City of Folly Beach

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John T. Litz, PMP
Lieutenant Colonel, U. S. Army
Commander and District Engineer
Charleston District, Corps of Engineers
69 A Hagood Avenue
Charleston, S. C. 29403

Re: Charleston Harbor Post 45
Feasibility Report and Environmental Impact Statement (FR/EIS)
Public Comment Submittal

Dear Colonel Litz:

In response to the October 9, 2014 Public Notice announcing publication of the subject study, the City of Folly Beach requests Implementation of a **Regional Sediment Management Study to Reduce Downdrift Impacts to Morris and Folly Islands**. Please consider the sand management measures described herein.

Background: The Charleston Harbor and Folly Island

It is undisputed that manipulation and maintenance of the Charleston Harbor, in order to facilitate shipping traffic and commerce, has negatively impacted Folly Island. In August 1987, a Section 111 report was prepared by the Charleston District and determined that 57% of the erosion occurring at Folly Beach was attributable to the Charleston Harbor jetties.[1] In the Section 111 report, the USACE estimated that as a result of the completion of the jetties a net

[1] USACE, 1987. Evaluation of the Impact of Charleston Harbor Jetties on Folly Island, South Carolina, Coastal Engineering Research Center, Vicksburg, MS.

southerly alongshore drift of approximately 122,000 to 152,000 m^3/year has been permanently blocked. In response to the channel stabilization begun in 1878, the offshore shoals have lost roughly 200 million m^3 of sand resulting in an increase of the wave energy of 100%.[2] It was this report that directly connected the Corps' operation and maintenance of Charleston Harbor with the chronic erosion problem that has plagued Folly Beach and which led to a 50-year federal renourishment project begun with an initial renourishment in 1993.[3]

Previous efforts to deepen the shipping channel in Charleston Harbor in 1999 may have intensified the erosion at Folly Beach by creating a sink for any sediment that might slip past the jetties. As with the present EIS, there was no mention of downdrift impacts to Folly Beach in the 1996 Environmental Assessment for the previous deepening project. The City is concerned that another effort to deepen and widen Charleston Harbor, with no consideration of downdrift impacts, will exacerbate the already significant shoreline erosion at Folly Beach.

Concerns Over Feasibility Report and Environmental Impact Statement

The Feasibility Report and Environmental Impact Statement ("FR/EIS") gives no consideration or weight to the erosion that completely destroyed a county park facility on one end of the island and continues to threaten multiple structures along the coast. The City is surprised, particularly in light of the history recounted above, that the FR/EIS only mentions Folly Beach seemingly in passing: "[t]his action. *i.e.*, the 2014 renourishment project, is noted here due to its relevance to the Section 111 study findings by USACE (1987) that indicated ***an effect*** of navigation channel jetties on downdrift communities."[4] This reference is not merely an understatement of the problems that construction of the jetties created for Folly Island, but also contains no analysis of any potential impact that the proposed project may cause. It is inexplicable that the USACE would conduct FR/EIS on improvements, modifications, and continued operations of Charleston Harbor without studying how the proposed changes might adversely affect Folly Beach. Engineering Appendix A of the FR/EIS, where one might expect

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[2] Edge, B., M. Dowd, R. Dean and P. Johnson, 1994. The Reconstruction of Folly Beach, Coastal Engineering, Chapter 252

[3] Kana, T, 2012. A Brief History of beach nourishment in South Carolina, Shore & Beach, Vol. 80, No. 4.

[4] Appendix O, Cumulative Impacts Analysis, Section 2.2.2.5, Downdrift Beach Renourishment (emphasis added).

negative impacts on Folly Beach to be discussed, makes no mention of Folly Beach. This Appendix includes an analysis of shoreline changes *within* Charleston Harbor "where channel modifications of deepening and widening have occurred."

The FR/EIS states that the following navigation improvements are tentatively planned for the entrance channel (*ocean*) portion of the harbor:

1) Deepen the existing entrance channel from a project depth of -47 feet to -54 feet mean lower low water (MLLW) over the existing 800-foot bottom width, while reducing the existing stepped 1,000-foot width to 944 feet from an existing depth of -42 feet to a depth of -49 feet.
2) Extend the entrance channel approximately three miles seaward from the existing location to a depth contour including a -54-foot MLLW project depth plus overdepths.

Solution: Require Detailed Study of Mitigation for Harms Caused to Folly Beach

The entrance channel of Charleston Harbor is responsible for most of the downdrift erosion on Morris and Folly Islands.[5] Therefore, improvements or modifications to this entrance channel are likely to exacerbate downdrift erosion. Increased environmental impacts to protected species including Loggerhead Turtles and Piping Plover are also possible. The FR/EIS should acknowledge these impacts and offer mitigation measures, particularly through a study of Regional Sediment Management.

There are several specific RSM approaches that should be considered. The first is potential beneficial uses for the dredged material. In the main FR/EIS, Section 4.2.1, **Material Placement Options**, does not include any consideration of downdrift placement either on the beach or in the nearshore. It appears that up to 12 million cubic yards of material may have the potential to be considered for beneficial use placement downdrift. However, all entrance channel material is presently slated to be disposed in the Ocean Dredged Material Disposal Site (ODMDS).

The brief mention of considering nearshore placement is almost completely overshadowed by the reference to the difficulty of such an effort. Section 4.2.6.6 **Nearshore**

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[5] ***See*** FN 1.

Placement off Morris Island states, "Dredged material could be placed offshore of Morris Island where natural processes could sort and transport it. However, this alternative would require extensive modeling and coordination with multiple resource agencies to resolve major and complex concerns. It would also be expensive and complicated from an environmental permitting perspective. The size, scope, and benefits associated with this option would be determined during the PED phase and would depend on a source of suitable material."

However, such a study is consistent with USACE policy (WRRDA 2014, Section 1038; WRDA 1976, Section 148; ER 1105-2-100; EM 1110-2-5027; EC 1105-2-411) and the Federal Standard to analyze the feasibility of sound engineering practices that retain dredged material in the littoral system and conserve space in the Confined Disposal Areas (CDFs) and the ODMDS. The City of Folly Beach contends that offshore disposal of littoral material does not constitute sound engineering in a coastal system as deprived of sand as the islands downdrift of Charleston Harbor. Instead, the study should carefully consider existing sediment grain size and other geotechnical data for the Charleston Harbor Entrance Channel maintenance and new work dredged material. The City encourages the District to collaborate with state regulatory agencies to carefully review the geotechnical data to avoid disposing of valuable littoral material offshore.

The Study should also consider more effective methods to bypass sediment trapped by the Charleston Harbor jetties by investigating the potential for:

a) Modifications to the existing jetties, which are responsible for most of the downdrift erosion, and
b) Bypassing sediment trapped on the north side of the jetties at Sullivan's Island.

Finally, the study should develop a sediment management and monitoring plan for the Charleston Harbor Entrance Channel. A routine monitoring program should assess the responses of the downdrift (or adjacent) beaches to the newly implemented sediment management plan. Similar planning and monitoring is common at other U.S. harbors with federal channels managed by the USACE.

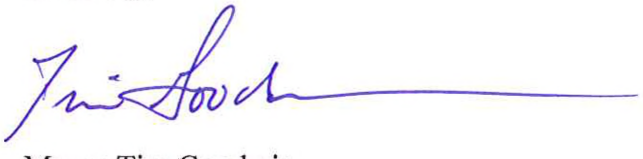
To address these omissions the City of Folly Beach requests that the title of Section 4.2.6.6 be changed to "**Implementation of a Regional Sediment Management Study to Reduce Downdrift Impacts.**" We also request that the text be revised as follows, "*A 1987 Section 111 Study determined that approximately 57 percent of the erosion of Folly Beach was*

due to the construction and continued operation of the Charleston Harbor Federal navigation project. Mitigation for these impacts will be addressed during the PED phase through a Regional Sediment Management (RSM) study that will consider options for reducing downdrift impacts. The study will consider options such as beneficial use of both new work and maintenance dredged material in the downdrift littoral system, jetty modifications, and sand sharing or bypassing from the updrift side of the harbor downdrift."

The City of Folly Beach requests that funds to implement the recommendations of the RSM study should come from the Post 45 budget. While RSM practices may increase costs slightly in one business line, they have the potential for significant cost savings in other business lines; thereby, resulting in significant increased value to the nation. In this example, manageable increases in navigation funding could potentially result in substantial cost savings to the navigation and flood damage reduction business lines (which fund 57 & 43% of the project, respectively) by reducing the frequency and costs of expensive shore protection projects at Folly Beach, where the 2014 renourishment project cost over $30 million.

The City of Folly Beach values our close connection with the Charleston District of the USACE, and we feel this comment is necessary ensure that all current and future harms from the Charleston Harbor be adequately mitigated using all available means. The City of Folly Beach will oppose the deepening project and consider legal action, including challenge to any permits issued for the deepening project and challenge to the sufficiency of the EIS, unless it receives a written agreement that the project will include sand management measures as described herein. Ultimately, we hope that implementing a Regional Sediment Management program will benefit both Folly Beach and the USACE by lowering the cost of periodic renourishments under the Federal Shore Protection Project.

Sincerely,



Mayor Tim Goodwin
City of Folly Beach