

Peer Review of
“Study of Big Sarasota Pass Sediment Mining Alternatives for Sarasota County, Lido Key Federal Shore Protection Project”, Draft 11 June 2014

Proposed Scope of Work

Introduction:

In June 2014, the US Army Corps of Engineers (USACE) released a draft study titled, *“Study of Big Sarasota Pass Sediment Mining Alternatives for Sarasota County, Lido Key Federal Shore Protection Project”*. The USACE Jacksonville District performed the study that evaluates the construction of three sand retention structures (groins), and excavation of sand from the Big Sarasota Pass ebb shoal and placement of the sand upon the shoreline of Lido Key for beach renourishment.

A third-party peer review of the draft study is being commissioned at the direction of the Sarasota County Commission (the Board). The review is not to repeat the USACE study, but to have the study reviewed by a knowledgeable third party.

The county seeks to undertake a third-party peer review by a firm from the coastal engineering library with focus on:

1. The shoreline and user experience impacts to Ted Sperling Park at South Lido Beach.
2. Seeking assurance that taking the proposed amount of sand is not going to impact Siesta Key beaches.
3. Seeking reassurance that there will be no navigational impacts to Big Sarasota Pass.

Stakeholder input:

Related to the development of the scope of the third-party peer review, input has been received from a number of community stakeholders. Staff has aligned the questions with the three areas of focus listed above. Stakeholder input is attached as Attachment B – Supplemental Information.

Tasks:

1. Review the draft USACE study and any pertinent available data.
2. Render a professional opinion on likely physical impacts of the proposed work, with focus on the following areas:
 - a. The shoreline impacts to Ted Sperling Park at South Lido Beach
 - b. The impacts on Siesta Key beaches
 - c. The impacts to navigation in Big Sarasota Pass
 - d. The impacts on the north Siesta Key shoreline, adjacent to Big Sarasota Pass
3. Render a professional opinion on likely recreational impacts to South Lido Park (user experience impacts). This opinion should include how the project will impact existing recreational activities, including (but not limited to) boating, fishing, sun bathing and walking the beach.

Deliverable: CONSULTANT will, upon review of the draft USACE study and other pertinent data, prepare a comprehensive evaluation report containing responses to the elements of Tasks 1 through 3.

Attachments:

A *Study of Big Sarasota Pass Sediment Mining for Sarasota County, Lido Key Federal Shore Protection Project; Sarasota County, Florida; Draft 11 June 2014*

B Supplemental Information – Stakeholder Input

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Attachment B – Supplemental Information – Stakeholder Input

Relative to Focus Area #1:

- Are there other inlets in Florida that have a three groin system like the one proposed for South Lido Park?
- Why is the southernmost groin offset from the others, and at such an easterly location?
- What would be the effect on Big Sarasota Pass beach (in the bay) if the southernmost groin was exposed and interacting with waves and surf?
- What is the history of previous storms in this area that would most likely have exposed the groins and made them part of the active beach system (including frequencies)?
- What is known about the types and frequency of injuries associated with groins?
- All terminal groins on the southwest coast of Florida appear to have no sand on the side of the groin facing the pass. What is the prognosis for sand persisting on the pass side of the Corps southernmost groin?
- What social research exists that looks at the effects of groins on beach user experiences?

Relative to Focus Area #2:

- Dabees & Kraus cite the example of jetty installation on the southernmost part of Anna Maria Island in 1957, and the subsequent erosion on the northern part of Longboat Key. Why is the same result not expected on the northern portion of Siesta Key?
- Concern that short timeframes modeled using CMS may not accurately reflect long term morphological changes that could be modeled using the Inlet Reservoir Model (IRM). Has any long term analysis been performed?

Relative to Focus Area #3:

- Monitoring should include impacts to navigation, down drift erosion/accretion, in-filling of dredged areas, exposure of the groins, loss of public beach, etc. Clear benchmarks should be developed that must be met prior to approving subsequent dredging.
- Empirical data exists about dredging channels such as Longboat Pass, New Pass, and Stump Pass where navigational depths have been compromised. Other passes such as Big Sarasota Pass and Redfish Pass have maintained their controlling depths without dredging. Will the proposed dredging adversely impact Big Sarasota Pass?

Certain questions did not clearly align with the focus areas, but provide valuable information relative to the concerns of the interested parties. It may be found that these are beyond the scope of this third peer review and are better directed to the USACE for response.

Other Input:

- What has been the experience (satisfaction, complaints) of other coastal communities with fifty-year commitments to the Corps?
- Can the City or County enter into a fifty-year lease, and are future commissions bound by any such agreement?
- The current proposal shows approximately one half of the sand to be placed upon a wide public beach.
 - What would be the reduction in cost and sand volumes if the project were mostly in front of the condos with some overlap on either side?
 - Is more state or federal funding available by placing the large amount of sand on a public beach?
 - Is there an alternative design that requires about one half of the amount of sand currently proposed?
- How would the proposed project be affected if the local preferred option were to eliminate the groins?
 - Explain the differences in cost sharing and design.
 - What is the difference in the expected interval between re-nourishments?
- Davis & Wang suggest that removing the distal portion of the ebb shoal will not impact the Siesta Key shoreline and may benefit the northern end of the key by enabling bypassed sediment to reach the area (which was eroding at the time). Erosion has now stopped and sand is accreting.
 - Will the accretion continue if the currently proposed dredging is performed?
 - Why did ACE not address this recommendation?
- What is a reasonable estimate of the fine sediments/turbidity that will enter Sarasota Bay on flood tides during dredging?
- Since the ACE has based a significant portion of its proposal on the Inlet Management Plan (IMP) there may be value in re-examining the peer reviews for the IMP relative to results that could not be fully supported.
- The ACE model inputs should be examined relative to data quality, including sources and expiration dates.
- Underlying assumptions and results predicted by previous recommendations should be examined relative to actual results that had occurred.

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