope adjustments using *AvalTime*. Default values were applied, establishing a critical slope of 1V:10H (i.e., 0.2V:1H per the DEIS) and an *AvalTime* of one day (86,400 seconds).

These settings create a threshold in the model whereby wet slopes steeper than 1V:10H are automatically adjusted to the critical slope. If this functionality was active, one would expect significant slope modifications throughout the model domain, including along the navigation

channel side slopes. However, such erosion and sedimentation patterns are not readily apparent in the DEIS results. To initiate dune-slumping functionality in Delft3D, the parameter DuneAvalan must be specified in the input ".mor" file. The DEIS does not provide the full input files; therefore, evaluation of the incorporation of slope avalanche is hampered.

It is unclear in the DEIS if dune slumping was initiated nor what if any calibration and sensitivity-testing procedures were performed for these parameters. Specifically, missing was an explanation of how the default values were determined to be suitable for use, as they do not appear appropriate for the slopes present in the model domain or for the time frame required to resolve avalanching. There was no clarification as to the extent to which the critical slope criteria were applied to non-dune portions of the model. Sectional views of the modeled bathymetry were not provided which would illustrate both the calibration results and any slopes that were automatically adjusted based on these parameters.

### **Vessel Wake**

Per page B-270, the report states: *"Higher observed bed shear stresses suggest a potential for increased sediment resuspension and erosion, but no quantification of erosion rates or shoreline change is presented in this report."* One of the essential objectives of this study was to quantify potential impacts to adjacent shorelines. This admission suggests the investigation is incomplete. The DEIS is unclear as to how discrete, project-related increases in bed shear stress predicted to influence sediment transport on the adjacent beaches.

The median grain size parameter (D50) is identified in the DEIS as being highly influential to morphological model results. Even small changes in median grain size are reported to significantly alter predicted sediment transport volumes. A D50 of 0.20 mm was selected for the morphological model, yet Table 11-22 applies higher values of D50 when evaluating erosion from secondary ship wakes (e.g., 0.38 mm at "Bald Head Shoal 1"). For reference, the median grain size of sand placed in the 2025 renourishment project was 0.36 mm. The DEIS does not explain why such substantial differences exist in a key and easily verifiable model parameter, and to what extent do larger D50 values reduce predicted erosion in the wake model.

Section B-11.3 concludes: *"These findings suggest the consideration of localized impacts is crucial when evaluating the feasibility and environmental implications of the alternative channel modifications."* It also states: *"Certain model domains, such as Fort Caswell and Bald Head Island, exhibit minimal differences in bed shear stress increases along shorelines, with small clusters of higher shear stress in specific regions where wave energy might be expected to concentrate."* These increases are described in the text as being on the order of 17% (p. B-266), although Table 11-5 indicates potential for larger increases at Bald Head 2 and Fort Caswell. If location matters in quantifying impacts, the report should not summarily dismiss all impacts as minimal without providing a clear, technical, and unbiased basis for that determination.

Moreover, Section 11.3 asserts without basis that impacts are minimal because increases in shear stress are less than 0.5 lbf/ft<sup>2</sup>. However, Table 11-17 cites critical shear stress values ranging from 0.003 to 0.006 lbf/ft<sup>2</sup> for grain sizes used in the morphological and wake models.

The predicted changes exceed these critical values by more than two orders of magnitude, yet no quantification of erosional potential is provided. There is no explanation in the DEIS for the rationale for describing these predicted increases as minimal and quantify the resultant erosion. The investigation is incomplete without these results.

### **Use of GenCade**

The DEIS evaluates potential impacts to the oceanfront shorelines of Oak Island, Caswell Beach, and Bald Head Island using the one-dimensional shoreline change model GenCade. While GenCade accounts for changes in the incident wave climate, it does not incorporate several critical physical processes that govern sediment transport along Bald Head Island. These omitted processes include:

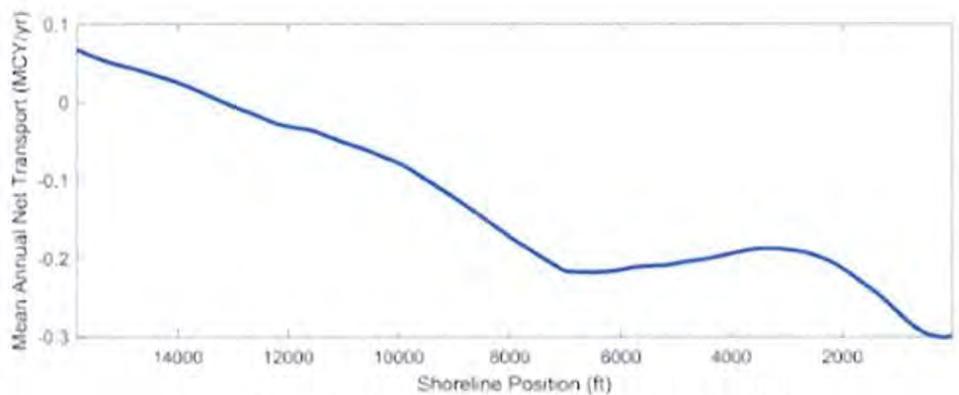
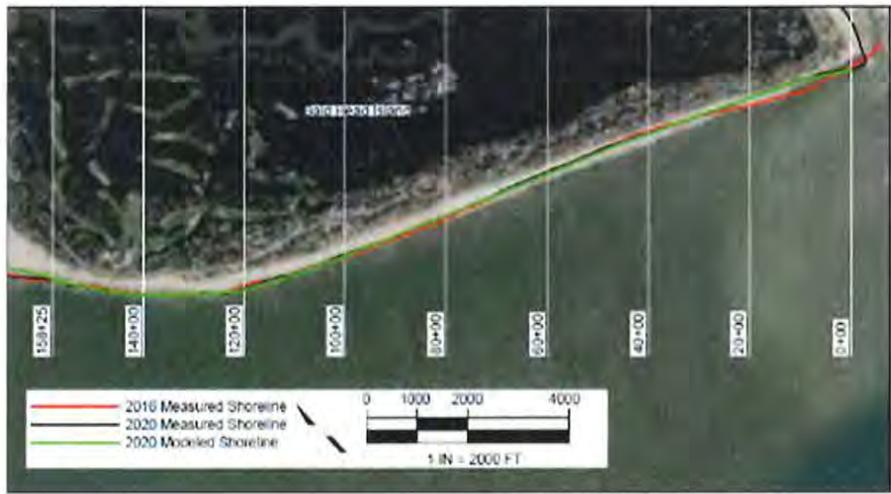
- Inlet morphodynamics
- Wave-current interactions
- Sediment scour, resuspension, and deposition within the channel
- Morphological feedback mechanisms

The exclusion of these processes represents a significant oversimplification of the sediment transport system in this region.

Additionally, the GenCade model calibration utilized a median sediment grain size of 0.25 mm, which differs from the values used in other modeling efforts: 0.20 mm in the Delft3D model and 0.38 mm in the ship wake analysis. The DEIS does not provide a rationale for this inconsistency in a key model parameter. The GenCade model was subsequently used to estimate sediment transport rates along Bald Head Island and reported the following (DEIS p. B-163):

*"Based on the modeling, there is a net westerly transport of 50,000 cubic yards per year toward the Cape Fear River and a net easterly transport of 300,000 cubic yards per year."*

These results are presented in Figure 8-6 of the DEIS, reproduced below. Based on the narrative in the DEIS (partially quoted above), positive values represent westerly directed transport while negative values reflect easterly directed sediment transport. The magnitude and direction of sediment transport shown in the graph appear to be consistent with the referenced narrative from the DEIS.



**Figure 8-6 Modeled net annual sediment transport along BHI.**

*Location map from DEIS Fig 8-5 (above) and sediment transport from DEIS Fig 8-6 (below).*

The DEIS references a prior study by Olsen Associates, Inc. (2012<sup>1</sup>) as supporting this magnitude and pattern of transport. However, this citation is inaccurate. The Olsen report describes measured sediment transport along the western portion of Bald Head Island as being directed westward, with rates "ranging between -278,200 and -355,600 cy/yr, based on best-fit analysis of available data (Olsen Associates, 2012, p. 95)". These

<sup>1</sup> Olsen Associates, Inc. (2012). Calibration of a Delft3D model for Bald Head Island and the Cape Fear River Entrance, Phase I. Prepared for the Village of Bald Head Island, North Carolina.

estimates do not account for the influence of the terminal groin, yet they still differ significantly from the published GenCade result of 50,000 cy/yr directed westward.

Further, the 2025 Physical Monitoring Report for the Bald Head Island renourishment project, prepared by Foth Infrastructure & Environment, LLC<sup>2</sup>, provides updated long-term sediment transport estimates. Using survey data from November 2000 through May 2025, the report concludes that measured net transport along western Bald Head Island averages 280,400 cy/yr over the last 25 years. For reference, the following figures are excerpted from the 2025 monitoring report. The blue dashed line represents measured sediment transport rates from the terminal groin to STA 118+00, while the black line reflects the full monitored shoreline.

The sediment transport rates computed by GenCade are more than five and a half times lower than those derived from long-term beach profile surveys. As presented in the DEIS, the GenCade model is not capable of accurately computing sediment transport along Bald Head Island and should be deemed unreliable in terms of assessing impacts to said shoreline.

---

<sup>2</sup> Foth (2025). "Village of Bald Head Island; Beach Monitoring Program, Report No. 23 (April 2024 to May 2025)". Report Prepared for Village of Bald Head Island. Foth Infrastructure & Environment, LLC, 2618 Herschel St., Jacksonville, FL 32204. 62 pp plus app. (November 2025, not yet published).

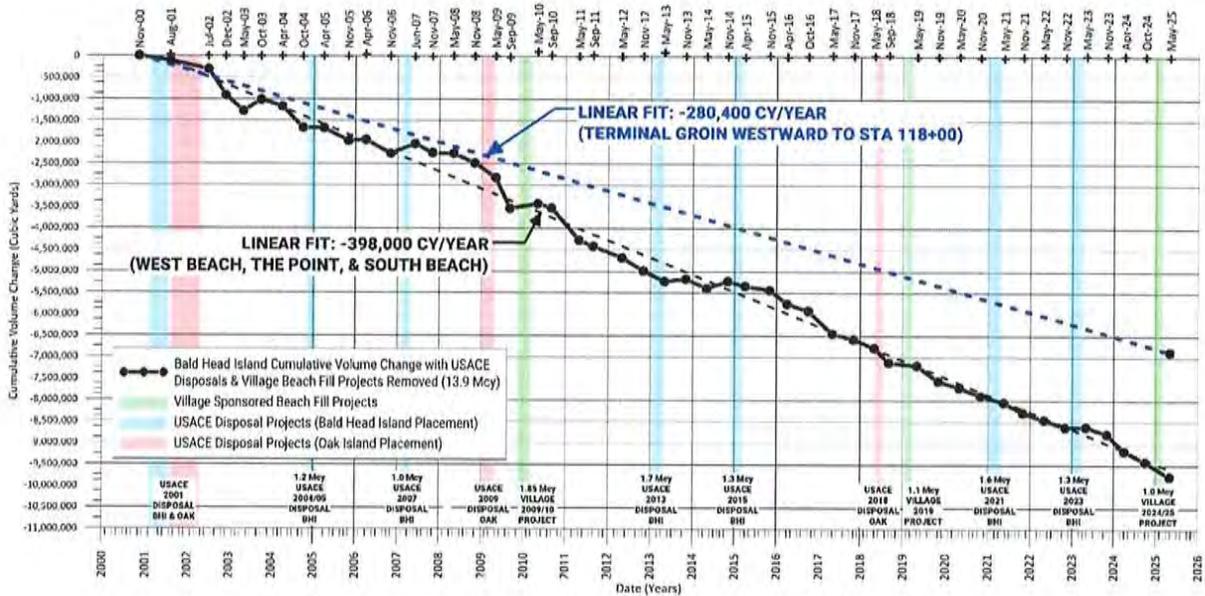


Figure 1: Cumulative volume change along Bald Head Island West Beach, the Point, and South Beach shorelines (above -16 ft-NGVD) through time relative to November 2000 conditions, excluding nourishment events.

Location map (above) and sediment transport rates (below) along Bald Head Island as reported in Foth (2025, to be published).

### **Additional DEIS Observations Not Directly Related to Numerical Modeling**

1. Channel width expansions have been incorporated into the proposed next deepening project that expand federal navigation channel into naturally deeper waters. For example, the Smith Island Range will be expanded from 650 ft to 900 ft. This was an obvious shortcoming of the last deepening project which resulted in additional annual maintenance dredging. This will likely reduce both the frequency and volume of sand periodically dredged from the channel to maintain authorized conditions. This will potentially reduce the quantity of sand available for distribution to the adjacent island beaches.

2. Coincident with the probability of reduced dredge volumes and/or less frequent maintenance dredging for the 3 inner bar channel reaches of interest, the DEIS does not speak to how this will impact the tenets of the existing Wilmington Harbor Sand Management Plan ("WHSMP"). Rather, it generally speaks to sand disposal placement along the adjacent shorelines being "similar" to existing practices following Project implementation. However, the DEIS designated disposal area on Oak Island continues to extend beyond the western limit of the Town of Caswell Beach, or the littoral drift nodal point on Oak Island (ref: Appendix D, page 36). Sand placement west of the nodal point will be detrimental to the Cape Fear River Inlet sediment budget. This is a continuation of the District's current operational plan for sand placement on Oak Island which is not consistent with the intent and tenants of the WHSMP. As such, this approach defeats the mitigation aspect of the Federal Project by not ensuring that sand placed on the two barrier island beaches moves back toward the mouth of the Cape Fear River. Rather, sand placed beyond the nodal point will move westward away from the river mouth and not be available for future mitigative sand placement along the VBHI and CB shoreline, which is contrary to the WHSMP.

3. During the 2000 channel deepening & widening project which included realignment through Jay Bird Shoal, significant beach quality sand was encountered and placed on the two barrier island beaches. Although the DEIS cites the predicted project related to dredging of some 5.8M cy of beach quality sand, it is expected that only 2.3 M. cy is available for beach disposal (Ref: Appendix D, page 36). Where the bulk of the remaining sand goes is not explained. It is noted that the District is modifying the WH ODMDS to now include a corner segment to be used for the dumping of "beach quality" sand for future possible access and reuse via hopper dredge (Ref. Appendix P, pages 54-55). This potentially implies that quantities of beach quality sand will not necessarily be returned to the barrier island beaches but rather dumped offshore by hopper dredge and possibly available as beach fill along beaches that are not directly adjacent to the Cape Fear River Inlet. This would violate the intent and agreement of the SMP. Moreover, this could impact future maintenance material, further reducing sand available for placement along the VBHI and CB shorelines.

4. In Appendix B it is acknowledged that the USACE consultant Stantec interfaced with M&N (the prior Section 203 Report author and consultant to the W.H. Port Authority) and essentially adopted the M&N model setups, grid files, bathymetry, spatial parameters, boundary conditions, etc. This is tantamount to their utilizing the same DELFT3D hydraulic model, ship wake model, etc. Most protocols analyzing project impacts, or lack thereof, were similarly adopted. Hence, the DEIS report findings are anything but independently derived.

Stantec likewise adopted the results of the simplistic GENCADE 1-D shoreline evolution model performed by the District several years ago which were shown to be erroneous when compared to the more sophisticated littoral transport modeling. The latter VBHI sponsored DELF3D modeling was associated with the permitting of a terminal structure on BHI bordering the subject navigation project—and as such included detailed site-specific littoral transport analyses of sand transport rates toward the Cape Fear River at both Caswell Beach and South Beach at Bald Head Island. Interestingly those analyses computed the ratio of annual littoral contributions from the two barrier islands to the inlet at a ratio of 4.7:1. This finding contrasts with the 2:1 ratio adopted by the Wilmington District in the WHSMP in approximately 1999, at which time the District Commander also said that the Plan would be adjusted as necessary, based on monitoring results. No adjustments have been made. The discrepancy between an appropriate and equitable ratio of sand management viz. disposal of beach quality maintenance material has been well substantiated. More recently, a more current estimate (based upon recent comprehensive beach surveys) of the ratio between littoral contributions could be as high as 7:1.

The adopted 2:1 ratio for the location of episodic disposal of dredged channel maintenance sand from the 3 inner ocean entrance channel segments has been a subject of debate since its inception. That is to say, the littoral transport rates proffered by the federal feasibility study prior to construction in 2000 (ref: Tech Report CHL 99-18) are clearly technically unsupportable and contrary to ongoing dredge records, as well as observed shoreline erosion rates at Caswell Beach and BHI.

The net result of this inequity has manifested itself in an ongoing lack of appropriate mitigation of the channel project's historical impacts and the requirement for the VBHI to expend over \$70M for beach erosion control since the 2000 Harbor Deepening Project. Conversely, the Town of Caswell Beach at the eastern end of Oak Island has expended zero dollars on inlet related impacts over the same period of time. This ongoing fiscal discrepancy is directly attributable to the imbalance of maintenance sand sharing erroneously codified and subsequently implemented by the District's interpretation of the original Wilmington Harbor Sand Management Plan.

## References

Foth (2025), "*Village of Bald Head Island; Beach Monitoring Program, Report No. 23 (April 2024 to May 2025)*", Report Prepared for Village of Bald Head Island. Foth Infrastructure & Environment, LLC, 2618 Herschel St., Jacksonville, FL 32204. 62 pp plus app. (November 2025).

USACE (1999), "*Wave Climate and Littoral Sediment Transport Potential, Cape Fear River Entrance and Smith Island to Ocean Isle Beach, North Carolina*" Technical Report CHL-99-18, U.S. Army Corps of Engineers (September 1999).

# **ATTACHMENT H**

**VILLAGE OF BALD HEAD ISLAND COMMENTS**

**3 Nov. 2025**

**BALD HEAD ISLAND CONSERVANCY**

**INITIAL SCOPING COMMENTS**

**30 JUNE 2023**



Bald Head Island Conservancy  
PO Box 3109  
700 Federal Road  
Bald Head Island, NC 28461

June 30, 2023

Ms. Chrisa Waite, Public Involvement Specialist  
USACE Wilmington District  
69 Darlington Avenue  
Wilmington, NC 28403  
Attn: Wilmington Harbor 403

Dear Ms. Waite,

We are writing on behalf of Bald Head Island Conservancy, a 501(c)(3) nonprofit organization on Bald Head Island, NC (BHI), to relay concerns and share information about the Wilmington Harbor Port Expansion Project during this Scoping Period of the 403 Process. Our organization has focused on our mission to Discover, Learn, Conserve, and Preserve Bald Head Island for 40 years. We specialize in sea turtle nesting biology and barrier island conservation, and conduct a number of environmental monitoring projects and studies on behalf of the Village of Bald Head Island. Our staff includes specialists in marine and environmental science (3 PhD level, 1 MS, 1 BS), and we collaborate closely with state and federal conservation organizations and academic institutions throughout North Carolina and the region. Our education and outreach programs serve the Brunswick and New Hanover county populations beyond just BHI; for example, all sixth graders in Brunswick County (~1,000 students) experience a field trip to BHI each year, and overnight summer science camps are offered to underserved Wilmington youth.

The goal of this letter is to share potential impacts of the Port Expansion project that should be considered fully during the 403 process, and to also offer data and resources to the project as needed. Bald Head Island, at the mouth of the Cape Fear River adjacent to the current Cape Fear channel, is in a vulnerable location relative to this proposed project. Bald Head Island also consists of rare and special ecosystems that should be preserved and protected at all costs. We are also concerned about river-wide impacts that have been more broadly discussed already, which would undoubtedly affect the natural resources throughout the entire watershed, including BHI.

Specifically, our concerns include:

- **Impacts of channel deepening to sediment dynamics at the river mouth.** Erosion of BHI beaches and sediment movement from east to west (from BHI's south and west

beaches to the river channel) were severely underestimated during the 2000 channel realignment. Sediment fluxes along BHI's incredibly dynamic south and west beaches need to be carefully measured, and a fine-scale 3D model of sediment movement at the river mouth should be constructed, using *current* and *location-specific* data. This is a complex and vulnerable area and great care should be taken to be as accurate as possible with predicted impacts. Further impacts of erosion include:

- a. Loss of beach nesting habitat for listed species of concern, including Loggerhead, Green, and Kemps Ridley sea turtles, and shorebirds such as Least Terns, American Oystercatchers, and Wilson's Plovers. Tides/storms have been the largest threats to BHI sea turtle nests over the past 5 years, and these impacts are also expected to increase with climate change and sea level rise.
  - b. Impacts of erosion and beach loss to individual home and business owners and the local and state economy
  - c. Increasing vulnerability of barrier islands (BHI, Oak Island) and other coastal communities to climate change related sea level rise and predicted increased storminess
  - d. Impacts of erosion and sediment dynamics on back-barrier creeks and marshes, including tidal flushing and water quality
- **Impacts of channel deepening to the freshwater aquifer.** A location-specific 3D model of aquifer-surface water dynamics should be created, including scenarios for channel deepening/widening at different potential depths, and the impacts of sea level rise. This model should include impacts to the Castle Hayne aquifer, but also interactions with specific semi-confined aquifers on barrier islands. Model should also include scenarios for changes to riverine tides and salinity that will result from changes to the hydrogeography.
    - a. Saltwater intrusion is already occurring on BHI's west and south beaches. Further encroachment of salinity caused by channel deepening/widening will reduce the size of BHI's only freshwater source to island ecosystems
    - b. BHI's maritime forest (Bald Head Woods Coastal Reserve) is fed by this aquifer, is the second-largest maritime forest in the state, is considered a globally-imperiled forest subtype, and is protected by the NC Natural Heritage Program. Several listed plant species are found on BHI.
    - c. Loss of a drinking water resource to the public. Most of BHI's drinking water is groundwater-derived. The Village of BHI has invested in careful environmental monitoring and study of responsible water use to not impact natural resources on the island.
    - d. Loss of/salinization of freshwater wildlife habitat. The freshwater ponds and lagoons fed by the aquifer are home to one of the largest breeding populations of protected American alligators in the state, and also provide important roosting and feeding grounds for a variety of waterbird species.
  - **Impacts of dredging and increased shipping on wildlife and fisheries.** The initial impacts of increasing channel depth and width will be substantial. It is currently unknown how often channel maintenance dredging will occur, but we expect that it will need to occur more often and for longer periods than currently.

- a. Already, channel maintenance dredging kills or injures numerous sea turtles and shorebirds each year. BHI Conservancy leads emergency wildlife response on the island, and we spend hundreds of hours each year transporting and providing care for animals hit by boats or caught in dredging equipment (those that survive the initial injury). These animals are also cared for by nonprofit organizations such as Sea Biscuit Wildlife Shelter and the Karen Beasley Sea Turtle Hospital, who rely solely on donations for support.
  - b. The lights and noise from dredging equipment can disturb and change behavior of foraging and nesting sea turtles. We have observed this directly causing false crawls and misorientation of emerging hatchlings.
  - c. Dredging has immediate impacts on the benthic environment, including benthic invertebrates that provide the forage base for sea turtles and important fisheries species. Increasing the magnitude, geographic scale, and frequency of this dredging will have longer-lasting effects throughout the food chain, and impacts on the fisheries economy in the Cape Fear watershed.
- **Impacts throughout the Cape Fear River and watershed.** The Port of Wilmington is 28 miles from the Atlantic Ocean, which is 28 miles of direct impact to the river. Other regional ports such as Savannah (18 miles) and Charleston (5.5 miles) have shorter distances to the open sea. The scale of hydrodynamic impacts of a project of this size cannot be underestimated. Our concerns include:
    - a. An estimated 32 million cubic yards of dredge material will need to be transported and disposed of, not including maintenance dredge materials.
    - b. Placement location of dredge spoil material and quality of the material
    - c. Potential contamination of dredge spoil and impacts of this on water quality (heavy metals, methyl mercury, PFAS)
    - d. Large scale of perturbations and fluidization of the seabed, and impacts on biogeochemical cycling
    - e. Exacerbation of existing acceleration of sea level rise in the Cape Fear Watershed
    - f. Erosion, flooding, and salinization impacts to marshes and wetlands, including the Bald Head Island/Smith Island Complex. Eroding marshes bordering developed areas will have no space to migrate, and marsh loss due to sea level rise may be accelerated. Marshes provide buffer to storm surge, habitat to wildlife and fisheries species, water filtration, and carbon sequestration benefits.
    - g. Increased flooding impacts to vulnerable areas and resources which have already been stressed by Hurricane Florence, PFAS contamination, and are not fully recovered (e.g., residential areas in downtown Wilmington and Brunswick County, wastewater treatment facilities).

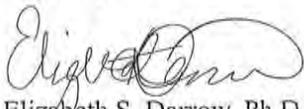
We urge you to fully consider the potential impacts of this proposed project by collecting the necessary scientific data and allowing adequate input from local and regional experts and the public to make an informed decision. We would be glad to provide data we have already collected if it can be of use, or partner with the USACE to collect future data or samples on Bald Head Island as part of the NEPA process.

Available datasets:

- Bald Head Island Sea turtle nesting (1983-present), including annual trends, locations, and impacts of erosion/washover/disturbance on nesting and hatching
- Bald Head Island aquifer volume (2009-present) and water quality (2014-present)
- Bald Head Island aquifer modeling study (Dr. Peter Zamora, 2021)
- Bald Head Creek water quality (2012-present)
- Bald Head Island Bird monitoring (2015-present)
- Bald Head Woods Coastal Reserve maritime forest study (Dr. Jodi Forrester, 2020)
- Bald Head Island alligator population monitoring (2007-present)
- Bald Head Creek siltation and sediment characteristics (2018-2019)
- Bald Head Island wildlife emergency response (2020-present)

Thank you for considering our concerns.

Sincerely,



Elizabeth S. Darrow, Ph.D.  
Chief Scientist  
Bald Head Island Conservancy  
910-338-0942  
[darrow@bhic.org](mailto:darrow@bhic.org)



G. Christopher Shank, Ph.D.  
Executive Director  
Bald Head Island Conservancy  
910-338-0910  
[shank@bhic.org](mailto:shank@bhic.org)

# **ATTACHMENT I**

**VILLAGE OF BALD HEAD ISLAND COMMENTS**

**3 Nov. 2025**

**E-MAILS REGARDING PUBLIC PARTICIPATION IN NED**

## Bill Cary

---

**From:** Walters, Bret L CIV USARMY CESAW (USA) <Bret.L.Walters@usace.army.mil>  
**Sent:** Monday, July 22, 2024 5:20 PM  
**To:** Bill Cary  
**Cc:** Hill, Suzanne CIV USARMY CESAS (USA); Charles S. Baldwin, IV; Chris McCall; Stolba, Andrea M CIV USARMY CESAW (USA)  
**Subject:** RE: Wilmington Harbor 403  
**Attachments:** 10-R-4\_NED\_DeepDraft.pdf

### This Message Is From an External Sender

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Mr. Cary,

Thank you for your message and the conversation at the meeting last month. We have considered your request for detailed information. The information you are asking for is too preliminary to share at this stage of the process. The analysis and documentation currently being developed will be refined substantially over the next several months and incorporated into the draft report and provided for public review, with a public comment period in the Fall of 2025 (a little over a year from now).

Please see the attached US Army Corps of Engineers' Institute for Water Resources' National Economic Development Manual for Deep Draft Navigation. This manual describes accepted economic analysis procedures for deep draft navigation projects and describes the fundamentals of containership analysis. The analysis for the Wilmington Harbor 403 Letter Report and Environmental Impact Statement will follow the guidance in this manual.

I hope this helps.

Bret Walters  
Chief, Planning and Environmental Branch  
Wilmington District, US Army Corps of Engineers  
(910) 251-4505 (desk)  
(910) 690-0852 (cell)

**From:** Bill Cary <BCARY@brookspierce.com>  
**Sent:** Thursday, June 27, 2024 2:02 PM  
**To:** Walters, Bret L CIV USARMY CESAW (USA) <Bret.L.Walters@usace.army.mil>  
**Cc:** Hill, Suzanne CIV USARMY CESAS (USA) <Suzanne.Hill@usace.army.mil>; Charles S. Baldwin, IV <CBaldwin@BrooksPierce.com>; Chris McCall <cmccall@villagebhi.org>  
**Subject:** [Non-DoD Source] Wilmington Harbor 403

I am writing on behalf of the Village of Bald Head Island to ask that the more detailed Project economic justification and analyses currently being prepared can be shared prior to the July 22, 2024 deadline for NEPA initial comments. I note that the ASACW Review Assessment (A-4, C-4, C-6, and C-8) is critical of the 203 assumptions and analysis and requires a new analysis, which your team is apparently undertaking, and you have shared some initial observations in the public sessions. If the 203 had originally done a thorough and well-founded analysis, the NEPA public comments would be informed and could focus on analytical concerns and make suggestions for additional study, but we are currently shooting largely in the dark. Our (the Village of Bald Head Island) 203 Scoping Comments specifically asked that this

process be opened up to public involvement (since the public was unable to meaningfully participate in the 203, as explained in those comments), but that was apparently not feasible.

We ask that the new analyses be shared in detail now (even if still in draft) so that meaningful comments can be made prior to the current deadline for consideration during the NEPA process, **before** the Draft EIS is prepared. Alternatively, we ask that once the analyses are available, they be provided and an additional comment period be allowed. Meaningful public comment, which will require study and review of the analysis, should be received before the Draft EIS is prepared. Thank you for your consideration to this request.

Bill

---

Bill Cary



t: 336.271.3115

f: 336.232.9115

2000 Renaissance Plaza  
230 North Elm Street  
Greensboro, NC 27401  
P.O. Box 26000 (27420)

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# **ATTACHMENT J**

**VILLAGE OF BALD HEAD ISLAND COMMENTS**

**3 Nov. 2025**

**E-MAILS REGARDING COMMENT PERIOD EXTENSION**

## Bill Cary

---

**From:** McCorcle, Justin P CIV USARMY CESAW (USA) <Justin.P.Mccorcle@usace.army.mil>  
**Sent:** Monday, October 27, 2025 4:23 PM  
**To:** Bill Cary; Daniel F. E. Smith; Charles S. Baldwin, IV; Jayant Joshi  
**Cc:** Nygren, John T CIV (USA); Stolba, Andrea M CIV USARMY CESAW (USA); Fiocchi, Elizabeth C CIV USARMY CESAW (USA); Morgan, Brad A COL USARMY CESAW (USA); Walters, Bret L CIV USARMY CESAW (USA)  
**Subject:** FOIA Interim Response and Comment Extension  
**Attachments:** WH 403 Public Econ IPR Nov 2024 - Presentation with Notes.pdf

### This Message Is From an External Sender

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Messrs. Cary, Baldwin, Smith, and Joshi,

This is an interim response to FOIA request 26-012, related to the economic data supporting the Wilmington Harbor 403 Draft EIS and Letter Report. Much of that data is derived from others and likely will not be able to be made available, as further detailed below:

1. We have in our possession seven documents derived from the NC State Ports Authority, potentially exempt under Exemption 4, which covers trade secrets and commercial or financial information obtained from a person or corporation that is privileged or confidential. Four of those appear to be economic forecasts for industries which may utilize waterborne commerce, two are documents related to port expansion or re-design, and one is a set of notes from interviews held with the Ports and its customers. We have sent these documents to the NCSPA for its review and potential objection to release.
2. The author of our Economics Chapter and Appendix obtained the data used to create his forecasts from several subscription or proprietary sets of data, which he signed Non-Disclosure Agreements (NDAs) in order to access. These include documents from our license agreements with IHS-Fairplay, Lloyds Registry-Fairplay, and S&P Global, as well as government databases or applications to include commerce statistics from the US Census Bureau, the USACE Waterborne Commerce Statistics Center, and the Institute of Water Resources (IWR) Deep Draft Vessel Operating Cost (DDVOC) database. This data is not releasable subject to these non-disclosure agreements and licensure restrictions. We are working with our Deep Draft Navigation Center of Expertise (DDNPCX) and our respective experts at the IWR to more thoroughly describe these restrictions, but it appears unlikely at this time that there will be much releasable data.

I have attached to this request a presentation prepared by our Economist to help explain his analysis. The presentation was accurate as of the date it was made, but we caveat that the report will continue to evolve as the data evolves.

As you have also requested an extension of time for comments on the DEIS, I wanted to extend to you on behalf of the Commander an extension for comments for your client, the Village of Bald Head Island, commensurate with the time your request was under review up to this point. Accordingly, **we will extend the comment period for your client two weeks, until November 17, 2025.** It is recommended that you seek some of the subscription/license services listed above for your own access to their data, as it does not appear to be within our authority to grant it to you.

Respectfully,

Justin P. McCorcle  
District Counsel  
USACE, Wilmington District  
69 Darlington Avenue, Wilmington NC 28403  
Office: (910) 251-4699  
Cell: (910) 366-3822

**ATTACHMENT K**  
**VILLAGE OF BALD HEAD ISLAND COMMENTS**  
**3 Nov. 2025**

**CORRESPONDENCE WITH USACE REGARDING 2025  
MAINTENANCE DREDGING**

Attachment	Description
K-1	Letter dated June 20, 2025, to Corps and Contractor regarding Contract No. W912PM25CA005.
K-2	Letter dated June 30, 2025, from Justin P. McCorcle.
K-3	Letter dated July 18, 2025, to Justin P. McCorcle regarding Dredging Contract.
K-4	Letter dated September 4, 2025, from Justin P. McCorcle responding to WPHC



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June 20, 2025

Colonel Brad A. Morgan  
District Commander  
Wilmington Regulatory Field Office  
69 Darlington Avenue  
Wilmington, NC 28403  
[brad.a.morgan@usace.army.mil](mailto:brad.a.morgan@usace.army.mil)

Norfolk Dredging Company  
110 N. Centerville Turnpike  
Chesapeake, Va. 23220  
Attn: Michael Haverty  
[mhaverty@norfolkdredging.com](mailto:mhaverty@norfolkdredging.com)

Re: Contract No. W912PM25CA005, Maintenance Dredging, Wilmington Harbor Bar

Dear Colonel Morgan and Mr. Haverty,

As counsel for the Village of Bald Head Island (“VBHI”), we have been asked by our client to submit this letter in light of the recent Notice of the above Contract, which Notice indicates that sand from this year’s maintenance dredging of the Wilmington Harbor Chanel will “be strategically placed to nourish the beaches of Oak Island (Town Caswell Beach and Town of Oak Island).” *See Attachment 1. Placement of such sand on any beaches other than Caswell Beach or VBHI would be a violation of the existing terms of the Wilmington Harbor Project (WHP), authorized in 2000.* The purpose of this letter is to alert you to the existing restrictions on sand placement and to seek assurance that the Contract’s Placement Plan (Section 1.7.2) will comply with the WHP.

## A. Summary

VBHI opposes any placement of sand dredged pursuant to the Contract on the beaches of the Town of Oak Island (TOI), west of Caswell Beach, as indicated in the Notice. The placement of sand removed from the Cape Fear River Wilmington Harbor Channel onto TOI beaches will remove that sand from its natural sand-sharing system and place it in a different littoral cell, to the permanent harm of VBHI as part of the originating system and in violation of the terms of the WHP's underlying Environmental Assessment (EA), discussed below. In particular, the EA addressed concerns over the WHP's adverse effects to the **adjacent** beaches and incorporated a Sand Management Plan (SMP) to assure displaced sand would remain in the same littoral system. The ultimate Finding of No Significant Impact (FONSI) specifically relied on and affirmed the SMP as an integral part of the necessary conclusion of no significant environmental impact. The proposed recipient TOI beaches are outside that littoral system and are not part of the SMP. Moreover, the proposed work will endanger VBHI infrastructure, will disrupt the regular maintenance schedule and re-nourishment of the beaches impacted by the WHP, and will exacerbate damage to those beaches and the VBHI infrastructure.

## B. Background and VBHI Interest

### 1. Geography

VBHI is situated on Bald Head Island, North Carolina, at the mouth of the Cape Fear River. Bald Head Island is directly adjacent to and eastward of the Wilmington Harbor Channel, a federally maintained navigation channel that connects the port city of Wilmington to the Atlantic Ocean. Immediately to the west of the Channel at this point is the eastern tip of Oak Island, on which is situated Fort Caswell and Caswell Beach. The central and western portion of Oak Island, abutting Lockwood Folly to the west, is the Town of Oak Island (TOI). A stretch of the Channel is situated directly between Bald Head Island (to the east) and Caswell Beach (to the west). As the stretch of the Channel between Bald Head Island and Caswell Beach is periodically dredged, it gradually is refilled with sand eroding from those two **adjacent** beaches in what is sometimes referred to as a sand sharing system between two littoral cells. Caswell Beach and Bald Head Island, being immediately adjacent to the Channel, are directly affected by the dredging and maintenance of that Channel and are integral components of that littoral system. The TOI beaches comprise a distinct littoral cell and are not part of the Bald Head Island-Caswell Beach sand sharing system.

## 2. Historical Impacts

VBHI has a long history of having to endure and respond to the impacts of the Corps' historical deepening and realignment of the Channel. The Channel was deepened in 1976 and several times subsequently. As part of the 2000 WHP, the section of the Channel directly adjacent to Bald Head Island was reoriented closer to the Island, widened, and deepened by approximately four feet (40 to 44 feet).

Since those Channel alterations, Bald Head Island's beaches have experienced accelerated erosion, which has resulted in destabilization of the Island's nearshore environs and increased incident wave energy immediately adjacent to the Island. In effect, the sand of Bald Head Island shores is both sliding into the Channel and being swept away by increased tidal forces. Despite the assurances in the Environmental Assessment (EA) of the WHP, the Channel alterations have caused dramatic increases in erosion and sand volume loss on and near Island beaches—as VBHI's consultant had projected. Faced with an ongoing sand budget deficit, VBHI has taken a number of actions to mitigate or minimize impacts of the prior Channel alterations and protect its beaches, critical habitats,<sup>1</sup> infrastructure, and residents. VBHI's actions since 1995 have included permitting and constructing a terminal groin at the point of the Island (adjacent to the Channel); constructing and periodically replacing the sand-filled geotextile tubes in the groin field behind the terminal groin; and, undertaking two storm mitigation re-nourishment projects to replenish lost sand on the Island's western and southern beaches. The costs incurred by VBHI to plan, permit, and implement mitigation measures are over \$69 million, as shown on Attachment 2 hereto—and are ongoing.

While the SMP designates the Town of Caswell Beach as the recipient of the sand dredged in this year's cycle, VBHI is nevertheless harmed if, instead, sand is diverted to any other beach, as documented in the EA and SMP.

### C. The EA and the SMP

Sand losses from the adjacent beaches were anticipated during the planning and implementation of the 2000 WHP, and the SMP was incorporated into the project's required Environmental Assessment (EA). The goal of the SMP was that the displaced "sand should be retained within the active coastal sand system". EA, §1.03, p. 3.

The sand management plan (Appendix A [to the EA]) for the deepened Wilmington Harbor project **requires that all beach-quality maintenance material be returned to the adjacent beaches.** This will result in enhancement of the regional sediment budget.

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<sup>1</sup> The subject beaches are nesting areas for endangered turtles and birds, as discussed in the EA.

*Id.*, §5.01, p. 27 (emphasis added). This requirement is the result of the fact that:

Natural supplies from rivers and streams are not replenishing littoral sediments, particularly on the East Coast of the United States. Thus, the **removal of a cubic yard** of littoral sediment from a tidal entrance or inlet with deposition outside the active littoral zone of the beach **will ultimately cause a cubic yard deficit** somewhere within the sand sharing system affected by that particular entrance or inlet.

SMP, ¶ 20, pp. 9-10 (emphasis added). Such removal has been identified by the Corps as “a major cause of man-induced erosion.” *Id.*

From an engineering perspective, **the primary requirement** for the Wilmington Harbor maintenance program, apart from assuring that the channel remains open year-round, is to **prevent project induced erosion of the adjacent beaches** by conserving the limited resource, sand, **through deposition directly on the adjacent beaches.**

*Id.* (emphasis added). The SMP finds that 66% of the sediment shoaling at the Channel entrance comes from Bald Head Island, and 34% from Caswell Beach. *Id.*, ¶ 22, p. 10.

In order to maintain the sediment balance on both islands, littoral material removed from the entrance channel **will be placed back on the beach from whence it came.**

*Id.* (emphasis added). To be clear, the placement will be on “Bald Head Island” and “on East Oak Island-Caswell Beach beginning at a point just east of the Carolina Power and Light cooling water discharge canal.” *Id.* TOI is west of the canal.

These protections for the Bald Head Island-Caswell Beach littoral system did not happen accidentally. VBHI had engaged a coastal and oceanographic engineering expert, Erik J. Olsen, to study the historical effects of Channel deepening projects and the potential impact of the 2000 WHP. His analyses, as well as the Corps’ studies as part of the Environmental Assessment of the WHP, concluded there would be severe impacts to the beaches adjacent to the Channel.

In response to the concerns raised, the Corps Wilmington District Chief Engineer, Col., James DeLony, sent a letter assuring the local mayors that sand placement will be “according to the March 31, 2000 memorandum from Erik J. Olsen, consultant to [VHBI]...” DeLony Letter, June 9, 2000, p. 2. Attachment 3. More specifically, he stated:

The disposal of **all beach quality dredged material** will be accomplished in **accordance with** the Environmental Assessment [...dated February 2000] and its **Sand Management Plan....**”

*Id.* p. 3. Because the WHP required the State of North Carolina to conduct its own consistency review under the Coastal Zone Management Act, the NC Department of Environment and Natural Resources (now, NC Department of Environmental Quality), Division of Coastal Management, conducted that review and raised serious concerns about impacts to the sand systems. The final State determination states:

**Based upon** our review of **the EA** [Environmental Assessment] **and the Corps of Engineers’ response to comments [the DeLony Letter]**, we do not disagree with your determination that the proposed construction and changes in harbor maintenance procedures are consistent with the North Carolina Coastal Management Program to the maximum extent practicable, **provided that the project is performed according to the EA (including the Sand Management Plan** and other appendices)...[and other conditions stated therein].

Letter from Donna Moffitt, Director, NCDENR/DCM, June 15, 2000 to Col. DeLony, USACE District Engineer, p. 2 (emphasis added). Attachment 4.

The Corps then issued its Finding of No Significant Impact (FONSI), relying specifically on the Moffitt Letter and its incorporation of the assurances in the DeLony Letter: “We will comply with the indications in the [Moffitt] letter.” FONSI, § 3.00, p. 5.

Thus, the final North Carolina consistency determination, the EA, and the FONSI were *specifically conditioned* on the Corps complying with the SMP to maintain sand in the littoral system by placing it on the **adjacent** beaches—Bald Head Island and Caswell Beach.

#### **D. Proper Use of Contract-dredged Sand**

To meet the goals of the SMP, sand should not be placed westward of the “nodal point” on Caswell Beach, where the directionality of net littoral transport changes from east to west. As defined by the Corps and as validated by Delft 3-D modeling, that point has historically been understood to be approximately at the nuclear Powerplant channel and outfall. Because erosion experienced at Caswell Beach has been less than been forecast by the SMP (and greater at Bald Head Island), the sand this year is apparently not needed at Caswell Beach and hence the suggestion to place it on TOI beaches. If the current dredging Contract will produce more sand than Caswell Beach needs or can accept, the alternative contemplated in the SMP, as

stated in Colonel DeLony's letter, is to adjust the placement to reflect the actual impacts by placing excess sand on the VHBI beaches. The sand from the Smith Island range (closest to Caswell Beach) could be placed on Caswell Beach while the sand from the remaining two sections closest to Bald Head Island could be placed on Bald Head Island. Because of the immediate proximity, there should be no incremental cost. If there is, VBHI is open to discussing bearing that cost.

**E. The Contract As Described in the Notice Would Violate 33 USC § 408**

The 2000 WHP, including on-going maintenance of the Channel to assure efficacy of that Project (*i.e.*, navigability), is an "authorized project" which cannot be interfered with:

It shall not be lawful for **any person ... to take possession of** or make use of for any purpose, or ... alter, deface, destroy, move, injure, ... **or in any manner whatever impair the usefulness of any ... work built by the United States**, ... in whole or in part, for the preservation and improvement of any of its navigable waters or to prevent floods, or as boundary marks, tide gauges, surveying stations, buoys, ... **nor remove for ... other purposes any stone or other material composing such works ....**

33 USC § 408(a) (emphasis added). The proposed removal of sand to a TOI beach violates this provision in several ways. First, the SMP is a Project "condition," and violating its specific conditions and purpose will impair "the ability of the project to function **as authorized**" (emphasis added).

Second, sand is an element of the WHP which cannot be removed from the Project or received by anyone not a part of the Project. The beaches of TOI are not included in the disposal plan in the SMP for the simple reason that they are in a different littoral cell and are not part of the Channel entrance littoral system being impacted by the WHP<sup>2</sup> and its on-going need for maintenance dredging. The TOI beaches are not part of the WHP of deepening and maintaining the Wilmington Harbor Channel. Therefore, the sand being deposited in the Channel by the natural and anticipated consequences of the WHP, and its planned use on the adjacent beaches as part of the Project, is "stone or other material composing such work" and may **not** be removed from the system *and* may not be received by TOI. 33 USC § 408(a).

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<sup>2</sup> The pre-WHP studies confirmed that the littoral transport of sand along most of the TOI beaches is westward, away from the Cape Fear Channel entrance, and hence not a part of the that littoral system.

**F. VBHI is a named, intended third-party beneficiary of the SMP.**

As discussed above, the SMP, and the Corps' commitment to comply with it, were specifically because of the projected negative impacts to VBHI, which was forecast to suffer 2/3rds of the sand loss caused by the WHP. The SMP protects the public interest from the detrimental effects of the WHP on the adjacent beaches, as explained above, and any proposed deviation from it will therefore negatively impact the public interest as well as VBHI's interests.

Even with the SMP maintenance of adjacent beaches, the negative impact of the WHP has been significant, as detailed above. The on-going, necessary projects are costing VBHI millions of dollars. Permanent removal of significant quantities of beach quality sand from this littoral system will further exacerbate these damages, including: conservation and environment (the eroded beaches negatively impact nesting habitat for endangered birds and turtles, as detailed in the EA), flood hazards (storm resilience), economic development (the on-going and increasing financial burden on VBHI in protecting its residents' properties), recreation (usability of beaches), residual risk, induced damages, and shore erosion. Accordingly, deviating from the SMP to benefit TOI interferes with VBHI's rights.

**G. Allowing Deviation from the SMP Undermines Credibility in Corps Permitting**

In 2000, the Corps evaluated the WHP and its environmental consequences. It undertook to assuage the public by assurances of protective measures, specifically adherence to the SMP as a method of protecting the adjacent beaches from project-induced erosion. *See* assurances in DeLony Letter, including implementation of the SMP and even enhancing it with additional nourishment if it is inadequate.

From an engineering perspective, **the primary requirement** for the Wilmington Harbor maintenance program, apart from assuring that the channel remains open year-round, is to **prevent project induced erosion of the adjacent beaches** by conserving the limited resource, sand, **through deposition directly on the adjacent beaches.**

SMP ¶ 20, p. 10. "We will comply with the indications in the [Moffitt] letter [conditioning North Carolina CZMA concurrence on Col. DeLony's assurances of adherence to the SMP]." EA, § 3.00, p. 5.

The Corps is currently evaluating a new Wilmington Harbor project, which would further deepen and widen the Cape Fear Channel. The impacts of that proposed project are currently being studied and plans for mitigation of the effects are being drawn and vetted. **Now** is the time to demonstrate that this evaluation of

project impacts and the Corps' commitment to fairly evaluating and offsetting project impacts is not ephemeral and its promises of mitigation are not illusory.

## H. Conclusion

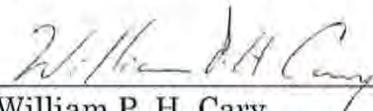
Dredging the Cape Fear River to ensure and enhance its navigability comes at a price beyond the financial cost: it affects the transport of sand within that immediate littoral system, which in turn impacts the systems (beaches) on which that sand depends. Recognizing those impacts, and mitigating those damages, is part of the price of the Project. The displaced sand is not a bonus to be applied where convenient. It is owed to the communities whence it came. TOI has a legitimate need for beach sand, but the Channel sand is not a legitimate source. The system described in the EA and SMP—where every cubic yard of sand removed from the littoral system results in a cubic yard deficit on the adjacent beaches—demonstrates that the sand in this littoral system is a constituent part of the system, migrating to and from the Channel. The proposal to use Channel sand at TOI is equivalent to directly removing the sand from the beaches at VBHI and Caswell Beach and trucking it to TOI. It should not be allowed, under any conditions.

Accordingly, we ask the Norfolk Dredging Company to confirm it will not submit a Placement Plan that places sand anywhere other than on Caswell Beach or VBHI beaches, and we ask the Corps to confirm that it will not approve any Plan other than one that is confined to Caswell Beach and VBHI beaches.

We look forward to hearing from you on the intending Placement Plan. Please feel free to contact me if you have any questions.

**Brooks, Pierce, McLendon, Humphrey, and  
Leonard, LLP,**

Attorneys for the Village of Bald Head Island

By:   
William P. H. Cary  
[bcary@brookspierce.com](mailto:bcary@brookspierce.com)  
(336)-271-3115

Cc: Peter Quinn, Mayor, Village of Bald Head Island  
Justin McCorcle, Wilmington District Counsel, U.S. Army Corps of Engineers  
Tancred Miller, Director, Division of Coastal Management, NC DEQ  
Cameron Luck, Federal Consistency Coordinator,  
Div. of Coastal Management, NC DEQ  
Heather Coats, Beach & Inlet Management Project Coordinator,  
Div. of Coastal Management, NC DEQ  
George Kassler, Mayor, Town of Caswell Beach  
Elizabeth White, Mayor, Town of Oak Island  
Mike McIntyre, Ward & Smith  
The Honorable Thom Tillis  
The Honorable Ted Budd  
The Honorable David Rouzer  
Rosalind M. Shoemaker, Contracting Officer  
USACE Wilmington Regulatory Field Office

# **ATTACHMENT 1**

## **NOTICE OF CONTRACT AWARD**



US Army Corps  
of Engineers®

USACE Wilmington

News Release

# Contract award: maintenance dredging of the Wilmington Harbor Inner Ocean Bar will benefit Oak Island beaches

Published May 19, 2025

**WILMINGTON, N.C. --**

**WILMINGTON, N.C. (May 19, 2025)** – The U.S. Army Corps of Engineers (USACE) Wilmington District has awarded an \$18.6 million contract to Norfolk Dredging Company for the crucial maintenance dredging of the Wilmington Harbor Inner Ocean Bar. With the inclusion of all options, the total contract value is estimated at \$25.3 million.

This essential project will remove approximately 1.3 million cubic yards of beach-compatible material, which will be strategically placed to nourish the beaches of Oak Island (Town of Caswell Beach and Town of Oak Island). To protect sea turtle nesting, this work is scheduled to be completed within the current beach placement window, from November 16th to April 30th.

Maintaining the navigability of Wilmington Harbor is vital to the economic health of the region. This dredging project will ensure safe and efficient passage for commercial vessels while also providing the valuable benefit of beach nourishment for Oak Island.

Maintenance dredging is a necessary process to remove accumulated sediment from the Inner Ocean Bar, ensuring the harbor maintains its authorized depth. The USACE Wilmington District remains dedicated to its mission of maintaining the nation's waterways and supporting the economic vitality of the region through projects like this.

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**U.S. ARMY CORPS OF ENGINEERS –WILMINGTON DISTRICT**

**69 DARLINGTON AVE, WILMINGTON, N.C. 28403**

**WWW.SAW.USACE.ARMY.MIL**

**Contact**

David Connolly

910.251.4626

Release no. 25-005



DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
69 DARLINGTON AVENUE  
WILMINGTON, NORTH CAROLINA 28403-1343

15 May 2025

REPLY TO:  
Contracting Division

**VIA EMAIL**

SUBJECT: Award of Contract No. W912PM25CA005, Maintenance Dredging,  
Wilmington Harbor Inner Ocean Bar

**CONTRACTOR:**

Via Email [mhaverty@norfolkdredging.com](mailto:mhaverty@norfolkdredging.com)  
Norfolk Dredging Company  
ATTN: Mr. Michael Haverty  
110 N Centerville Turnpike  
Chesapeake, VA 23320

Mr. Haverty:

Congratulations on your award of the subject contract. Attached is a copy of the signed contract for your records. Award was made on 15 May 2025, in the amount of **\$18,645,765.00**, for Line items 0001-0004, (funded base line items).

I, **Rosalind M. Shoemaker**, will be the Contracting Officer on your contract. In my absence, the following Contracting Officer may sign actions under this contract: Ms. Jenifer M. Garland and Mr. Troy D. Small. We will be working with you and your team on this contract until completion. The Administrative Contracting Officers for this project will be Mr. Jeremiah L. Smith.

Rosalind M. Shoemaker, Contracting Officer	910-251-4436
Jenifer M. Garland, Contracting Officer	910-251-4134
Troy D. Small, Contracting Officer	910-251-4650
Jeremiah L. Smith, Administrative Contracting Officer	910-241-4642

This letter is not a notice-to-proceed. Notice to Proceed will be issued as part of the preconstruction meeting.

It is emphasized that only a warranted Contracting Officer (either a Contracting Officer or an Administrative Contracting Officer (ACO)), acting within their appointed limits, has the authority to issue modifications or otherwise change the terms and conditions of this contract. If an individual other than the Contracting Officer attempts to make changes to the terms and conditions of this contract, you shall not proceed with the change and shall immediately notify the Contracting Officer. Proceeding with any work not authorized by the Contracting Officer will be at the Contractor's own risk.

SUBJECT: Award of Contract No. W912PM25CA005, Maintenance Dredging,  
Wilmington Harbor Inner Ocean Bar

Timely and successful completion of this project is critical to the mission of the Wilmington District, U.S. Army Corps of Engineers. Accordingly, we are looking forward to a great partnership with your company, as you perform this important work. If you have any questions, do not hesitate to contact me. I look forward to working with you to meet the needs of our nation.

Sincerely,

Rosalind M. Shoemaker  
Rosalind M. Shoemaker  
Contracting Officer

Digitally signed by  
Rosalind M. Shoemaker  
Date: 2025.05.15  
08:58:52 -04'00'

Copy Furnished  
Official Contract file/Contracting Division

# **ATTACHMENT 2**

## **VBHI MITIGATION COSTS**

**Bald Head Island  
Mitigation Costs of Navigation Channel Impacts**

**Previous Projects**

• Engineered Beach Project 2009/2010		
• Dredging Contract	\$	14,800,000
• Interest Expense	\$	1,536,000
• Permitting – <i>Land Management Group, Inc., Olsen Associates, Inc., Legal</i>	\$	1,000,000
• Sand Filled Geotextile Groinfield		
• 1995	\$	320,000
• 2005	\$	850,000
• 2009/2010	\$	1,150,000
• Road Overwash		
• South Bald Head Wynd Road Repair 2004	\$	250,000
• Sandbag Revetment Wall	\$	250,000
• Sandpiper Trail Sandbag Wall + 2009 Repairs	\$	65,000
• 2007 Sand Placement (Assist USACOE- limited funds)	\$	900,000
• Periodic Beach Profile Monitoring	\$	595,000
• Required Jay Bird Shoal Biological Monitoring per Permit	\$	50,985
• Required Beach Front Biological Monitoring per Permit	\$	30,030
• Install Emergency Sandbag Revetment at the Point	\$	230,000
• Repair & Maintenance of Revetment at the Point	\$	8,000
• BH Creek 2006 dredging Project w/ sand placed on West Beach	\$	737,858
<b>Total</b>	<b>\$</b>	<b><u>22,772,873</u></b>

**Additional Expenditures Reimbursed through FEMA Public Assistance Funds**

• Bald Head Creek Dredging Project (Emergency Sand Source to mitigate Erosion due to Hurricane Irene)	\$	1,230,000
• Sand-filled Tube Groin Field Repairs due to Hurricane Irene	\$	<u>650,000</u>
	<b>\$</b>	<b><u>1,880,000</u></b>

**Additional Expenditures Reimbursed through State of NC/DENR Water Resources Development Grant Funds**

• Bald Head Creek Dredging Project 2006 (Southwind Construction Co.)	<b>\$</b>	<b><u>260,000</u></b>
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**Bald Head Island  
Mitigation Costs of Navigation Channel Impacts**

**The Terminal Groin Project (2015)**

- Terminal Groin GO Bond Expenditures @ 2-28-18 (2015 Project)  
Engineering/Design/Modeling/NEPA EIS costs \$ **1,177,000**  
(Phase I Construction/Orion w/ Corps 2015 O&M Sand)
    - Terminal Groin Construction, part of the T6 project, placing approximately 1 million for the fillet sand to place behind the T6 structure \$ 7,876,858
    - Harbor Jetty Extension w/ Spurs \$ 1,456,316
    - West Beach and Row Boat Row (Bald Head Creek Dredging) \$ 1,261,026
      - Army COE Reimbursement \$ 105,341
      - MECA Reimbursement 830,514
      - Contract Reimbursements 140,363
      - Total \$ 1,076,218 \$ (1,076,218)
- Total Cost, Phase I \$ **9,517,982**
- Breakwaters Project:
    - Construction of two detached rock breakwaters located north of the Marina
      - Intercoastal Maine, LLC \$ **895,052**

**Sand Re-nourishment / Groin Tube Project (2018-19)**

- Sand Re-nourishment / Groin Tube Replacements (2019 Project)  
(Phase II Construction/ SJ Hamill Construction, Bradley Textile Tubes)
    - Beach Nourishment 1million cubic yards, including mobilization \$ 11,767,000
    - Groin Tube manufacture and installation 1,514,429
    - Engineering Costs 445,000
    - Legal Costs \$ 62,500
- Total Cost, Phase II \$ **13,788,929**

**Marina Channel Maintenance Program**

*(Grant received from Department of Environmental Quality Resource Development Project to reimburse the Village for 66% of the cost, current expiration of Grant May 2019.)*

- Village portion of expenses paid for Dredging the Channel:  
2017 – 2023: \$ **289,140**

**Bald Head Island  
Mitigation Costs of Navigation Channel Impacts**

**Sand Re-nourishment / Groin Tube Project (2024-25)**

▪ Sand Re-nourishment / Groin Tube Replacements (2025 Project)	
Beach Fill Construction/Marinex, Flint Textiles Geotubes, McPherson Marine Service	
• Beach Nourishment 1 million cubic yards, including mobilization	\$ 16,175,000
• Groin Tube Installation	\$ 1,517,430
• Tube manufacturing (Flint)	\$ 446,425
• Engineering Costs – JBS Borrow Site Permitting	\$ 230,200
• Beach Fill Design/Construction Document (including groins)	\$ 350,000
• Construction Management/observation	\$ 425,000
• Legal – Construction Contracts Review/Bid	\$ 7,500
Total Cost	<b>\$ 19,151,555</b>

**Beach Monitoring**

Annual Shoreline Monitoring Program Expenses (last 10 years): **\$2,000,000**  
(Includes spring/fall surveying and aerial imagery documentation w/ final report from Coastal Engineer)

**Total Accumulated Costs Associated with the Mitigation of the Navigation Channel** **\$69,303,391**

Overall Total To Date - \$71,732,531

(25-year average expenditure annually - \$2.87M)

# **ATTACHMENT 3**

**DELONY LETTER**



DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 1890  
WILMINGTON, NORTH CAROLINA 28402-1890

June 9, 2000

IN REPLY REFER TO

Project Management Branch

Honorable Freeman A. Berne  
Mayor of the Village of Bald Head Island  
Post Office Box 3009  
Baldhead Island, North Carolina 28461

Honorable Harry Simmons  
Mayor of Caswell Beach  
707 Caswell Beach Road  
Caswell Beach, North Carolina 28465

Honorable Joan Altman  
Mayor of Oak Island  
4601 East Oak Island Drive  
Oak Island, North Carolina 28465

Honorable James W. Lowell  
Mayor of Holden Beach  
110 Rothschild Street  
Holden Beach, North Carolina 28462

Dear Mayors:

After years of effort by many, it is a pleasure to see the various elements of the Wilmington Harbor Navigation project (hereinafter the "Project") coming together. As we approach the decision point for the Finding of No Significant Impact (FONSI), I want to bring everyone up to date on the status of our plan to place beach quality sand excavated for the project on Bald Head Island, Caswell Beach, Oak Island, and Holden Beach.

As you know, the details of our plan are presented in the Environmental Assessment, in particular, Appendix A - Sand Management Plan, in the Wilmington Harbor Monitoring Plan, and in the Section 933 Evaluation Report. The shoreline segments recommended to receive sand are the Village of Bald Head Island (up to 16,000 linear feet), Caswell Beach (up to 25,000 linear feet), Oak Island (up to 25,600 linear feet), and Holden Beach (up to 10,600 linear feet). This represents a maximum shoreline length of 77,200 linear feet.

Bald Head Island will be the site of initial beach disposal associated with construction. This site, along with the easternmost 25,000 linear feet of Caswell Beach-Oak Island, represents the least cost alternative of disposal available to the Project; accordingly, placement will be accomplished at Project cost and at no cost to the Village of Bald Head Island.

Placement will be according to the March 31, 2000 memorandum from Erik J. Olsen, consultant to the Village of Bald Head Island referencing the Village of Bald Head Island Beach Disposal Plan (2000/2001) (enclosed and incorporated by reference) to the U.S. Army Corps of Engineers, Wilmington District (hereinafter "Corps").

Once disposal has begun at the Village of Bald Head Island, fill operations will continue until the estimated minimum of 1,536,000 cubic yards of sand in the channel prism allocated to the Village of Bald Head Island (based on channel surveys conducted in October and December 1999) have been dredged and placed on the beach in accordance with the March 31, 2000 memorandum. Assuming a potential effective reduction of 20 percent in the gross fill dredged, the final in-place fill volume is expected to range between 1,228,000 cubic yards and 1,536,000 cubic yards.

Project construction beach disposal operations at the Village of Bald Head Island will be performed along both West Beach and South Beach, as indicated by the March 31, 2000 memorandum. The Village of Bald Head Island will provide all requisite easements necessary to construct the template(s) provided for by the March 31, 2000 memorandum.

Once the placement of beach quality sand at the Village of Bald Head Island is complete, placement along approximately 25,000 linear feet of shoreline at the easternmost end of Caswell Beach-Oak Island will be accomplished. Placement will be made in accordance with the template agreed to by the Corps, NCDENR, and the communities of Caswell Beach and Oak Island. The final in-place fill volume is expected to range between 1,451,000 cubic yards and 1,814,000 cubic yards. Since this reach comprises the balance of the least cost alternative for disposal available to the Project, placement will be at Project cost and at no cost to those communities. All requisite easements will be provided by the communities at no cost to the Project.

Under the provisions of the draft Section 933 report, the remaining beach quality sand will be placed along approximately 25,600 linear feet of the westernmost shoreline of Oak Island and along approximately 10,600 linear feet of the eastern shoreline of Holden Beach. Placement will be made in accordance with the template agreed to among the Corps, NCDENR, and the affected beach communities and cost shared at the rate of 65 percent Federal (currently estimated at \$6,500,000) and 35 percent non-Federal (currently estimated at \$3,500,000). The final in-place fill volume along the cost shared reach of Oak Island is expected to range between 1,272,000 cubic yards and 1,590,000 cubic yards. The final in-place fill volume along the cost shared reach of Holden Beach is expected to range between 528,000 cubic yards and 660,000 cubic yards. The communities will provide all required easements at no cost to the Project.

After construction of the Smith Island and Bald Head Island Shoal portions of the project, the U.S. Army Corps of Engineers will conduct periodic maintenance dredging of the navigation channels. The disposal of all beach quality dredged material will be accomplished in accordance with the Environmental Assessment of Preconstruction Modifications of Authorized Improvements, Wilmington Harbor, North Carolina, dated February 2000 and its Sand Management Plan (Appendix A), and the Wilmington Harbor Monitoring Plan (enclosed and incorporated by reference). The associated disposal will be as called for therein, namely:

- Year 2: Placement at Bald Head Island (estimated @ 1Mcy)
- Year 4: Placement at Bald Head Island (estimated @ 1 Mcy)
- Year 6: Placement at Caswell Beach and easternmost end of Oak Island (estimated @ 1 Mcy).

This disposal cycle is planned for the life of the project. As provided on page 8 of the Environmental Assessment and on page 12 of the sand management plan, in some cases problem shoaling involving small quantities of sand may develop in the channel between regular dredging events, making use of a pipeline dredge unfeasible and the sand may need to be deposited in the ocean disposal area.

Prior to each disposal operation at either the Village of Bald Head Island, or Caswell Beach, or the easternmost shoreline of Oak Island, the community receiving the sand may provide advance guidance to the Corps regarding placement distributions and fill template design. The Corps will follow that guidance to the maximum extent practicable.

The Corps will conduct a monitoring program as referred to in the Environmental Assessment and Sand Management Plan, and as set out in the Wilmington Harbor Monitoring Plan, which is enclosed and incorporated by reference. An annual report will be prepared, as described in the Monitoring Plan. The Corps will use this monitoring data to evaluate and adjust the Sand Management Plan, as determined necessary, after coordination with interested parties.

All initial and future disposal activities at the Village of Bald Head Island, Caswell Beach, and easternmost Oak Island, (as described in the Environmental Assessment and its Sand Management Plan, and in the Wilmington Harbor Monitoring Plan) will be at no cost to either community.

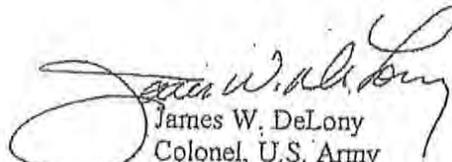
If the Project causes significant adverse effects on adjacent beaches, the Corps and the Sponsor will respond by adjusting the Sand Management Plan, after consultation with interested parties. If the Project causes significant adverse effects that cannot be dealt with by

modifications to the Sand Management Plan, the Corps and the Sponsor will promptly seek and use their best efforts to implement appropriate corrective measures, such as additional nourishment, subject to consistency review.

Our current schedule for execution of the FONSI is June 14, 2000. Our current schedule for our higher headquarters approval of the draft Section 933 Evaluation Report is July 31, 2000. We expect to award a contract to construct the inshore reaches of the Ocean Bar entrance channel on or about November 15, 2000. We are moving prudently but aggressively to make this important Project a reality.

The support of the members of the Brunswick Beaches Consortium and our Project sponsor represented by Mr. John Morris in optimizing this unique opportunity for nourishing your beaches has been wise, energetic, and timely. We salute your efforts and look forward to continued close coordination through to the successful completion and operation of the Project and the associated beneficial use of beach quality sand.

Sincerely,

  
James W. DeLony  
Colonel, U.S. Army  
District Engineer

Enclosures

Copies Furnished:

Mr. John N. Morris, Director  
Division of Water Resources  
North Carolina Department of Environment  
and Natural Resources  
1611 Mail Service Center  
Raleigh, North Carolina 27699-1611

Ms. Donna D. Moffitt, Director  
Division of Coastal Management  
North Carolina Department of  
Environment and Natural Resources  
1638 Mail Service Center  
Raleigh, North Carolina 27699-1638

# **ATTACHMENT 4**

**MOFFITT LETTER**



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF COASTAL MANAGEMENT

RECEIVED EXECUTIVE OFFICE

June 15, 2000

2000 JUN 26 A 11:03

JAMES D. HUNT JR. GOVERNOR

Colonel James W. DeLony
District Engineer
U.S. Army Corps of Engineers
Wilmington District
P.O. Box 1890
Wilmington, NC 28402-1890

Action: PM-C
CF: DE
DX
DP
TS
OC

BILL HOLMAN SECRETARY

REFERENCE: DCM00-14 EA and CD - Preconstruction Modifications of Authorized Improvements, Wilmington Harbor 96 Project

DONNA D. MOFFITT DIRECTOR

Dear Col. DeLony:

On May 17, 2000 the State of North Carolina completed its review, pursuant to 15 CFR 930 Subpart C - Consistency for Federal Activities, of the referenced document describing proposed modifications to the authorized Wilmington Harbor 96 Project in New Hanover and Brunswick Counties, North Carolina. The Corps of Engineers submitted the document to the state on February 17, 2000, and the project was assigned the number DCM00-14 for our review purposes.

During the course of our review several environmental concerns were raised by state agencies regarding potential impacts on the resources of the coastal zone. These comments were forwarded to the Corps for its consideration. As the consistency deadline was approaching, we extended our original consistency deadline 15 days, pursuant to 15 CFR 930.41, at the end of March. On April 10, 2000, our review was again extended to allow concerned state agencies to review the Corps' responses to comments on the Environmental Assessment (EA). The Division of Coastal Management received the Corps' responses on May 3 and again solicited comments from concerned state agencies.

The modifications that the Wilmington District Corps of Engineers seeks authorization for are as follows:

- 1. Construction and maintenance of the Wilmington Harbor entrance channel along a new alignment across the ocean bar.
2. Backfilling the abandoned channel length with dredged material not suited for beach or littoral zone disposal.



Col. James W. DeLony

June 15, 2000

Page 2

3. Placement of material dredged from the new channel alignment and other portions of the project on area beaches in New Hanover and Brunswick Counties.
4. Establishment of a comprehensive plan for dredging and disposal operations for each portion of the harbor, including hopper dredge with overflow.
5. Utilization of blast pressure criteria to measure impacts of blasting on aquatic resources and the elimination of the bubble curtain during blasting operations.
6. Placement of dredged material that does not go to the old channel, the littoral zone, the beaches, or other existing disposal sites, into the Offshore Dredged Material Disposal Site (ODMDS).

The Corps proposes to construct the new entrance channel alignment and place all suitable material on the nearby beaches over an approximately eighteen month period covering two winter seasons and one summer season. Turtle monitoring and shorebird surveys of affected beaches will be conducted. Details of the disposal operations for construction and maintenance of the channel are documented in a Sand Management Plan (SMP). In addition, the Corps has clarified details of the placement, timing, costs, and amount of sand to be deposited on the beaches of Bald Head Island, Caswell Beach, Oak Island, and Holden Beach in a letter dated June 9, 2000 from Colonel James W. DeLony, District Engineer, to the mayors of the respective beach towns. We understand that disposal of dredged material from construction and maintenance of the project will be conducted according to the SMP and letter, as agreed to by the NC Division of Water Resources, the Brunswick County beach communities and the Corps of Engineers. We also understand that the use of hopper dredge with overflow will be limited to times of year and reaches of the project in which impacts on coastal resources will be minimized.

Based upon our review of the EA and the Corps of Engineers' response to comments, we do not disagree with your determination that the proposed construction and changes in harbor maintenance procedures are consistent with the North Carolina Coastal Management Program to the maximum extent practicable, provided that the project is performed according to the EA (including the Sand Management Plan and other appendices) and the Corps' responses to comments from the EA, and to Colonel DeLony's letter of June 9, 2000 (including attachments), and that the conditions below are met:

Col. James W. DeLony  
June 15, 2000  
Page 3

1. Principal amongst the issues raised were potential impacts on sea turtles, shore and water birds, beach and benthic infauna, fisheries, and water quality parameters. It is extremely important that the impacts of this multifaceted project be well documented in order to evaluate the effects on these resources and on the overall coastal environment. The Corps of Engineers will pursue an integrated monitoring plan to address the resources noted in the first sentence of this paragraph, and will coordinate all monitoring efforts with the appropriate state agencies. This will include but not be limited to the North Carolina Division of Coastal Management, the Wildlife Resources Commission, the Division of Marine Fisheries, and the Division of Water Quality. We understand that the Corps intends to initiate monitoring coordination with the resource agencies in June of 2000.
2. As additional mitigation for impacts on fisheries resources, a fish passage structure will be constructed at Lock and Dam 1 on the Cape Fear River. In addition, fish passage alternatives for Lock and Dams 2 and 3 will be investigated. The Corps of Engineers and, as the Wilmington Harbor Project Sponsor, the State of North Carolina, have agreed to these actions.
3. The placement, timing, costs, and amount of sand to be deposited on Bald Head Island, Caswell Beach, Oak Island, and Holden Beach, both during construction and future maintenance; monitoring; and response to impacts shall be in accordance with Col. DeLony's letter of June 9, 2000, to the mayors of the respective towns receiving the sand (attached and incorporated by reference). If the towns, Corps, and project sponsor's representative mutually agree to modifications to the SMP or Col. DeLony's June 9, 2000 letter, those modifications shall be submitted to the North Carolina Division of Coastal Management for a determination of whether another consistency review is necessary on the modifications.
4. The state must have the opportunity to review the project, including monitoring results, to determine if it continues to be consistent with the North Carolina Coastal Management Program in two situations: 1) After five years from the date of this letter, and 2) before any subsequent modifications for future maintenance or other requests to modify the Wilmington Harbor 96 Project are considered. The Corps shall request this review and provide documentation of impacts (or lack thereof) on the coastal resources of concern.

Col. James W. DeLony

June 15, 2000

Page 4

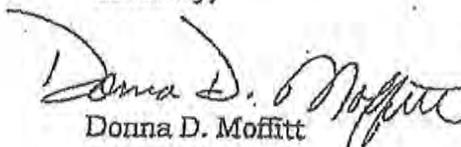
5. If in the future the Corps considers requesting authorization to conduct hopper dredging with over flow or to place maintenance dredge spoil on a beach, outside of the established time periods or locations, a separate consistency review will be required for each of these activities.

While the State of North Carolina supports beach nourishment and the placement of suitable spoil material on the beaches, we remain concerned about the short term and long term impacts on the biologic and ecologic resources of the coast. We maintain that the best time for such beach nourishment and renourishment is outside of the period of peak impacts on infauna, sea turtles, and fisheries. The State discourages individuals and agencies from seeking authorization to perform work outside established moratoria, and caution that our response is not to be interpreted as a precedent assuring authorization for future renourishment or disposal of sand on beaches outside of established dredging and disposal moratoria. We understand that summer beach disposal is necessary only during the construction phase of the project and that maintenance of the harbor channels will be conducted within established biological time frames.

Finally, with the increasing number of beach disposal and renourishment projects, much of the state's southern coast beaches will be in the placement or recovery phases in any given year. To this end, the Division of Coastal Management requests that the Corps consider combining the monitoring studies and environmental considerations of this project, the Wrightsville Beach, Carolina Beach, Kure Beach projects; and all of the Brunswick County Beaches projects to achieve a more comprehensive and cumulative impact analysis. Although these projects are separate in authorization and funding, we feel that concurrent studies could provide beneficial insights on impacts to resources from beach disposal and nourishment along this extended reach of shoreline.

If you have any questions regarding our findings, conditions, or recommendations, please contact Ms. Caroline Bellis, Division of Coastal Management, at (919) 733-2293. Thank you for your consideration of the North Carolina Coastal Management Program.

Sincerely,

  
Donna D. Moffitt

Col. James W. DeLony  
June 15, 2000  
Page 5

Attachment

cc: Bob Stroud, Division of Coastal Management, Wilmington  
Franklin McBride, NC Wildlife Resources Commission  
Bennett Wynne, NC Wildlife Resources Commission  
Ruth Boettcher, NC Wildlife Resources Commission  
Fritz Rohde, NC Division of Marine Fisheries  
Mike Street, NC Division of Marine Fisheries  
John Dorney, Division of Water Quality  
Frank Yelverton, US Army Corps of Engineers  
John Meshaw, US Army Corps of Engineers



DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
69 DARLINGTON AVENUE  
WILMINGTON, NORTH CAROLINA 28403-1343

CESAW-OC

June 30, 2025

SUBJECT: Response to VBHI Letter of June 20, 2025, re: Contract No. W912PM25CA005, Maintenance Dredging, Wilmington Harbor Bar

William P.H. Cary, Esq.  
Attorney for the Village of Bald Head Island  
[bcary@brookspierce.com](mailto:bcary@brookspierce.com)

VIA EMAIL ONLY

Dear Mr. Cary,

This correspondence is in reference to your letter to Wilmington District Commander COL Brad A. Morgan, dated June 20, 2025, asserting that “[p]lacement of [Wilmington Harbor] sand on any beaches other than Caswell Beach or VBHI would be a violation of the existing terms of the Wilmington Harbor Project (WHP), authorized in 2000.” It is the position of the Wilmington District, Corps of Engineers that the Wilmington Harbor Inner Ocean Bar Contract, Contract No. W912PM25CA0005, is consistent with the Environmental Assessment (EA), the Sand Management Plan (SMP), COL DeLony’s letter of June 9, 2000, and the relevant Coastal Zone Management Act Consistency concurrence.

In the SMP, incorporated as Appendix A of the EA dated February 2000, the Corps addressed its intent as it related to the Maintenance Material Disposal Plan, and noted as follows:

In order to maintain the sediment balance on both islands, littoral material removed from the entrance channel will be placed back on the beach from whence it came. Accordingly, two out of every three cubic yards of littoral shoal material removed from the entrance channel will be placed back on Bald Head Island and the remaining cubic yard placed on **East Oak Island-Caswell Beach**. The disposal locations on each island will be based on the results of annual beach profile monitoring surveys. **In general**, the material will be placed primarily along portions of South Beach and West Beach on Bald Head Island and on **East Oak Island-Caswell Beach** beginning at a **point just east of the Carolina Power and Light Company cooling water discharge canal**. [Emphasis added] See SMP, Page 10.

SUBJECT: Response to VBHI Letter of June 20, 2025, re: Contract No. W912PM25CA005, Maintenance Dredging, Wilmington Harbor Bar

On page 4 of your letter, you opine that the westerly limit on our placement is “on East Oak Island-Caswell Beach beginning at a point just east of the Carolina Power and Light cooling water discharge canal.” However, given the estimated quantities of future maintenance dredging and the short distance between the cooling water discharge canal and the North Carolina Baptist Assembly property (approximately 8,000 feet), it is not reasonable to interpret our placement area to be so limited in size.<sup>1</sup> Additionally, your position that the Town of Oak Island is not to receive sand because it is west of the canal is inconsistent with the EA and the SMP. Both documents contain the following diagram that clearly identifies the extent of “East Oak Island-Caswell Beach”. See Figure 4 of the EA; and Figure 2 of the SMP.

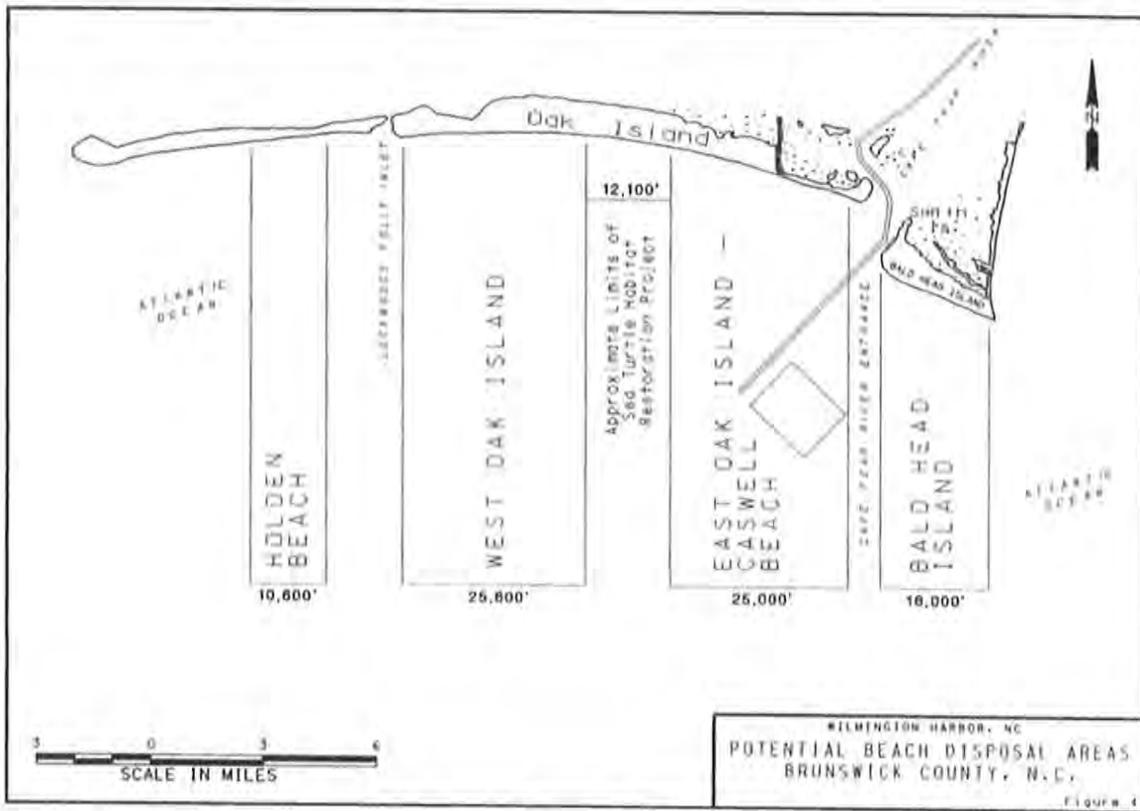


Figure 4 of the EA (the same figure is identified as Figure 2 of the SMP)

This figure shows that “East Oak Island-Caswell Beach” refers to the 25,000 feet of beach extending all the way to the Turtle Habitat Restoration Project boundary, an area that clearly extends into the Town of Oak Island. The text of the SMP also makes it clear that the cooling water discharge canal is not the western limit of the disposal area, as it states:

<sup>1</sup> By way of comparison, the placement area on VBHI is approximately 16,000 feet on South Beach, with some area on West Beach also authorized.

SUBJECT: Response to VBHI Letter of June 20, 2025, re: Contract No. W912PM25CA005, Maintenance Dredging, Wilmington Harbor Bar

Disposal on **Oak Island-Caswell Beach** would begin at the west boundary of the Fort Caswell Baptist Assembly grounds and proceed west. The 25,000-foot disposal area on **Oak Island-Caswell Beach** would extend the fill to the east end of the sea turtle habitat area on Oak Island. [Emphasis added] See SMP, Page 3.

While this referenced text is contained in the section talking about initial construction, references to both "East Oak Island-Caswell Beach" and "Oak Island-Caswell Beach" are echoed in the section discussing the Maintenance Material Disposal Plan. See SMP Page 10 ("[t]he distribution of littoral shoal material between Bald Head Island and **East Oak Island - Caswell Beach** given above will be accomplished by placing material from two consecutive maintenance operations on Bald Head Island with the third operation involving placement on **Oak Island-Caswell Beach**") and Page 11 ("[b]ased on a two year maintenance cycle, 1,090,000 cubic yards of littoral material will be placed on Bald Head Island in year 2 and year 4 following the initial deepening of the harbor with this same volume placed on **Oak Island-Caswell Beach** during the 6th year following channel deepening.")

A review of COL DeLony's letter dated June 9, 2000 also reveals that sand was intended to be placed within the same approximately 25,000 linear foot portion of Oak Island that includes portions of both the Town of Caswell Beach and the Town of Oak Island, as described in the SMP. The letter states as follows:

After construction of the Smith Island and Bald Head Island Shoal portions of the project, the US Army Corps of Engineers will conduct periodic maintenance dredging of the navigation channels. The disposal of all beach quality dredged material will be accomplished in accordance with the Environmental Assessment of Preconstruction Modifications of Authorized Improvements, Wilmington Harbor, North Carolina, dated February 2000, and its Sand Management Plan (Appendix A), and the Wilmington Harbor Monitoring Plan (enclosed and incorporated by reference). The associated disposal will be as called for therein, namely:

Year 2: Placement at Bald Head Island (estimated@ 1 Mcy)  
Year 4: Placement at Bald Head Island (estimated@ 1 Mcy)  
Year 6: Placement at **Caswell Beach and easternmost end of Oak Island** (estimated @ 1 Mcy). [Emphasis added] See DeLony letter, Page 3.

The North Carolina consistency concurrence from the North Carolina Department of Environment and Natural Resources, Division of Coastal Management (NCDENR, DCM) dated June 15, 2000, states as follows:

SUBJECT: Response to VBHI Letter of June 20, 2025, re: Contract No. W912PM25CA005, Maintenance Dredging, Wilmington Harbor Bar

We understand that disposal of dredged material from construction and maintenance of the project will be conducted **according to the SMP and letter**, as agreed to by the NC Division of Water Resources, the Brunswick County beach communities and the Corps of Engineers. [Emphasis added] See Consistency, Page 2

With this understanding, NCDENR, DCM provided their concurrence with the Corps' Consistency Determination as follows:

Based upon our review of the EA and the Corps of Engineers' response to comments, we do not disagree with your determination that the proposed construction and changes in harbor maintenance procedures are consistent with the North Carolina Coastal Management Program to the maximum extent practicable provided that the project is performed according to the EA (including the Sand Management Plan and other appendices) and the Corps' responses to comments from the EA, and to Colonel DeLony's letter of June 9, 2000 (including attachments), and that the conditions below are met. See Consistency, Page 2

While the intent of the sand management plan is to return littoral material to the beach, the primary purpose of the project is to provide safe navigation through the ocean entrance into Wilmington Harbor. SMP page 12. The Corps routinely receives appropriated funds that are allocated to the maintenance dredging of the Wilmington Harbor Federal Navigation Project, a portion of which are intended to dredge the portion of the channel identified as the Inner Ocean Bar. The Town of Oak Island expressed an interest in providing non-federal funding to enable the Corps to dredge an additional amount of material from within the authorized project dimensions. Since this is a benefit to the federal navigation mission, the Corps entered into a memorandum of agreement with the Town to fund work identified in optional bid items. The Village of Bald Head Island is very familiar with this process, as it has requested and received the same consideration. Since the additional work funded by the Town of Oak Island merely supplements the work performed by the Corps in this iteration of the Inner Ocean Bar Contract, the Corps performing the work funded accordingly is not a violation of 33 U.S.C. 408.

In conclusion, the Wilmington District, Corps of Engineers has reviewed your correspondence and determined that the Wilmington Harbor Inner Ocean Bar Contract, Contract No. W912PM25CA0005, is consistent with the Environmental Assessment (EA), the Sand Management Plan (SMP), COL DeLony's letter of June 9, 2000 and the Consistency concurrence. However, we do intend to verify that the placement of material will be limited to East Oak Island-Caswell Beach, and will modify the contract to the extent necessary to ensure that the placement does not extend into the turtle habitat restoration area.

SUBJECT: Response to VBHI Letter of June 20, 2025, re: Contract No. W912PM25CA005, Maintenance Dredging, Wilmington Harbor Bar

Sincerely,



Justin P. McCorcle  
District Counsel

Cc: Peter Quinn, Mayor, Village of Bald Head Island  
Michael Haverty, Norfolk Dredging Company  
Tancred Miller, Director, Division of Coastal Management, NC DEQ  
Cameron Luck, Division of Coastal Management, NC DEQ  
Heather Coats, Division of Coastal Management, NC DEQ  
George Kassler, Mayor, Town of Caswell Beach  
Elizabeth White, Mayor, Town of Oak Island  
Mike McIntyre, Ward & Smith  
The Honorable Thom Tillis  
The Honorable Ted Budd  
The Honorable David Rouzer



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July 18, 2025

*Via Email ([justin.p.mccorcle@usace.army.mil](mailto:justin.p.mccorcle@usace.army.mil))*

Justin P. McCorcle  
District Counsel  
Wilmington Regulatory Field Office  
69 Darlington Avenue  
Wilmington, NC 28403

Re: Contract No. W912PM25CA005, Maintenance Dredging, Wilmington Harbor Bar

Dear Justin:

Thank you for your letter dated June 30, 2025. My client, the Village of Bald Head Island (VBHI), respectfully disagrees with the conclusions reached in that letter for the reasons stated below.

When the Sand Management Plan was prepared, it addressed two issues, as alluded to but conflated in your letter: first was the initial construction of the project, and the second was the maintenance dredging of the channel, which is the subject of our current concern. Disposal of beach quality sand during the initial construction phase was pursuant to a Section 933 study and plan, under which the 25,000 feet of East Oak Island-Caswell Beach referred to in the SMP was scheduled to receive over 2,750,000 yd.<sup>3</sup> of sand at a disposal rate of 110 yd.<sup>3</sup>/foot. Table 2. Assuming it was distributed evenly along the 25,000 feet, the section east of the canal (8,000 feet) would have received 880,000 yd.<sup>3</sup>

The Maintenance Material Disposal Plan section of the SMP, beginning at section 14, first recognizes that North Carolina policy has established that “beach quality sand not be removed from the active beach system.” SMP § 16. As a result, the US Dept. of Commerce incorporated these policies into the NC Coastal Zone Management Program and the NC legislature enacted this Program. “Accordingly, the disposal plan for maintenance material removed from the Wilmington Harbor

entrance channel will attempt to satisfy these State requirements.” *Id.* Recognizing that the Wilmington Harbor project “historically, has not included the disposal of littoral sand on adjacent beaches or in the active littoral zone”, the SMP explains this as “maintenance practices that were established with the inception of the project over 100 years ago”, based on then-existing dredge technology, the lack of coastal development, and “a lack of sufficient understanding of coastal processes and the sand sharing system associated with tidal inlets and adjacent beaches.” SMP §§ 19-20. The SMP goes on to address and attempt to correct these historical mistakes by applying facts and science as the Corps then understood them<sup>1</sup> (2000) to the conditions at the channel entrance, emphasizing the importance of maintaining sand within the impacted littoral system. SMP §§ 20-22. It finds that it is “Caswell Beach” (270,000 yd.<sup>3</sup>/yr.) and Bald Head Island (527,000 yd.<sup>3</sup>/yr.) that are suffering the sand loss into the channel as part of that littoral system. SMP § 22. As the SMP points out, removal of sand from this littoral system is equivalent to removing it directly from the affected beaches. Hence, the SWP states: “In order to maintain the sediment balance on both islands, littoral material removed from the entrance channel will be **placed back on the beach from when it came.**” *Id.* (emphasis added). It is here that the section of Caswell Beach east of the canal is identified. *Id.* **There is no evidence in the SMP or your letter that the littoral system extends further west.** The intention to place sand outside the bounds of the littoral system impacted by the Project is a deviation from the SMP without an evidentiary basis.

The 8,000 feet of Caswell Beach east of the canal is more than adequate to accept the annual amounts (538,000 yd.<sup>3</sup>) projected in the SMP, which is only 63% of the amount deposited there during initial construction. If the amount to be deposited this year exceeds that amount, or if the section of Caswell Beach east of the canal does not need the amount of sand available this year, the intent of the SMP is clearly to maintain that sand within the impacted littoral system and hence it should be placed on Bald Head Island. The VBHI stands ready to cooperate in that placement, which should be at no incremental cost to the contractor, given the proximity of the beaches. If there is claimed to be a cost impact, the VBHI is equally ready to address that. In addition, the DeLony Letter (June 9, 2000) committing the Corps to comply with the SMP also provides for adjustments to the SMP if monitoring determines it necessary, which would appear to apply, especially in light of the historical monitoring data showing the sand loss ratios between Bald Head Island and Caswell beach are approximately 4:1.

Therefore, we reiterate that placement of sand pursuant to this Contract west of the canal would violate the SMP and 33 USC § 408(a) and would undermine the

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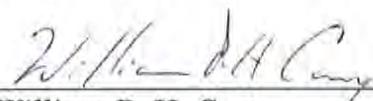
<sup>1</sup> Subsequent events, as discussed in our earlier letter, have demonstrated that the beach impacts of the WHP have been significantly greater than projected, and even the maintenance practices under the SMP have been insufficient—hence our concern that its protections not be eroded even further.

Corps's assurances that it will protect the impacted littoral system from the effects of this project and thereby comply with State law and the CZMA Program. We again ask the Norfolk Dredging Company to confirm it will not submit a Placement Plan that places sand anywhere other than on Caswell Beach east of the canal or VBHI beaches, and we ask the Corps to confirm that it will not approve any Plan other than one that is confined to Caswell Beach east of the canal and VBHI beaches.

We look forward to hearing from you on the Placement Plan. Please feel free to contact me if you have any questions or to discuss placement on Bald Head Island.

**Brooks, Pierce, McLendon, Humphrey, and Leonard, LLP,**

Attorneys for the Village of Bald Head Island

By:   
William P. H. Cary  
[bcary@brookspierce.com](mailto:bcary@brookspierce.com)  
(336)-271-3115

Cc: Colonel Brad A. Morgan, District Commander  
Michael Haverty, Norfolk Dredging Company  
Peter Quinn, Mayor, Village of Bald Head Island  
Tancred Miller, Director, Division of Coastal Management, NC DEQ  
Cameron Luck, Federal Consistency Coordinator,  
Div. of Coastal Management, NC DEQ  
Heather Coats, Beach & Inlet Management Project Coordinator,  
Div. of Coastal Management, NC DEQ  
George Kassler, Mayor, Town of Caswell Beach  
Elizabeth White, Mayor, Town of Oak Island  
Mike McIntyre, Ward & Smith  
The Honorable Thom Tillis  
The Honorable Ted Budd  
The Honorable David Rouzer  
Rosalind M. Shoemaker, Contracting Officer  
USACE Wilmington Regulatory Field Office



DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
69 DARLINGTON AVENUE  
WILMINGTON, NORTH CAROLINA 28403-1343

CESAW-OC

September 4, 2025

SUBJECT: Response to VBHI Letter of July 18, 2025, re: Contract No. W912PM-25-CA-005, Maintenance Dredging, Wilmington Harbor Bar

William P.H. Cary, Esq.  
Attorney for the Village of Bald Head Island  
[bcary@brookspierce.com](mailto:bcary@brookspierce.com)

VIA EMAIL ONLY

Dear Mr. Cary,

The Wilmington District has reviewed your correspondence dated July 18, 2025, and we are still of the opinion that the placement of sand on East Oak Island as part of the FY26 Wilmington Inner Ocean Bar Contract is proper, and we will continue as planned. While I understand your desire to assert the Village of Bald Head Island's (VBHI's) entitlement to sand within the channel, I must remind you that the Sand Management Plan (SMP) is merely a plan for disposing of material dredged from a portion of the Wilmington Harbor federal navigation channel. The SMP is not an independent beach nourishment plan or project, and confers no rights on VBHI, Oak Island, or Caswell Beach. In operating our navigation project, we try to balance various concerns, as acknowledged in the SMP as follows: "*[w]hile the intent of the sand management plan is to return littoral material to the beach, the primary purpose of the project is to provide safe navigation through the ocean entrance into Wilmington Harbor.*"

During each maintenance operation, there is more sand in the federal navigation channel than we have available funding to dredge. Therefore, decisions related to the work conducted are made on the basis of navigation needs and available funding. The local communities of VBHI and Oak Island have often provided non-federal funding to pay for additional dredging with placement of material on their respective beaches, which is in the interest of the federal navigation mission. The maintenance dredging project continues to be consistent with the enforceable policies of the NC Coastal Management Plan. As stated in detail in my last correspondence, this contract also is in complete compliance with the Environmental Assessment (EA), the Sand Management Plan (SMP), and applicable environmental and project commitments.

A goal of the SMP, as you have noted, is to return littoral material to the beaches from whence it came in a proportion commensurate with the loss rates identified. These rates historically worked out to approximately 2/3 of the losses to the channel experienced on

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the Bald Head Island side, and 1/3 on the Oak Island side. The SMP states that “[b]ased on a two year maintenance cycle, 1,090,000 cubic yards of littoral material will be placed on Bald Head Island in year 2 and year 4 following the initial deepening of the harbor with this same volume placed on Oak Island-Caswell Beach during the 6<sup>th</sup> year following channel deepening.” While funding has not always allowed us to dredge every two years, we have maintained this basic cycle, now in its third full iteration. VBHI has received material on six occasions, including each of the two most recent events. It is now Oak Island/Caswell Beach’s turn, and this placement will successfully complete another cycle.

Your letters seek to constrain our placement of material on the Oak Island/Caswell Beach side of the channel, ostensibly to limit our placement of material there and maximize the amount of material VBHI will receive either now or in the future. In your more recent letter, you point to the volumes placed on Oak Island during initial construction as an indication that this small stretch of beach can hold large volumes of material, up to 880,000 cy in the estimation of your engineer. Actual volumes were not placed in this amount. Under the initial deepening contract, on the order of 5 million cubic yards of sediment (in-place beach volume measurement) were placed on Brunswick County beaches. Of this total and within the limits of the sand management zone, Bald Head Island received 1,849,000 cubic yards between February-July 2001. Oak Island/Caswell Beach then received a total of 1,181,800 cubic yards between July-August 2001, extending to station 294+00, an area of approximately 23,000 feet with a 4,000-foot gap. As indicated in the table, the balance of new work dredged material went to western Oak Island (1,269,800 cubic yards) and Holden Beach (501,400 cubic yards).

LOCATION	PLACEMENT LIMITS			PLACEMENT DATES		BEACH VOLUME (INPLACE)
	APPROX BL STA	NORTHING (ft, NAD83)	EASTING (ft, NAD83)	START	STOP	
Bald Head Island	41+60	43,692.25	2,300,542.01	2/23/2001		1,849,000
	205+50	35,750.21	2,314,236.42		7/4/2001	
Caswell Beach	60+00	52,126.62	2,295,138.57	7/5/2001		133,200
	80+00	52,847.44	2,292,954.85			
Oak Island East	121+00	53,711.05	2,289,255.43			1,048,600
	294+00	58,418.34	2,272,322.77		8/12/2001	
Oak Island West	415+00	60,332.24	2,260,537.66	8/13/2001		1,269,800
	665+50	59,778.68	2,235,486.44		4/25/2002	

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Holden Beach	84+00	60,092.96	2,222,254.95	12/9/2001		501,400
	195+00	58,820.26	2,211,433.72		2/20/2002	

**Table 1 – Initial Construction**

Historical placement of material on both the VBHI side and the Oak Island side in the past two cycles has ranged between roughly 1.1M-1.5M cy of material in total, a larger volume of material than good engineering would support being placed on the small stretch of beach in Caswell Beach that you wish to constrain us to.

You also state as evidence for the constrained placement area the language from the SMP discussing losses of sand to the channel from Caswell Beach, which you apparently take to imply that Oak Island is not also suffering losses toward the channel. I find this to be an unduly narrow reading of the language and context of the SMP. Because Caswell Beach sits next to the channel, *only* Caswell Beach can suffer losses *directly to the channel*. That does not mean that losses experienced on Oak Island, with the sand moving east toward the channel, are not also important to the littoral system. It is important to note that the SMP consistently references Oak Island *and* Caswell Beach as the placement area. For example, the SMP states: “[t]he distribution of littoral shoal material between Bald Head Island and **East Oak Island - Caswell Beach** given above will be accomplished by placing material from two consecutive maintenance operations on Bald Head Island with the third operation involving placement on **Oak Island-Caswell Beach**.” [Emphasis added] I do not find that the SMP language that you cited states, either explicitly or implicitly, that Oak Island/East Oak Island is not in the littoral system, and I cannot support an artificial restriction of the placement area that does not fit with the general context of the project, the plan, and navigational needs.

In both of your letters, you claim that the United States, through issuance of a dredging contract which includes placement of dredged material in a location to which you object, is in violation of 33 USC § 408. This allegation is misplaced; the United States cannot be considered a “person” under § 408. The law protects the United States from injuries to navigation or civil works projects from persons operating outside our permission. Courts have consistently applied a presumption that the term “person” in federal statutes does not include the sovereign unless there is some clear evidence to the contrary, which is not found in this instance.

Finally, I must respectfully request that that you direct your communications to the District rather than our contractor. Such communications directed toward the contractor could constitute improper interference with the contract, potentially resulting in adverse effects to the economic interests of the Corps and disruption of the operation and maintenance of the federal navigation project. Our contractor has no independent ability to alter the placement area for the contract.

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While we appreciate the partnership we have shared with VBHI in previous dredging and placement events, we respectfully but firmly state that we are operating within our established and approved plans, and plan to proceed as indicated in the fall.

Sincerely,



Justin P. McCorcle  
District Counsel

Cc: Peter Quinn, Mayor, Village of Bald Head Island  
Michael Haverty, Norfolk Dredging Company  
Tancred Miller, Director, Division of Coastal Management, NC DEQ  
Cameron Luck, Division of Coastal Management, NC DEQ  
Heather Coats, Division of Coastal Management, NC DEQ  
George Kassler, Mayor, Town of Caswell Beach  
Elizabeth White, Mayor, Town of Oak Island  
Mike McIntyre, Ward & Smith  
Charles S. Baldwin IV, Brooks Pierce