MAR 27 2012

CECW-PC (1105-2-10a)

MEMORANDUM FOR CECW-SAD (ATTN: Cynthia Perez)

SUBJECT: Jacksonville Harbor (Mile Point) Navigation Study, Duval County, Florida, Feasibility Report and Environmental Assessment (March 2012) – Documentation of Review Findings.

1. This memorandum forwards the documentation of policy compliance review findings for the subject project proposal. In the opinion of the policy compliance review team, all policy review concerns have been adequately addressed for this phase of project formulation and development.

2. Office of Water Project Review consideration of the subject report and environmental assessment is complete. Questions concerning the HQUSACE policy compliance review of this project proposal may be discussed with the review manager, Jeremy LaDart, at 202-761-5450.

Encl

Wesley E. Coleman Jr.
Chief, Office of Water Project Review
Planning and Policy Division
Directorate of Civil Works

DOCUMENTATION OF REVIEW FINDINGS

JACKSONVILLE HARBOR (MILE POINT) NAVIGATION STUDY
DUVAL COUNTY, FLORIDA

FEASIBILITY REPORT
&
ENVIRONMENTAL ASSESSMENT

MARCH 2012

ENCLOSURE

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JACKSONVILLE HARBOR (MILE POINT) NAVIGATION STUDY
DUVAL COUNTY, FLORIDA

FEASIBILITY REPORT
&
ENVIRONMENTAL ASSESSMENT
March 2012

I. GENERAL.

A. Policy Compliance Review Findings. The following summarizes the final HQUSACE policy compliance review findings for Jacksonville Harbor (Mile Point) Project. This summary includes the concerns and the related resolutions of those concerns for the HQUSACE reviews of the Alternative Formulation Briefings Documentation dated February 2009, the Draft Feasibility Report and Environmental Assessment dated May 2011, and the Final Report and EA dated October 2011. A revised Final Feasibility Report and EA dated March 2012 was provided which included minor editorial revisions.

B. Project Location. Mile Point is a 5,000 foot section of the deep draft navigation channel located approximately 4-5 miles upstream of the mouth of the St. Johns River in Jacksonville, Florida.

C. Authority. The Jacksonville Harbor (Mile Point) Navigation Study was conducted in response to a resolution of the House Committee on Transportation and Infrastructure, Docket 2550 adopted March 24, 1998, which states:

> *"Resolved by the Committee on Transportation and Infrastructure of the United States House of Representatives, That, the Secretary of the Army is requested to review the report of the Chief of Engineers on Jacksonville Harbor, Florida, published as House Document 214, Eighty-ninth Congress, 1st Session, and other pertinent reports to determine whether any modifications of the recommendations contained therein are advisable at the present time in the interest of navigation and related purposes, with particular reference to erosion of the Mile Point shoreline."*

D. Non-Federal Sponsors. The Jacksonville Port Authority is the non-Federal sponsor for this study and has taken an active role in support of the study.

E. Problems, Needs And Opportunities. Crosscurrents at the confluence of the St. Johns River and the Atlantic Intracoastal Waterway (AIWW) cause navigational difficulties to deep draft vessels transiting this location. The Jacksonville Bar Pilots have imposed a restriction on inbound vessels drafting greater than 33 feet which requires them to sail on the flood tide.

Outbound vessels drafting greater than 36 feet are similarly delayed. The purpose of this study is to identify the most technically feasible and economically beneficial "recommended plan" for reducing the navigation difficulties caused by cross currents. Therefore the goal of the study is to identify problems and opportunities to reduce navigation inefficiencies, improve public safety, and protect the environment.

F. Plan Formulation. A broad set of project alternatives was initially considered including: No Action Alternative; Nonstructural (additional tug assists for vessels and light loading); Bulkhead; Groin; Beach fill; Training Wall; Diversions; Channel Widening; and Submerged Wiers. Results of the hydrodynamic modeling of the alternatives showed that only the Relocation/Reconfiguration of the Mile Point training wall alternative demonstrated significant change in the distribution and direction of the currents within the navigation channel and it is the only alternative that met all of the study objectives. It is anticipated that the new realignment of the Mile Point training wall would produce flows coming out of the IWW from the south that are more aligned with the Federal channel. This is expected to provide a drop in water velocity in the areas north of the channel at Mile Point and slow the progression of the erosion that has occurred at the north bank of Mile Point. Ship simulation results were considered favorable by the majority of the St. Johns Bar Pilots toward reducing or eliminating the restrictions associated with the training wall crosscurrents. A widening alternative was carried forward for further investigation at the request of the St. Johns Bar Pilots. A second ship simulation was run 14-17 September 2009 to test the widening only alternative, as well as the relocation of the Mile Point training wall alternative. The pilots, after using the wideners in the simulation, stated that they felt the wideners would not reduce tidal restrictions for Mile Point. Based on the simulator runs, the pilots felt that relocation of the Mile Point training wall could reduce or eliminate tidal restrictions for Mile Point.

G. Selected Plan. The selected plan is the NED Plan and consists of the following improvements:

1. The training wall reconfiguration includes removal of the western 3,110 feet of the existing Mile Point training wall and the construction of a relocated Eastern Leg training wall of approximately 2,050 feet. Total estimated quantity of material to be excavated is approximately 889,000 cubic yards (cy). All usable stone material recovered from the existing training wall will be stockpiled for use in either the West or East Leg of the relocated training wall and all other material excavated will be placed as beneficial use in the Salt Marsh Mitigation Area at Great Marsh Island and as foundation for the relocated training wall. It is estimated that approximately 14,600 cy of armor stone can be recovered for reuse purposes; however, additional geophysical exploration will more precisely ascertain the exact quantities of stone available for reuse during the preconstruction, engineering and design phase.

2. The East Leg training wall incorporates a larger scour apron (25') than the West Leg (10') due to the predicted permanent shift of stronger currents in Pablo Creek towards the

east especially during the ebb tide. Channel migration of the IWW is anticipated and realignment of the channel to deep water may become necessary. The relocated East Leg consists of building approximately 2,050 feet of training wall tying into the existing structure on Helen Cooper Floyd Park and the West Leg consists of building approximately 4,250 feet of training wall across the breakthrough at Great Marsh Island. Estimated quantities associated with the East Leg are 26,900 cy of armor stone and 11,900 cy of bedding stone, and for the West Leg are 5,670 cy of concrete (567 units at 10cy/unit) and 32,000 square yards (sy) of geotextile fabric for bags and tubes to be filled with 40,500 cy of excavated material. Both legs will incorporate the use of a total of approximately 34,900 sy of filter fabric.

3. The least cost disposal method is to restore the breakthrough at Great Marsh Island by constructing an approximate 4,250-foot Western Leg training wall and placing dredged material to restore the island. Restoration of this area provides an opportunity for beneficial use of dredged material and an opportunity to address impacts caused by the physical decay of the ecosystem through erosion of natural habitat caused by the crosscurrents. Without the project, Great Marsh Island will continue to erode. Restoring Great Marsh Island is both the least cost alternative for dredged material and also provides up to 53 acres of salt marsh restoration. This alternative provides incidental environmental benefits in addition to providing mitigation for the 8.15 acres of impacted by the training wall removal.

4. The Flow Improvement Channel (FIC) would be constructed to offset any adverse effects that would be caused by closing off the breakthrough of Great Marsh Island. If Great Marsh Island is restored and the FIC is not built, then water quality is expected to be degraded within Chicopit Bay due to non-point source pollution loadings from the upstream watershed not being flushed out of the hydrological system. This would occur because the restoration would close off the recently formed channel through the eroded portion of Great Marsh Island, which now flushes the bay. The FIC would allow for improved water quality and environmental stability of the project area by potentially improving the flushing of sediment and other waterborne constituents into the adjacent Intracoastal Waterway. The construction of the FIC would also restore the historic channel through Chicopit Bay which has silted in with eroded material from Great Marsh Island. The FIC consists of dredging a channel 80 feet wide and 6 feet deep for a length of approximately 3,620 feet through Western Chicopit Bay. Dredged material from the FIC would be placed back into the Great Marsh Island restoration area.

5. Approximately 51.2 acres of land are under the control of the U.S. Navy. The U.S. Army Corps of Engineers will coordinate with the U.S. Navy for a license that will allow removal of the real property (uplands). Additionally, the Federal government has navigational servitude over submerged lands impacted by the proposed project. The non-Federal sponsor (Jacksonville Port Authority) owns lands in the vicinity of the proposed project, but those lands will not be impacted by the proposed project. The Nature Conservancy, Inc. owns lands in the vicinity of the proposed project that will not be negatively impacted. The Nature Conservancy, Inc. is familiar with the proposed project and has indicated their support for the project.

H. Project Costs. Based on October 2011 price levels, the estimated project first cost is $35,999,000,which includes the cost of constructing the general navigation features and the value of lands, easements, rights-of-way and relocations estimated as follows: $32,812,000 for channel modification, turbidity and endangered species monitoring, and dredged material placement; $3,088,000 for environmental mitigation; and $99,000 administrative costs for the value of lands, easements, rights-of-way, and relocations.

I. Operation, Maintenance, Repair, Rehabilitation, and Replacement (OMRR&R). There are no additional costs of operation and maintenance for this recommended plan.

J. Project Benefits. Based on October 2011 price levels, a 4-percent discount rate, and a 50-year period of analysis, the total equivalent average annual costs of the project are estimated to be $1,737,000. The average annual equivalent benefits are estimated to be $2,440,000. The average annual net benefits are $703,000. The benefit-to-cost ratio for the recommended plan is 1.4.

K. Cost Sharing. The recommended plan is the national economic development (NED) plan. The estimated Federal and non-Federal shares of the project first cost are $26,998,000 and $9,001,000, respectively, as apportioned in accordance with the cost sharing provisions of Section 101 of WRDA 1986, as amended (33 U.S.C. 2211), as follows:

The cost for the general navigation features from greater than 20 feet to 45 feet will be shared at a rate of 75 percent by the Government and 25 percent by the non-Federal sponsor. Accordingly, the Federal and non-Federal shares of the costs in this zone are estimated to be $26,924,000 and $8,976,000, respectively.

In addition to the costs outlined in sub-paragraph (1) above, the project first cost includes administrative costs for lands, easements, rights of way and relocations estimated at $99,000. The Federal administrative costs include project real estate planning, review, and incidental costs between the Navy and the Corps of Engineers. Accordingly, the Federal and non-Federal shares of the administrative costs are estimated to be $74,000 and $25,000, respectively. Credit is given for the incidental costs borne by the non-Federal sponsor for

lands, easements, rights of way and relocations per Section 101 of WRDA 86. Of the non-Federal share approximately $12,500, is eligible for LERR credit.

Additional 10 Percent Payment. In addition to the non-Federal sponsor's estimated share of the total first cost of constructing the project in the amount of $9,001,000, pursuant to Section 101(a)(2) of WRDA 1986, as amended, the non-Federal sponsor must pay an additional 10% of the costs of general navigation features of the project, $3,590,000, in cash over a period not to exceed 30 years, with interest. The value of the lands, easements, rights-of-way and relocations provided by the Federal sponsor under Section 101(a)(3) of WRDA 1986 as amended will be credited toward this payment.

L. Environmental Compliance. The *Jacksonville Harbor (Mile Point) Navigation Study, Duval County, Florida Final Integrated Feasibility Report and Environmental Assessment* has undergone all required review under the National Environmental Policy Act. The Final report includes responses to all resource agencies and interested party comments on the Draft and Final reports.

A Notice of Availability for the draft Integrated Feasibility Study and Environmental Assessment was mailed to interested parties on July 7, 2011. Copies of the draft report were made available in selected libraries within the study area and placed on the District website, along with other pertinent study documents. A public workshop was held on August 15, 2011 in order to provide all stakeholders the opportunity to discuss the draft report. The public and agency comment period on the draft report was initiated on July 7, 2011 and was extended to September 9, 2011.

An on-site meeting was held on August 19, 2011 in order to discuss the proposed mitigation and was attended by the DEP, USFWS, and the FWC. Pursuant to Section 7 of the Endangered Species Act, coordination with USFWS and the NMFS has been completed. The USACE, Jacksonville District and the USFWS jointly prepared a Memorandum for Record which stated that both agencies agree to utilize the National Environmental Policy Act review and Endangered Species Act consultation processes to complete coordination responsibilities under the Fish and Wildlife Coordination Act. Coordination with the Florida State Historic Preservation Officer has been completed. Coordination with the DEP on state water quality certification is on-going.

The primary concern of stakeholders was on the Flow Improvement Channel (FIC). The State of Florida requested the FIC be built to maintain water quality and hydrological flow. Local residents requested the FIC be built prior to the Great Marsh Island restoration to maintain recreational boating access and property values. Access will be maintained to the maximum extent practical during construction. The FIC will be monitored for 5 years and corrective action will be recommended if necessary.

The EA has been prepared and coordinated, including a mitigation plan. The ESA coordination is complete. The SHPO coordination is complete. The coordination on the Section 401 WQC has been initiated.

II. RESOLUTION OF REVIEW COMMENTS ON THE FEBRUARY 2009 ALTERNATIVE FORMULATION BRIEFING PACKAGE.

A. Authority.

1. Initial Authorization Document, Page 1. The report should state when was the original navigation project described in the Chief's report cited was authorized. The authority which the original USACE project is based on should be inserted in this section so reviewers or the public can see both the original and study authorities. This is critical to knowing if the previous authorization needs to be amended at all to include the currently formulated features in the report.

District Response: The following will be added to the report; The Chief of Engineers Report is from May 19, 1965. It recommended "modification of the existing project for Jacksonville Harbor, Florida, to provide for maintenance of the existing ocean entrance 42 and 40 feet deep, deepening of the interior channel to 38 feet to the Municipal Docks and Terminals, and widening the channel near mile 5 and mile 7 by 100 feet and 200 feet, respectively." Since then the harbor has been authorized to 40 feet from the entrance channel to river mile 14.7 in WRDA 1999 and then from river mile 14.7 to 20 in the 2006 Appropriations Law.

Discussion: Response adequate.

Action Required: The concern will be resolved with implementation of the response.

Action Taken: Page 1 has been updated with the above information.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

B. Problems and Opportunities.

1. San Pablo Creek Flow. Please describe how the currents from a relatively small tidal creek like San Pablo can flow all the way across the St John River and reach, let alone erode, the opposite bank. Is it possible that the erosion is the result of bow wakes throw off the front of the ships now coming in on the flood tide whereas before the pilots' rule requiring this, they could ride in on any tide they wanted? Even a review of the H&H model runs and outputs do not indicate these highly erosive forces as suggested in the report.

District Response: Pablo Creek is not a small tidal creek. Pablo Creek is a navigable waterway that experiences significant flow rates. Flows in excess of 55,000 cubic feet per second during ebb tide have been measured during Acoustic Doppler Current Profile (ADCP) surveys. This flow coming from the south, out of Pablo Creek can exceed 25% of the total flow of the St. Johns River at Mile Point.

In addition, the confluence angle of these two waterways is more than 130 degrees…as the St. Johns River flows in a southeasterly direction during ebb flow; Pablo Creek's flow collides with the river in a northwesterly direction. This combination of high flow and extreme confluence angle causes a deflection of the main channel flows to the northeast.

ADCP surveys clearly show that during flood tide, the majority of the flow (and fast moving water, >5fps) is concentrated toward the southern bank of the river (outer bend) with very slow moving water along the northern bank (inner bend). This is the flow distribution one would expect to see at a river bend. However, during the ebb tide the flow distribution is drastically shifted/deflected to the north. Fast moving water flows can be seen along the northern shoreline, with water moving significantly faster along the northern (inner) bend compared to the southern (outer) bend where the Federal Channel is located.

One must consider that the north bank at Mile Point is on the inside of the river bend, where normally sedimentation, not erosion, usually occurs. The unique geometric configuration of this intersection of the IWW and the St Johns River, which produces a dramatic shift in the St Johns River's currents, is the only logical explanation for the extreme cross-currents experienced at this turn.

This phenomenon can be visibly seen at the project site, has been measured with multiple ADCP surveys, is reproduced in both two- and three-dimensional modeling, and verified by the St Johns River Bar Pilots. These dangerous cross-currents are the reason for the Bar Pilots' navigation restrictions.

It is possible that bow wake causes some degree of erosion. However, if bow wakes were the source of the problem, we would expect to see this level of catastrophic erosion all along the river or at least in multiple other locations. That is not the case.

Extremely large vessels move in and out of the harbor during both ebb and flood tide therefore the Bar Pilots' ebb tide restriction would not be a source of or even cause an increase in erosion.

Discussion: Response adequate.

Action Required: The comment will be resolved by inclusion of the response discussion in the report.

Action Taken: Response has been incorporated into the main report Sections 2.1 and 2.2 and Engineering Appendix A.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

2. Problem Identification. The report should more concisely itemize the water resources problem we are trying to address. It appear to be 1) cross currents causing

navigational challenges and associated time delays, 2) erosion of the river shoreline near the mile point location and potentially, 3) shoaling of Federal navigation channel. The report should make these more prominent in a way such as bulletized format or similar manner.

District Response: The water resources problem the study is meant to address are the difficult crosscurrents at the confluence of the IWW and the St. Johns River. Those crosscurrents are the cause of the navigation restrictions and erosion of the mile point shoreline. The problems of shoaling are associated with the recommended plan and restoring Great Marsh Island, there is shoaling Chicopit bay which the FIC is designed to restore.

Discussion: Comment to be resolved in Plan Formulation.

Action Required: See Plan Formulation Section

Action Taken: Section 4.2 has been updated.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

3. Causes of Ecosystem Degradation, Page 23. A statement should be made that the physical degradation of the ecosystem in this reach of the Federal Navigation project has adversely affected not only the aquatic ecosystem but also the commercial and recreational vessel operations. This will bolster the planning and the justification process.

District Response: A comment will be added to the report on the description of the Great Marsh Island restoration and how this provides an opportunity to address other impacts the physical decay of the ecosystem has had such as shoaling in Chicopit Bay which has required small boats to pass through the breakthrough to access the St. Johns River. Without the project, Great Marsh Island will continue to erode. This would contribute to additional shoaling within Chicopit Bay, and would exacerbate the existing navigation hazard for recreational vessels. See Figures 15-17.

Discussion: Response adequate.

Action Required: The concern will be resolved by inclusion of the revised text in the report.

Action Taken: See Section 5.4.3 under number 4. The above description has been added. See also Figures 15-17 starting on page 24.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

4. Planning Constraints, Pages 28-29. The Planning Constraints listed on Pages 28 and 29 appear to be partially listing out planning objectives (problems to solve)

versus purely constraints. This issue was also noted in the FSM/AFB process and subsequent PGM.

District Response: Concur some of these are problems to be solved 1,2,3, and 10 and will be removed from this list.

Discussion: Response adequate.

Action Required: The comment will be resolved by implementation of the response.

Action Taken: The above action has been resolved in Section 4.4.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

5. Decisions To Be Made, Page 29. Aquatic ecosystem restoration via beneficial use should be listed with the erosion and the navigational issues. This gives the project purpose co-equal standing with the currently authorized purpose. This co-equal standing is imperative for proper O&M and future planning considerations should the project need to be rehabilitated or otherwise changed in the future.

District Response: There are incidental environmental benefits to using restoration of Great Marsh Island as the disposal alternative. Use of Great Marsh Island is the least cost disposal option. The report will be edited to state the environmental benefits are incidental environmental benefits and can be added to this section.

Discussion: Response adequate.

Action Required: Make changes in the report from ecosystem restoration to incidental benefits from implementing the least costly plan.

Action Taken: All sections in the report referring to NER benefits have been removed and replaced with incidental environmental benefits. See the Executive Summary and Sections 1.7, 5.4.3, 5.6, and 5.6.2.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

6. Agency Goals and Objectives, Page 30. Under agency goals and objectives, number 5 states that we are to preserve the recreational and natural resources. This should be changed to protecting, conserving and/or restoring, at least for the natural resources.

District Response: Concur suggested change will be made.

Discussion: Response adequate.

Action Required: Report should be changed as indicated in District response.

Action Taken: Changes have been made to Section 4.7-Agency Goal or Objective, under number 5.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

7. Section 2, Page 8, Cross Currents. Please explain in layman's terms what the problem is that is caused by the cross currents affecting the navigation on the Federal channel. Please explain at what draft the cross currents become a primary navigation and safety concern versus just a nuisance to navigation.

District Response: On Page 17 of the Economic Conditions the navigation restrictions are discussed in detail. For inbound vessels, those transited greater than 33 feet are subject to navigation restrictions on the ebb tide, for outbound vessels; vessels with a transit draft of 36 feet or more are subject to the navigation restrictions on the ebb tide. A summary of the navigation restrictions will be added to section 2.2.2 as requested.

Discussion: Response adequate.

Action Required: Please provide additional language as indicated in District response. Due to the technical nature of this discussion please ensure that language provided is in layman's terms.

Action Taken: The above description has been added to section 2.2.2.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

C. Plan Formulation

1. Section 1.7 Planning Process and Report Organization. The last paragraph of this section indicates that the study will result in an NED plan, an NER plan and a combined NED/NER plan; however no NER plan or combined NED/NER plan is presented in the report.

District Response: Concur, Ecosystem restoration is not a planning objective for this study. The environmental benefits are an incidental benefit of using the dredged material for beneficial use. The report will be changed to reflect that the environmental benefits are incidental environmental benefits; references to NER benefits will be removed.

Discussion: District response adequate.

Action Required: Change the Report as indicated in CESAJ response. However, eliminate portion of the response after the "June 2009".

Action Taken: All sections in the report referring to NER benefits have been removed and replaced with incidental environmental benefits. See Page x and Sections 1.7, 5.4.3, 5.6, and 5.6.2. Also CESAJ Response has been updated.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

2. Section 5.4.3, 2 Widen Alternative. The "Widen" alternative is eliminated from consideration because it does not reduce shoreline erosion and does not offer delay reductions for all vessels, however the Economic Appendix, Section 5.0 indicates that the "Widen" alternative maximizes net economic benefits. Thus the "Widen" alternative should be identified as the NED plan. In addition, the "widen" alternative does not appear to have been optimized. It appears that additional channel widening would allow reduction in vessel transit constraints.

District Response: Alternatives were evaluated based on the four criteria and four accounts. The most complete alternative that provided the highest "net beneficial effects" was the Relocation of the Mile Point Training Wall Alternative. Please see the provided attachment that entitled "Plan Selection". The Widening Only Alternative is not a complete alternative as a standalone alternative however when paired with the Groin Field or the Relocation Alternatives, the Widening Alternative becomes a complete plan.

The cost of the Groin Field will be added to the cost/benefit analysis for the Widening Alternative. During the analysis of this alternative it was determined that there would be a need for 6 groins spaced 420 feet apart, 150 feet in length, and a crest width of 15 feet. The location of this groin field would occur in an area where existing depths immediately off of the shoreline quickly drop to approximately -20 feet MLLW and the structures would terminate at an existing depth of approximately -30 feet MLLW. In order to complete the construction of the groin field, and estimated 22,500 tons of stone per structure would be required or a total of 135,000 tons for the field. The NED plan is not expected to change from the current TSP. The Main Report and Economics Appendix will be updated to reflect this.

Discussion: Channel Widening appears to be a viable alternative, indeed based on the information contained in the Economics Appendix; it is clearly the NED plan. The widening only alternative needs further development and should be included in the final array of alternatives based upon the information provided to date. Additional development of the alternative such as optimization of its width, further engineering and cost analysis, etc are needed.

Action Required: The District will identify the plan that reasonably maximizes net NED benefits and is environmentally acceptable, and will label this as the NED plan. The PDT will not eliminate alternatives simply because they do not resolve all the problems, opportunities or objectives of the study. Therefore, the PDT will optimize the widening alternative by evaluating a reasonable range of channel widening options to ensure that the optimum widening alternative is identified. The optimal

widening alternative will be carried through to the final array of alternatives. If CESAJ chooses not to perform Ship Simulation, then the district must obtain a waiver from HQUSACE. If the widening only alternative turns out to be the NED plan, the District may still recommend a Locally Preferred Plan understanding the cost sharing implications.

The District will add information in the report on how each alternative in the final array of alternatives is comparatively compatible with the deepening study.

Action Taken: A ship simulation was conducted on the widening only alternative per this PGM. The results of the ship simulation, which was conducted 14-17 September 2009, show that the pilots would not lift the restrictions, even for high powered vessels, under the widening only alternative, indicating no difference between the future without condition and the alternative. Thus benefits would not exist for this alternative, due to the simulation results, and therefore would not have a positive BCR. Section 5.4.3 of the main report, Engineering Appendix A under Attachment D, and Economics Appendix B were updated to reflect the results of the ship simulation study.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

3. Optimization of Alternatives. The length and width of the various measures considered in the report is not optimized. At a minimum, for the alternatives that have been carried forward to the final formulation process length, width and location decisions should be explain to demonstrate that the recommendation represents the optimum use of resources.

District Response: The Widening alternative is not a complete alternative as it does not meet the study objectives. This alternative was not carried to final design optimization due to this. The only alternative that was successful in eliminating the difficult crosscurrents was the Relocation (Reconfiguration) of the Mile Point Training Wall Alternative. Detailed specifications of this alternative are in the Engineering Appendix A.

Discussion: District needs to provide additional information on how flow improvement channel, San Pablo Creek widening, and training wall dimensions were determined.

Action Required: Dimensions (length, depth, width) of the final alternatives and associated elements must be optimized based on economic analysis. For example: the training wall alternative includes not only the relocated training wall features, but the flow improvement channel element, the San Pablo Creek element, and a material placement area element. Provide full and complete analysis and discussion on how the length, width, and depth of these elements were optimized including engineering, environmental, and economics (net benefits analysis) as appropriate.

Action Taken: The Relocation of the Mile Point Training Wall, including restoration of Great Marsh Island, was a result of a vigorous Value Engineering Study (which is located attached to the Engineering Appendix A). Two ship simulations were conducted to test the results of the reconfigured training wall. Both show favorable results in the ability to lift restrictions at Mile Point. The Ship Simulation Reports are Attachments C and D in the Engineering Appendix, also see paragraph 14 of Appendix A for optimized dimensions of the training wall. The net benefits and selection of the NED Plan can be found in section 5.6 of the main report. The Flow Improvement Channel is approximately $300,000 per the Cost Engineering Appendix (located at the end of the Engineering Appendix A), 0.5% of the total cost of the project. The flow improvement channel would be constructed to offset any adverse impacts caused by closing off the breakthrough of Great Marsh Island. The dimensions of the FIC were computed primarily by using historical data. See figures 15-17 of the main report and Plate A-10 in the Engineering Appendix A. The design specifications can be found under paragraph 15 of Appendix A.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

4. Relationship to the GRR. Please describe how this project and its features will be considered in the current GRR for the harbor and channel deepening. There may be some efficiency to be gained. Please ensure that there are not conflicting goals and objectives or these two efforts.

District Response: The Widening Alternative will be reevaluated under the GRR for additional transportation cost savings as it relates to the Deepening Study. We acknowledge that it was not a complete alternative for this study however it may benefit from future analysis under the GRR. The existing and projected fleet for the current channel dimensions was used to justify this project. This project is specifically focused on the Mile Point area and solving the problems associated with this area, it is not conflicting with the GRR.

Discussion: CESAJ will revisit the assumptions of the two efforts and how the two studies relate to one another to avoid conflicting assumptions.

Action Required: CESAJ to fully describe in the report how this study and its features relate to the GRR2 effort and ensure avoidance of conflicting assumptions.

Action Taken: A write-up was added to the main report detailing the relation of the GRR 2 to the Mile Point Feasibility Study; as is required per this comment. See Section 1.6.3. The widening alternative was eliminated from further consideration based on the ship simulation report, see Section 5.4.3. The widening only alternative does not alleviate the navigation restrictions.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

5. <u>No Action Alternative, Page 39</u>. The No Action alternative was not eliminated, it just is not recommended.

<u>District Response:</u> Concur, this sentence will be rewritten.

<u>Discussion:</u> Response adequate.

<u>Action Required:</u> The comment will be resolved by implementation of the response.

<u>Action Taken:</u> Section 5.4.2 has been updated per above response.

<u>HQUSACE Assessment:</u> Implementation is complete. **Comment is resolved.**

6. <u>Rebuilding Training Walls, Section 5.4.1, Paragraph 6</u>. Why would one expect the rebuilding of training walls to affect navigation? It seems this might address erosion but hardly ever address navigation.

<u>District Response:</u> This alternative was evaluated to measure the affects of the crosscurrents if the wall was rebuilt. The wall as it exists today is in a deteriorated state and is often partially submerged. The crosscurrents have a direct relation to the navigation restrictions enacted by the St. Johns Bar Pilots.

<u>Discussion:</u> Response adequate.

<u>Action Required:</u> No Further Action Required.

<u>Action Taken:</u> Response has been added to Paragraph 6 of Section 5.4.1.

<u>HQUSACE Assessment:</u> Implementation is complete. **Comment is resolved.**

<u>7. Alternative VE-3B.a., Page 42</u>. For Alternative VE-3B.a., won't the closing of the gap in Great Marsh Island help address the shoaling problem in Chicopit Bay by increasing the scouring and sand carrying capacity of the currents in this area?

<u>District Response:</u> Concur once the Flow Improvement Channel is expected to restore the historical flows in Chicopit Bay and should have the above desired affect from closing the gap in Great Marsh Island.

<u>Discussion:</u> District to ensure that F.I.C is related to the project such as "Offsetting an adverse impact".

<u>Action Required:</u> District will evaluate this feature and its terminology and make changes as appropriate.

<u>Action Taken:</u> Additional verbiage was added to Section 5.4.3, number 4, to show the need for the FIC.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

8. Description of Alternative VE-#B, Page 50, Section 6. There is no description of the VE-#B alternative or Figure here to show layout of the recommended plan.

District Response: The figure for this is on Page 45 and can be added here as well.

Discussion: Figure hard to find.

Action Required: District to make explicit reference to the figure in the text.

Action Taken: Explicit reference to Figure 23 under Section 6.0 has been added to the text.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

9. Justification for Separable Elements. The tentatively selected plan includes dredging of San Pablo creek in the area of the St. Johns River to -12 feet (plus 1 foot overdepth). The total quantity of excavated material is estimated to be 889,000 cubic yards. Also, a flow improvement channel/small boat navigation channel is included that will be -6 feet in depth (plus 1 foot over depth), 80 feet in width and 3,623 feet in length. These appear to be separable elements of the project, however very little justification is provided for the inclusion in the proposed project. The report also needs to confirm that these are general navigation features and justify the proposed cost-sharing percentages. In addition, these elements do not appear to be optimized. The report needs to identify the benefits and costs associated with these elements and demonstrate that the designs are optimal.

District Response: This is not a separable element to the Tentatively Selected Plan. Dredging San Pablo Creek in this area is necessary to the design of relocation of the training wall. Also the Chicopit Bay Flow Improvement channel is necessary to restore the flows to the historical pre-breakthrough flows. Since the breakthrough of Great Marsh Island the area of the Flow Improvement Channel has shoaled in as can be seen on the Navigation charts on pages 24 and 25 of the main report.

Dredging of San Pablo Creek in the area of the St. Johns River to -12 feet (plus 1 foot overdepth) is necessary in order to achieve the desired velocity reductions of the ebb tide currents that would allow for the removal of the navigation restrictions currently in place. This velocity reduction was validated by Hydrodynamic modeling. In addition, dredging of this area to a required depth of -12 feet MLLW matches the authorized depth for the Intracoastal Waterway (IWW). The reduction of flow velocity along the western bank of San Pablo Creek in the vicinity of the current IWW channel alignment may eventually result in shoaling of the existing channel. By dredging the entire mouth of the creek, a simple realignment of the IWW will provide for continued navigation without the need for future dredging. During the

project VE Study an optimization of the design was accomplished by reducing the project dredging depth from -14 feet MLLW to -12 feet MLLW and by reducing the allowable overdepth from 2 feet to 1 foot thus reducing the quantity of material to be dredged from 1,300,000 cubic yards to 889,000 cubic yards. Any further reduction of dredging depth or footprint could compromise the desired reduction of the ebb flow velocity needed to accomplish the goals of the project and prevent the facilitation of IWW realignment. Optimization of the Flow Improvement Channel design was accomplished by attempting to align the channel to follow existing deep water and along the historical alignment of the deep water path that existed prior to the breakthrough of Great Marsh Island.

Discussion: Since these features can obviously be constructed separately, they are clearly separable elements. It is incumbent upon the District to fully explain why each element is included in the recommended plan. In addition, the scale and scope of each of these elements needs to be optimized.

Action Required: District needs to demonstrate justification (benefits and costs) for each element of the project, including optimization of length, width, and depth for these elements.

Action Taken: The restoration of Great Marsh Island is the least cost dredge material disposal alternative for the TSP (Relocation of the Mile Point Training Wall). As is detailed in the VE Study which can be found as an attachment to the Engineering Appendix A, use of Great Marsh Island offers a cost savings to the project of approximately 9 million dollars. Dredging a Flow Improvement Channel at Chicopit Bay is necessary to prevent adverse impacts caused by closing off the breakthrough of Great Marsh Island, see Sections 4.1 and 5.4.3 (number 4). The Flow Improvement Channel is estimated at $300,000, which is detailed in the Cost Engineering Appendix within the Engineering Appendix A. A description has been added to Section 6.0 of the main report to show the different parts of the plan and how they are all needed for the complete project.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

D. Cost Effectiveness and Incremental Cost Analysis.

1. Incremental Analysis of Erosion Control Flow. Erosion Control appears to be a separable element. As such, it must be justified by incremental benefits. The report should provide an analysis of the incremental benefits of erosion control. It is not clear from the text of the report if the erosion problem is related to the Corps navigation channels. No NED or NER benefits are identified for elimination of the erosion problem, which leads to the question of whether elimination of erosion is economically justified.

District Response: The problem of the erosion of the Mile Point shoreline is related to the difficult crosscurrents. Hydrodynamic modeling was done to determine which,

if any, of the alternatives were successful in reducing these crosscurrents. The study is in the interest of navigation with particular reference to erosion, as is stated in the study authorization. Erosion is not a separable element in the study. The alternatives that were successful in eliminating these crosscurrents were the Relocation of the Mile Point Training Wall Alternative and the Widening Alternative with a Groin Field. NED benefits were computed for the transportation cost savings of the navigation benefits based on the St Johns Bar Pilots restrictions to navigation. NER benefits were not computed as a part of this study and reference to NER benefits will be taken out of the report and replaced with incidental environmental benefits, as was discussed in the June'2009 HQ RIT meeting.

Discussion: Previously discussed.

Action Required: The Corps does not have a general authority to address riverine shoreline erosion to private property and the District should not recommend Federal participation in separable elements to eliminate such problems. However, if the erosion problems can be addressed as an incidental benefit which results from implementation of the NED plan (i.e. at no additional cost) no further justification is required.

Action Taken: All sections in the report referring to NER benefits have been removed and replaced with incidental environmental benefits. See Page x and Sections 1.7, 5.4.3, 5.6, and 5.6.2. Incidental environmental benefits were computed; see Section 5.6. The incidental benefits are provided at no additional cost to the study.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

2. Appendix D, 9 Incremental Analysis. This section does not appear to identify alternate means of achieving the required 18.2 acres of wetlands for the purpose of mitigation. Incremental analysis should reflect only the costs of the mitigation, not the entire project costs as are apparently exhibited in Table 1 on page 9.

District Response: The entire project costs include use of Great Marsh Island for all the dredged material of the TSP. This is the least cost alternative and also provides incidental environmental benefits. The report will be edited to replace NER with incidental environmental benefits. This was discussed at the June 9, 2009 HQ RIT meeting and was determined to be an acceptable response. Since these benefits are not NER benefits, CE/ICA is not required.

Discussion: Further discussion took place on August 13, 2009 on whether there was a need to move forward with CE/ICA on the 18.2 acres.

Action Required: Per guidance, the District does not need to perform additional CE/ICA on the 18.2 acres of mitigation.

Action Taken: No further action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

3. Cost Effectiveness and Incremental Cost Analysis. For the draft cost effective/incremental analysis Appendix, there are many different issues to be addressed. Compensatory mitigation (18.2 acres) should not be part of a CE/ICA for the NER plan element. This is something we need to do regardless. However, the PGN does require a CE/ICA on mitigation features. A CE/ICA must also be conducted on the formulated NER feature(s). ER 1005-2-100 Section 3-5 c (2), Appendix C Section C-3 and Appendix E, Section E-36 should all be consulted for proper process. In this case, it is unclear how the project team moved from 0-45 acres of habitat, then on to 53 acres of habitat. Likewise, it is unclear what benefit the flow improvement channel will have. If the FIC is for EQ outputs, it must be demonstrated that it is "worth it". Once that is justified then the material removed from the channel can be used to move the restoration from 45 to 53 acres if that increment is needed and significant. Planting nothing should not be a part of the CE/ICA or the plan formulation…even for the mitigation element. A better scenario would be to look at alternative spacing such as 1,2 and 3 foot increments for planting densities. So, for the addition of the NER components recommended by the VE study, the PDT should a) justify the FIC as a first increment (since it is a separable element and is the sources of the 8 acre increment of marsh restoration, b) formulate increments for the restoration of Great Marsh Island from full closure of the breach and full footprint restoration down to whatever small increment should be the first. These increments should include but not be limited to a variety of ecotypes and habitat outputs from the beneficial use of the excavated material to address the navigational problems (this element of the overall project must also be economically justified on its own using the PGN procedures for navigational planning and justification). If this is the least cost disposal option then this point should jump off the page in the Executive Summary and subsequent report pages. At this time it appears as a fall out from the VE process.

District Response: The additional habitat is a result of the amount of dredged material and the restoration of Great Marsh Island. The Flow Improvement Channel is required because in restoring Great Marsh Island, there could be adverse impacts in Chicopit Bay due to shoaling of this area caused by the breakthrough of Great Marsh Island. The Navigation Charts on Pages 24-25 show the change in depths in this area from pre-breakthrough to present day. The VE process details the cost savings of using Great Marsh Island restoration for the dredged material and shows the cost savings. This can be further detailed in the Executive Summary. The environmental benefits associated with this project are not NER benefits, they are incidental environmental benefits. The report will be edited to replace NER with incidental environmental benefits. This was discussed at the June 9, 2009 HQ RIT meeting. Since these benefits are not NER benefits, CE/ICA is not required.

The purpose of the Flow Improvement Channel (FIC) is discussed in Paragraph 15 of the Engineering Appendix and Section 5.4.3 under number 4. Construction of the FIC will provide a head start to a process that would be expected to occur naturally upon the closure of the current hydrologic connection between Chicopit Bay and the St. Johns River. Without constructing this feature it will take more time to establish this tidal exchange and flushing of the sediments within Chicopit Bay potentially leading to degradation of the Bay in the Interim and sedimentation in the adjacent IWW Channel. In addition to providing for an immediate improvement of tidal exchange, the FIC will provide an access route for small boat navigation that is currently utilizing the breakthrough at Great Marsh Island that will be closed by construction of the West Leg feature of the relocated training wall. Also, sediments removed in the construction of the FIC will not be available to produce shoaling elsewhere within the Federal Navigation projects in the vicinity.

Discussion: Further discussion took place on August 13, 2009 on whether there was a need to move forward with an additional CE/ICA.

Action Required: The results of that meeting are that the district does not need to coordinate further with SAD and HQ to develop/review CE/ICA methodology.

Action Taken: All sections in the report referring to NER benefits have been removed and replaced with incidental environmental benefits. See Page x and Sections 1.7, 5.4.3, 5.6, and 5.6.2. As is stated above no further action is required for CE/ICA. *Of note, Appendix E has been changed to Appendix D.*

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

E. Economics.

1. General Comment of Economic Justification. The economic justification for the tentatively selected plan hinges on future development of container facilities at the port, together with substantial increases in the number of container ships transiting the St. Johns River channel. The report indicates that in 2007-2008 there were 25 draft restricted containerships, out of a total of 366 draft restricted vessels, transiting the channel. Thus containerships represent less than 7% of the restricted draft fleet under existing conditions. By 2010, when a new container facility commence operations, the number of draft restricted containerships is forecasted to increase to 200 vessels out of a total of 540, representing about 37% of the fleet. By 2015, when a second container facility is expected to develop, the number of draft restricted containerships is forecasted to be 468 vessels out of a total of 831, or 56%. By the end of the period of analysis 1,414 draft restricted containerships are forecasted out of a total 1,981 vessels, which represents a little over 71%. These numbers suggest remarkable growth in the container trade at Jacksonville and appear to be somewhat speculative.

Because the proposed project justification relies to a large extent on the containership fleet forecast, it is essential that the report makes a strong case that the container facilities will, in fact, be constructed and, more importantly, that the forecasted number of vessels will actually call at the port. It is suggested that empirical evidence, including empirical data from similar ports should be used where ever possible to document the analysis contained in the report. The following comments highlight specific areas where the economic analysis needs to be strengthened.

District Response: Refer to the response under Development of New Container Facilities (e.viii).

Discussion: The following phased approach will be taken in the reanalysis:

Phase I:

a. Additional Year of data collection and show container TEU count in historical traffic
b. MOL/Hanjin update for constrained vessel calls to JaxPort
c. Hinterland analysis based on least cost trucking; least cost trucking for 5 following Ports will be quantified: Charleston, Savannah, Jacksonville, Tampa, and Mobile). The least cost trucking hinterland will basically be Jacksonville Metro, Southern Georgia, Tallahassee/panhandle eastern Alabama, parts of central Florida/Orlando and coastal central Florida.
d. Claim only container traffic benefits distinct to this hinterland; only shift MOL/Hanjin container traffic for Charleston/Savannah in Phase I that services the least cost trucking hinterland.
e. Establish benefit analysis as follows: (1) Base year with MOL and Hanjin online and additional MOL calls since its completion in Jan 2009. Bulk vessel constraints, as previously, will also be included in the revised analysis.
f. Assume base year 2014

The benefits to Phase I for containers will be based on the least cost trucking hinterland and the number of (constrained) vessels needed for this delivery.
SAJ will request IPR buy-off from higher authority on Phase I analysis.

Phase II:

a. Expand the hinterland based on least total delivery cost ($/TEU), to include all shifted Charleston/Savannah traffic to Jacksonville Harbor that goes beyond the Phase I hinterland, ie, to St. Louis, Chicago, etc., that will result in vessel calls to JaxPort. This allows claiming additional containers calls to JaxPort. In order to claim additional NED benefits based on LEAST TOTAL DELIVERY COST the analysis would need to be expanded to show that container handling costs ($/TEU) at MOL/Hanjin (private terminal) is less expensive than Savannah (public terminal). The analysis would need to demonstrate this savings more than offsets higher trucking costs from Jax to St. Louis, Chicago, central Georgia, etc. (which mileage-

wise favors Savannah). This would allow claiming additional cargo and (constrained) vessels from an NED perspective to Jax Harbor.

b. Consider MOL/Hanjin transshipment traffic and possibly west coast diversion to Jaxport (as new info from Port); west coast diversion may not be NED cost savings.

c. SAJ will request IPR from higher authority for consensus prior to applying growth rates for 50 year period of analysis for the expanded least cost delivery hinterland. It is imperative that there is consensus on growth rates applied to the expanded hinterland analysis.

d. Revise the benefit analysis for the reconfiguration of training wall analysis only. Ship simulation has indicated that the pilots will not remove restrictions to the widening only alternative, so this alternative drops out from the benefit evaluation.

Action Required: The District must clearly support the fleet forecast by demonstrating the growth in commodity demand, converting commodity demand to a number of containers and showing that this number is adequate to support the forecasted fleet. The analysis should define the competitive area of the port, the cargo types, origins and destinations, routes and operating constraints. The simple fact that facilities exist, or are being constructed is not sufficient, in and of itself, to support the kind of growth implied by the fleet forecast provided in the report. The District to revise analysis so that it is responsive to HQ concerns starting with hinterland demand and commodity forecast leading to fleet forecast. District to follow the nine steps outlined in ER 1105-2-100, Chapter 3 and Appendix D. District must explain how commodity forecast is based on hinterland demand, and how that relates to the fleet forecast.

Action Taken: See the revised Economic Appendix B Section 4.3 Commodity Projections, and Section 2.0 Determine Economic Hinterland and the main report Section 2.4.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

2. Decline in Dry Bulk Cargo, Page 19. The wording at the end of the first paragraph is awkward and does not explain the longer term decline in dry bulk cargo or reference the Econ Appendix.

District Response: Correct the sentence structure on page 19– Remove sentence "Dry Bulk is expected to grow (which doesn't have a period at the end – the rest of it should then read fine). The projection for dry bulk is referenced is Section 4.4 of the Economics Appendix.

Discussion: To be further discussed in Economic Meeting to develop plan.

Action Required: This is an editorial change to be corrected. There are no issues with the bulk vessel benefit analysis.

Action Taken: Section 2.4 has been updated per the action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

3. Period of Analysis, Top of Page 21. It states that the Mile Point area is still actively eroding and will continue to erode. The report somewhere should state what the period of analysis is for each forecasted water resource problem.

District Response: Reference will be made to the navigation charts shown on pages 24 and 25 which show the erosion from 1957 to 2004.

Discussion: To be further discussed in Economic Meeting to develop plan.

Action Required: The erosion aspect for the Mile Wall training wall reconfiguration will be evaluated to quantify NED benefits as an incidental benefit to the training wall reconfiguration design for the navigation. It was agreed that this analysis can be done using a spreadsheet (ie, no need for coastal type of analysis such as BeachFx or Storm Damage Modeling that is unique to the coastal storm damage/erosion process). The erosion is not expected to directly undermine structures (ie, it is assumed that under without project conditions the locals will construct a bulkhead in some future without project year).

At a minimum the Mile Point erosion quantitative analysis plans to claim loss of land value (as provided by Real Estate based on land value per sq ft. subject to without project erosion). In addition the analysis will assume that the future constructed without project condition bulkhead (in some future year) will be subject to damage/maintenance under future erosion conditions. This assumed bulkhead will not need to be built if the Mile Point project is constructed. The bulkhead assumption will be incorporated in the damage reduction/benefit stream. Guidance has been requested from SAD how best to consider this in the benefit evaluation.

Action Taken: Per guidance provided; erosion benefits are assumed to be an incidental effect of the Relocation of the Mile Point Training Wall Alternative. Relocation of the Mile Point Training wall reduces the effects of the crosscurrents on the Mile Point shoreline. See Section 5.4.3.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

4. Commodity Forecast. The report must provide a forecast of commodities moving on the waterway, including both imports and exports, and identify the commodities that are expected to move in containers. The commodity forecast must distinguish the

drivers for growth in this market area. The commodity forecast must be clearly associated with the number of containers projected to move through the port over time. Increases in the number and size of container vessels will presumably be driven by import and export commodity demand and the associated use of containers.

District Response: Refer to the response under Development of New Container Facilities (e.viii).

Discussion: Section 4.1 of the economics appendix, Waterborne Commerce trends, displayed the historical trends for the major commodity categories. The revised report will include container TEU's as part of the historical trend. The container forecast will consider the historical trend and the container shift from MOL/Hanjin to service the Jacksonville Hinterland. It is SAJ's understanding that the Savannah Harbor used the services of Global Insight, a commodity forecasting firm, for forecasting into the 50 year period of analysis. After the completion of Phase I and the analysis for shift of container traffic from MOL/Hanjin operations from Charleston and Savannah to service the expanded container hinterland, a decision will need to be made on the methodology for container growth (based on what is assessed from the historical container traffic at JaxPort and the shift in container traffic from MOL/Hanjin operations to Jacksonville). An IPR will be requested.

Action Required: The report must provide a forecast of commodities moving on the waterway, including both imports and exports, and identify the commodities that are expected to move in containers. The commodity forecast must distinguish the drivers for growth in this market area. The commodity forecast must be clearly associated with the number of containers projected to move through the port over time. Increases in the number and size of container vessels will presumably be driven by import and export commodity demand and the associated use of containers.

Action Taken: The economic analysis has been updated per the comment. See the Economics Appendix B Section 4.3 Commodity Projections and Section 2.4 of the Main Report.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

5. New Container Facilities. The report lacks information regarding the new container facilities. The report needs to make a convincing case that these facilities will be developed. Some basic information would include acreage, rail and road access, number of berths, number and capability of cranes.

District Response: Refer to the response under Development of New Container Facilities (e.viii).

Discussion: The revised economics appendix will elaborate on basic information to include acreage, rail and road access, number of berths, number and capability of cranes at the new container facilities.

Action Required: The report lacks information regarding the new container facilities. The report needs to make a convincing case that these facilities will be developed. Some basic information would include acreage, rail and road access, number of berths, number and capability of cranes.

Action Taken: The economic analysis has been updated per the comment. See the revised Economic Appendix B Section 9.7 Dames Point Container Terminal Throughput Capacity Estimates.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

6. Section 2.0 Vessel Fleet Analysis. It is not clear how the Fleet Forecast contained in Table 21 of the Economic Appendix was derived. The report provides an estimate of the number of vessel calls affected by Mile Point, but there is no information on how this estimate was developed.

District Response: Refer to the response under Development of New Container Facilities (e.viii).

Discussion: To be further discussed in Economic Meeting to develop plan.

Action Required: The fleet forecast must be based through the commodity forecast and projected number of containers. The commodity forecast must be based in the hinterland demand.

Action Taken: The Economic Analysis has been updated per the comment; see the revised Economic Appendix B Section 9.0 Determine Future Commodity Movement Cost and ensuing subsections for the different vessel fleet projections derived from the commodity Projections (section 4.3).

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

7. Vessel Calls, Section 2.2.2. How many trips or calls does the Port average? Maybe present this point by day or month to optimize the story for the layman. How many ships a day need to delay their trips? How many per week…whatever makes the appropriate presentation of this fact.

District Response: Table 21, "Annual Vessel Calls Affected by Mile Point, 2010-2062" identifies the annual calls by major vessel categories, including container, dry bulk, general cargo and liquid bulk. Also, Table 1 of the Economic Appendix displays the Jacksonville Harbor Annual Vessel Calls for three consecutive years time periods. The planning guidance does not require a display of this information on a daily or monthly basis (it actually recommends to present data in aggregate form). The consideration for vessel delays was accounted for in the computation of the vessel delays and vessel delay reductions, which are the source of the transportation

savings benefits. (The main report can state that there has been an average of about 4200 vessel calls per year at Jax Harbor based on the 2005 to 2008 time period).

Discussion: To be further discussed in Economic Meeting to develop plan.

Action Required: Please see required action for previous comment (e, vi)

Action Taken: Appendix B has been updated, see Section 5.3 of the Economic Appendix for delayed vessel calls.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

8. Development of New Container Facilities. The economic analysis assumes that two new container facilities will be constructed and that each will attract three to four new container services. The economic analysis provides very little information regarding these new services and the commodity forecast does not appear to support the extent of development claimed for these services. The container fleet forecast is highly speculative. The economic analysis needs to make a clear and convincing case that these container services will actually come to Jacksonville. This includes a thorough explanation of the demand for containers, the commodities that will move in these containers.

District Response:

I. Jacksonville Harbor Container Terminals

Traditionally, Jacksonville Harbor has been served by two publicly owned container facilities owned by Jax Port as a non-operating landlord port that leases space at Blount Island and Talleyrand marine terminals. However, recently two major global container service providers have entered into long term leases to develop their own marine container terminals for private operation. The terminals are adjacent to each other at the Dames Point location about 10 miles from the sea buoy. The terminals have highway connections to I-95 and also to I-10. Drayage to rail intermodal terminals adjacent to I-95 is also available.

The MOL (TraPac) marine container terminal took three years to construct and formally opened January 2009 with two berths (1200 ft. each) and six Post-Panamax shore side container cranes (two 50-ton and four 40-ton capability).[1] The terminal occupies 158 acres and is leased by Mitsui (part of the New World Alliance) for a twenty year period with options. The total investment cost of the new facility including equipment is nearly $300 million. Reportedly, Mitsui paid for half of the total site development investment, about $230 million, and will pay for the rest in annual lease payments. The estimated throughput capacity of the existing TraPac facility is 800,000 TEU annually with options for expansion.

[1] See, http://www.jaxport.com/sea/mol.cfm that describes "TraPac Container Terminal at Dames Point" and also JAXPOT news & Notes, "TraPac Container Terminal set to open Jan. 12" (January 8, 2009).

In December 2008 Jax Port signed a 30-year lease agreement with Hanjin Shipping Company calling for construction of a 90-acre container facility at the Dames Point Marine Terminal adjacent to the existing TraPac terminal. The lease contains an option for further expansion. The $300 million Hanjin Container Terminal is expected to open for business by summer 2013 and will become a key hub operation for Hanjin's ECUS port activity. The estimated throughput design capacity is stated to be 800,000 TEUs annually.[2]

Discussions with both Mitsui and Hanjin representatives indicate that the impetus for the development of their own private marine container terminals on the East Coast of the U.S. (ECUS) are the strategic location to establishing a strong regional presence for the southeast and also Midwest cargoes. Although both carriers have a number of services calling Savannah Harbor, both have expressed the desire to own and control their own facilities in deference to the exclusive use of a public port operator such as at Savannah.

II. Mile Point Container Vessel Projections

The Mile Point projections span between 2010 and 2061 for without-project depths, assuming a fifty year project life effective 2012. The Mile Point projections for container vessels are heavily influenced by the development of two privately owned and operated large container terminals at Jacksonville Harbor in the vicinity of Dames Point (refer to section 4.3 for further explanation of container vessel trends and projections for Jacksonville Harbor). The new terminals were projected to each add at least three new weekly services at their openings in 2009 and 2015, respectively.[3] Subsequently, more container services are likely particularly from other lines who would lease space in these two relatively large marine container terminals.[4] The new container services from Mitsui and Hanjin and affiliated lines would be global in nature, primarily east west and transiting the Panama Canal with Panamax category vessels until the expansion of the Canal is completed circa 2014/2015 to allow Post-Panamax container vessels to transit.

The Mile Point projections did not explicitly include other new third container party lines at the Mitsui and Hanjin terminals. The Mile Point report reflects an existing Jacksonville Harbor container fleet that is largely not Panamax in size but predominantly smaller and regional in service scope with consequently comparatively

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[2] The actual throughput capacity of the 90 acre facility will be about 0.5 million TEU annually. The fully developed facility is likely to be about same size as the TraPac facility with regard to a design throughput of 800,000 TEU annually. The Hanjin Terminal will most likely be nearly identical in size and build out to the MOL (TraPac) facility pending some further land development, etc. Originally the Hanjin Terminal as discussed in early 2008 was to be similar to TraPac and this likely will still be the result of additional development of the two contiguous properties.

[3] While the official opening date for the Hanjin terminal is yet to be established the Mile Point analysis advanced the speculated opening date, 2013, to 2015 to allow for construction and possible start up delays.

[4] Interviews with both TraPac and Hanjin representatives indicate that they expect to handle substantial third party tonnages and other container vessels at their private container facilities at Dames Point in addition to their own services and related cargoes.

few (Mile Point tidal) draft impaired container vessels (inbound sailing drafts >34 feet) calling Jacksonville Harbor in 2008. The existing container fleet affected by Mile Point tidal restrictions (inbound sailing draft >34 feet) in 2008 was quite small, about 25 vessels of which eight were Sub-Panamax and 16 were Panamax. The Panamax vessels were operated by Hamburg Sud calling Talleyrand, for example the MV Cap San Lorenzo with Loa of 804 feet and beam of 105.6 feet, is representative of the largest container vessels calling Jacksonville Harbor in 2008 before the inauguration of calls by Mitsui. . Although a Jacksonville representative from Hamburg Sud talked about the desirability of shifting a Panamax service from calling Savannah to calling Jacksonville this was not included in the Mile Point projections. Moreover, the Hamburg Sud services and vessels are configured for the ECSA trades and not particularly affected by without-project conditions as related to the authorized channel depth of 40-ft. Although it is possible that these services could be upgraded to larger Panamax category container vessels with deeper drafts this appeared unlikely at the time of the Mile Point projections which already had 16 draft constrained Panamax container vessels absent any other new services calling Jacksonville Harbor.

The comparatively few existing (2008) Panamax container vessel size category calling Jacksonville Harbor was projected to be augmented by 175 MOL (Mitsui) larger Panamax category container vessels reflecting new services calling the Mitsui terminal when fully completed in 2009. Similarly, the Mile Point container fleet, which includes as noted Panamax and Sub-Panamax container vessels that would not likely benefit from with-project conditions (deepening >40-ft), would expand from 234 annual calls in 2014 to 468 calls, reflecting new Panamax category container vessel services calling the Hanjin terminal when fully completed in 2015.

The Mitsui Panamax category container vessels, 175, and the Hanjin Panamax category container vessels, 234, are all expected to be the largest Panamax in size that would be draft constrained for existing without-project conditions (40-ft.) at Jacksonville Harbor. It is possible that other container vessels Panamax or smaller will call these terminals by third party operators who consequently may or may not, respectively, benefit from with-project (deepening) conditions. Consequently, these uncertain third-party Panamax and non-Panamax container vessel calls related to the expected commercial development of the Mitsui and Hanjin terminals were not included in the Mile Point projections of sailing draft impaired container vessels (>34 feet). The Mile Point projections show 200 affected container vessels (sailing draft >34 feet) in 2010 which is the 25 existing vessels and the 175 new Mitsui and affiliated lines vessels (reflecting three new weekly services and other calls). The 200 calls grow to 234 calls in 2014 and then are projected to increase to a total of 468 calls from the Hanjin and affiliated lines vessels.

The subset of projected Panamax container vessels that would benefit from with-project conditions with regard to deepening is 175 (Mitsui affiliated) plus 234 (Hanjin affiliated) or 409 vessels per year in 2015. These grow at a rate of four percent annually for the period between 2016 and 2019 and then at the lower rates as noted

previously. These vessels also benefit from Mile Point with-project conditions (as well as the small residual of other container vessels as previously noted.

III. Post Mile Point Projections

III.1 MOL/Hanjin Services

MOL recently, January 2009, opened the TraPac (Mitsui) container terminal in Jacksonville Harbor with the plan of having Panamax container vessels calling weekly, representing three global services. These services included two Far East (FE) ECUS strings (ESX and NYX) and one European ECUS (APX) string. There was also another FE ECUS service (CNY) planned to call Jacksonville but, there are no records of any vessel calling from this service. The CNY service calls Chiwan, Hong Kong, Busan, Kobe, Tokyo, Oakland, Los Angeles, Balboa, Manzanillo, Miami, Jacksonville, Savannah, Charleston, Norfolk, and New York

Currently there are two services calling the TraPac container terminal, designated as NYX and APX with the ESX service having been suspended for the foreseeable future.[5] The ESX service was cancelled at the end of March 2009 with the last vessel calling the container terminal on March 19. The NYX is a weekly service calling Shanghai, Ningbo, Yantian, Hong Kong, Kaohsiung, Manzanillo, New York, Norfolk, Savannah, Jacksonville, Miami, Manzanillo, Balboa, Los Angeles, and Busan. The APX service is also a weekly service which calls Manzanillo, Miami, Jacksonville, Savannah, Charleston, New York, Rotterdam, Bremerhaven, Felixstowe, New York, Norfolk, Charleston, Manzanillo, Los Angeles, and Oakland. This service appears to have on occasions skipped Jacksonville on its string of calls.

Table 1 contains a listing of the container vessels recently deployed on the ESX, NYX and APX services calling TraPac terminal at Jacksonville. These are all relatively large Panamax container vessels, >4000 TEU, with fully loaded sailing drafts of 44 feet. Assuming a two foot underkeel clearance a fully loaded 44-foot sailing draft implies a 46-foot project other things equal.

The two major global Far Eastern based container lines developing their own terminals at Jacksonville Harbor, Mitsui O.S. K. Lines and Hanjin Shipping, are both part of alliances with other major global container lines. Mitsui is part of the New World Alliance (NWA), consisting of Mitsui/APL/Hyundai. Hanjin is part of the CHYK Alliance, consisting of COSCO/Hanjin/Yang Ming/K Line. Consequently, the services of the alliances among with Mitsui and Hanjin partners calling their Jacksonville Harbor terminals will usually contain vessels often furnished by the other partners as well. This is evident in Table 1 wherein Hyundai had vessels calling on the ESX service as did

[5] The ESX service also called Savannah. During the latter part of 2008 and 2009 container lines have been consolidating services in response to the decline in trade. The cessation of the ESX service reflects the trend to reduce services to reflect lower business volumes affecting not only Jacksonville but also Savannah and other container ports.

Table 1. ESX, NYX, and APX Services Calling TraPac Terminal at Jacksonville

Vessel Name	LOA	TEU	Beam	Draught
ESX (FE ECUS)				
HYUNDAI GRACE	965	4,700	106	44
HYUNDAI UNITY	965	4,571	106	44
CMA CGM CHATEAU	??	??	??	??
NYX (FE ECUS)				
APL BEIJING	965	5,029	106	45
APL VIETNAM	965	5,029	106	45
HYUNDAI GOODWILL	965	4,700	106	44
MOL EXPLORER	965	4,803	106	44
APL VIRGINIA	965	5,018	106	45
MOL EXPRESS	965	4,646	106	44
APL SPINEL	965	4,729	106	44
HYUNDAI INTEGRAL	965	4,728	106	44
HYUNDAI VOYAGER	965	4,728	106	44
APX (EU ECUS)				
MOL Efficiency	965	4,646	106	44
APL Jade	965	4,391	106	44
APL ARABIA	965	4,890	106	44
MOL Endowment	965	4,800	106	44
MOL Endeavor	965	4,578	106	44
APL Egypt	965	4,890	106	44
MOL Endurance	965	4,578	106	44
MOL Excellence	965	4,646	106	44
APL Italy	926	4,389	106	43
APL Malaysia	965	4,890	106	44
APL Australia	926	4,389	106	43
MOL Innovation	965	4,434	106	43
CNY (SA ECUS)				
No Scheduled Calls				

Notes: TraPac is the marine container terminal operations subsidiary of MOL (Mitsui)

Source: G.E.C., Inc.

CMA CGM (which is no longer part of the NWA but has opted to continue to call Jacksonville Harbor apart from the alliance).

These alliances have several different ECUS services most of which currently call Savannah Harbor (underlined as noted). The New World Alliance had five ECUS services, CNY (Miami, Savannah, Charleston, New York, Norfolk, Charleston); NYX (New York, Norfolk, Savannah, Miami); NUE (Charleston, Norfolk, New York, Norfolk) ESX (Jacksonville, Savannah, New York Norfolk), and a Suez service, SZX (New York, Charleston, Savannah, Norfolk). Note that the ESX (East Coast South China Express) did not call Jacksonville prior to July 2008. In July 2008 the port rotation was changed (changes in bold) as follows: Ningbo; Shanghai; Chiwan; Hong Kong; **Balboa**; Manzanillo; **Jacksonville**; Savannah; New York;

Norfolk; **Balboa**; Ningbo It is likely that the NWA added one more vessel to the string concurrent with the inclusion of three additional port calls. Four of the five ECUS New World Alliance services call Savannah Harbor and four of the five ECUS services use the Panama Canal.

The CHYK Alliance has seven all-water ECUS services, including six calling Savannah Harbor (underlined as noted). Six of the services are Panama Canal and one service is Suez. The services and ECUS port rotations are as follows: AWH (Busan, New York, Wilmington, Savannah, Busan); AWC (Yanitian, New York, Boston, Charleston, Shanghai); AWY (Busan, Savannah, Wilmington, New York, Kaohsiung); AWK (Hong Kong, New York, Norfolk, Savannah, Shanghai); AWG (Busan, Savannah, Norfolk, Charleston, Xiamen); INX (Port Said; New York; Norfolk; Savannah; Port Said); and AIX (Valencia; New York; Norfolk; Savannah; Valencia).

These established services calling Savannah Harbor are relevant to Jacksonville Harbor for several reasons. Representative container vessel sailing draft distributions for Panamax (and Post-Panamax if applicable) are needed for Jacksonville Harbor to reflect future without project conditions owing to the development of two major new container terminals. The existing sailing drafts distributions at Savannah Harbor (currently a minus 42 foot project with a four foot underkeel and about four foot of tide) should have relevance for existing without-project conditions at Jacksonville Harbor and if possible for with-project conditions at Jacksonville Harbor. The problem is that a historical time series of large (>4000 TEU) Panamax container vessel sailing drafts does not exist for Jacksonville Harbor. Jacksonville Harbor until July 2008 had no regular container Panamax calls representing global services and no Post-Panamax calls akin to Savannah Harbor such as services provided by NWA (Mitsui et. al.) and CHYK (Hanjin et. al.). The weekly service (ECX) instituted by Mitsui has called only between July 2008 and March 2009 which is not many observations.

Both Mitsui and Hanjin are building terminals at Jacksonville and plan to call there with the largest Panamax container vessels under without-project conditions (and as currently draft constrained by the Panama Canal). Consequently, the sailing drafts for the Panamax vessels for the Mitsui services and the Hanjin services calling Savannah Harbor (by direction) are a good indication of what could be expected for Jacksonville Harbor under without-project conditions without Panama Canal expansion.

IV. Container Hinterland

Both MOL and Hanjin expect that they will route containers through their facilities at Jacksonville to serve Florida as far south as Orlando, the Southeast and Midwest. About fifty percent of the cargo is envisioned to serve the Midwest via rail from the two hubs at Jacksonville, Norfolk Southern and CSX Transportation. Both MOL and Hanjin anticipate that as terminal operating enterprises their subsidiaries will handle

substantial volumes of other containers for third parties who will call at their terminals. The breakdown provided by the two lines was that they anticipate handling as much as fifty percent of the terminal volume for third parties who are not part of the existing alliances. Both lines concede that the scale and scope of their Dames Point terminals is far greater than their anticipated services and that they will be serving other container lines as the only two privately developed and operated marine container facilities in the southeast US.

Additional information will be provided in a separate attachment.

Discussion: The revised economic analysis will provide additional information regarding the new services to call JaxPort . The container fleet forecast will be updated based on an additional year of data and information gathered from MOL/Hanjin operations at the new private terminals at Jacksonville and the markets to be serviced by these vessel calls to JaxPort. Population projections at the inland hinterland, assessment of distribution centers, and the commodities that will move in these containers will be assessed in the revised economic analysis..

Action Required: Information provided is helpful and should be provided. However, full origin to destination delivered pricing must be presented to support the commodity forecast. Please see required action for comments e.vi and e.vii.

Action Taken: The Economic Analysis, Appendix B, has been updated per the comment; see Section 4.2.2 of Appendix B.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

9. Coast Guard Casualty Data, Section 4.2.1. The Coast Guard casualty data presented in the report indicate that navigation problems are distributed all along the St. Johns River. The report does not provide a clear link between currents in the Mile Point area and navigation problems. The report should provide specific instances where the currents in the Mile Point area contributed to vessel damages and safety problems to support the need for the operating constraints imposed by the pilots.

District Response: Figure 19 shows the Project area, Mile Point, where the Intracoastal Waterway (IWW) intersects with the St. Johns River, allisions, collisions, and groundings were all reported. These findings highlight the concern and safety risk posed by the present hydrodynamics of Mile Point. Past discussions with the St Johns Bar Pilots indicate that underpowered vessels have actually been turned around during the ebb tide at Mile Point. It is such a safety issue that the U.S. Coast Guard Captain of the Port and the St Johns Bar Pilots enforce the navigation restriction. Additional specific incidents will be added to this section.

Discussion: Discussion was on how the St. Johns Bar Pilots rules are being used to prevent safety issues in Mile Point.

Action Required: Casualties presented was up and down the river and not clustered in the Milepoint area. District needs to provide data and further detailed discussions on casualty data in Milepoint area.

Action Taken: Information has been added to Section 4.2.1 on the Coast Guard risk reduction measures as well as how the St. Johns Bar Pilots use the navigation restrictions to allow vessels to more safely transit the Mile Point area.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

F. Project Cost Sharing.

1. Inconsistencies in Total Project Cost. The total cost of the selected plan is estimated at $53,852,000 and interest during construction (IDC) is estimated at $3,307,000 in Section 5.6.2 of the Main Report. Section 5.0 of the Economic Appendix has the same total cost estimate but estimates IDC at $3,136,000. The difference in IDC is likely due to different interest rates; however the reason is not indicated in the report. Table 15 in Section 6.8.2.4 of the Main Report indicates total project cost is $46,888,664. The differences in the cost estimates need to be clearly explained in the report. If "ballpark" costs were employed in the initial screening this should be explained, and if there are differences in price level or interest rate these should be noted. The text should also indicate when the report is referring to "economic" costs and when it is referring to "financial" costs.

District Response: Concur: The main report will be updated based on the IDC costs reported in the Economic Appendix and will be corrected for the inconsistencies.

Discussion: Response adequate.

Action Required: Incorporate responses into the report.

Action Taken: The main report and Economic Appendix have been updated and corrected for inconsistencies; the total FY11 project cost is estimated at 50 million. Cost risk analysis has been completed, documentation can be found in the Cost Engineering Appendix; which is an attachment to the Engineering Appendix A.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

2. Table 15: Cost Sharing Table NED Plan Summary, Main Report, page 59. The table should identify the 10% non-Federal share to be paid over time in a separate line. Also there appears to be a minor discrepancy in the numbers.

District Response: Concur, the table will be updated to reflect the 10% non-Federal share and will be updated to address discrepancies.

Discussion: Response adequate.

Action: Incorporate changes into the table.

Action Taken: Table 15 has been updated to show the 10% non-Federal share required by Section 106.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

G. Peer Review.

1. Agency Technical Review. The quality of the ATR documentation for this report is inconsistent. Comments should provide clear information on the nature of the concern and its location within the report, as well as the basis of the concern, its significance and what can be done to resolve it. PDT responses should clearly explain what has been done to resolve the concern and, if appropriate, the location of any revisions in the report. Simply stating "concur" is generally not appropriate. It is noted that some of the ATR comments are primarily editorial. While it is good for the review team to provide editorial comments to the PDT where noted, these are not part of the technical review and should not be included in the technical review documentation.

Action Taken: No action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

2. General – FSM comments. It is not readily apparent how the FSM required comments have been incorporated into the February 2009 draft. The FSM identified a number of critical issues related to objectives, authorities, methodologies, without project conditions, alternatives development, incremental justification, etc. which need to be resolved before the recommended plan can be confidently identified at the FSM. To the extent that these changes have been made, they should be pointed out specifically by referencing where in the new document the revisions are reflected.

District Response: Attachment A details how these comments were incorporated into the 2009 report.

Discussion: In the future district should provide more information on how responses to comments were addressed in the report.

Action Required: No Action required.

Action Taken: No action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

3. General – ATR comments. Similarly to the FSM comments, to the extent that changes have been made in the document to reflect ATR comments, they should be pointed out specifically by referencing where in the new document the revisions are reflected.

District Response: The log of where the revision was reflected will be added to the Attachments.

Discussion: In the future district should provide more information on how responses to comments were addressed in the report.

Action Required: No Action required.

Action Taken: No action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

4. Independent External Peer Review. HQUSACE concurs that the report, as presented, will require Independent External Peer Review.

District Response: IEPR will be conducted concurrent with public review; the DDN-PCX will submit the IEPR package to the ARO for action.

Discussion: Response adequate.

Action Required: No further action required.

Action Taken: No action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

H. Model Certification.

1. Certification of Economic Analysis Models. The spreadsheet model employed for the economic analysis was provided to the Contractor by Jacksonville District. EC 1105-2-407 requires that the Corps use certified models. At a minimum this model needs to be technically reviewed to satisfy the requirements of the guidance.

District Response: The spreadsheet models for the benefit evaluation for the reconfiguration of the training wall and widening analysis has been provided to the Deep Draft Navigation Planning Center of Expertise (DDN PCX) prior to the onset of the reevaluation of this study. The DDN PCX granted an "Approved for Use" designation for the spreadsheet models (based on SAJ previous work on this study). The FY07 vessel operating costs were used as an update from the previous analysis, as well as an updated vessel fleet. The spreadsheets models (inputs and outputs) have been placed on an ftp site and have been forwarded by Dan Abecassis to the DDN

PCX on January 29, 2009 for model certification review. The draft economics appendix (i.e., ATR draft) that details the evaluation methods was also forwarded in that E-mail in an attachment.

Discussion: Response adequate.

Action Required: No further action required.

Action Taken: No further action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

2. Use of the UMAM Model. The use of UMAM in this context needs to be reviewed by the ECO-PCX as a planning model. The DDN-PCX should contact the ECO-PCX and place UMAM on the list of planning models. SAJ should organize and submit the documentation to the ECO-PCX required by the model certification guidance to start this process. Also, was consideration given to the fact that the beneficial use of the excavated materials for marsh restoration may render this a "self mitigating project"? This point should be discussed during the AFB.

District Response: Mitigation is a part of the beneficial use of dredged material and is the least cost disposal option. This process has been initiated. Request has been sent to the PCX.

Discussion: Response adequate.

Action Required: District to check on status, and follow through on actions to achieve certification.

Action Taken: Ongoing effort, process initiated.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

3. Ship Simulation. The vessel tracks for the ship simulation results are referenced in the ship simulation study, but not provided in the report. There is a statement in the engineering Appendix that the tracks are *"proprietary intellectual property of the St. Johns Bar Pilots Association."* The vessel tracks are important documentation to confirm the extent of the problem at Mile Point. The lack of vessel tracks weakens the support needed for the project.

District Response: The St Johns Bar Pilot Association has requested that the Corps of Engineers respect their wish that track plot graphic prints from the ship simulation study not be provided as part of the Project Report. The Bar Pilot Association considers the track plots to represent a manifestation of intellectual property that they own and wish to protect. The Corps has agreed to respect their request. The vessel

track plots are an important part of the overall product package resulting from the ship simulation study. In the hands of a ship simulation expert, who is familiar with all of the other components of the ship simulation study, the track plots are a critical indicator of safety and success/failure related to a vessel's transit through a tested channel section. When viewed by an inexperienced examiner, track plots may be interpreted incorrectly. The comment states that "The vessel tracks are important documentation to confirm the extent of the problem at Mile Point". This statement is insightful and correct. And, I would add that the track plots must be analyzed and interpreted by a ship simulation expert to correctly confirm the extent of a navigation problem that is the focus of any Corps study. Vessel track plots from the Mile Point ship simulation study are held at ERDC by Mr. Dennis Webb (A copy of the vessel track plots is held in the engineering division of the Jacksonville District). Mr. Webb is the ship simulation expert for the Corps of Engineers. The vessel track plots have been examined and analyzed by Mr. Webb. His conclusions related to their significance are reflected in his report of the ship simulation study. The comment states that "The lack of vessel tracks weakens the support needed for the project". The vessel track plots from the study exist as supporting documentation related to the existing challenge to safe navigation at Mile Point, and the engineering solution to that challenge, as proposed by this project study. The vessel track plots may be examined on request. (Dennis Webb (601) 6342455; Phil Sylvester (904) 232 1142)

Discussion: Vessel tracks were not included in ship simulation report, as referenced in the text. Response is adequate.

Action Required: No further action required unless tracks can be included in the report.

Action Taken: No further action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

I. Environmental Comments.

1. Environmental Work. The report treats the environmental work as ecosystem restoration, beneficial use of dredged material and mitigation. The report needs to clearly explain if the environmental work is for national ecosystem restoration or mitigation of the proposed project.

District Response: The report will be changed to state incidental environmental benefits instead of NER benefits. As was discussed during the 9 June 2009 HQ RIT meeting, reference to NER benefits will be removed from the report and replaced with incidental environmental benefits.

Discussion: Previously Discussed. Response adequate.

Action Required: Follow through with required action.

Action Taken: All sections in the report referring to NER benefits have been removed and replaced with incidental environmental benefits. See Page x and Sections 1.7, 5.4.3, 5.6, and 5.6.2.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

2. Appendix D – Mitigation. The report mixes mitigation actions with restoration actions (beneficial use) so that the necessary separable costs, effects, and incremental analyses cannot be distinguished. This deficiency has been noted in ATR (#2191213), and it does not appear to have been rectified in the February 2009 FSM draft as the response to comment suggests. Without such analysis and display, the recommended plan for mitigation and any restoration actions cannot be identified or supported.

District Response: The required mitigation is 18.2 acres as is stated in Section 6.1.1 of the report however the TSP recommends restoring the entire Great Marsh Island using the dredged material for beneficial use. This would provide incidental environmental benefits.

The ATR comment 2191213 states

"States "As mitigation, an estimated 53 acres of salt marsh shall be restored which would more than compensate for project related impacts to wetlands." Based on the main body of the decision document and the mitigation plan the required migration is only 18.2 acres. Please distinguish between the required acreage for mitigation and the acreage proposed for beneficial use."

The report was edited to further distinguish between that which is required for mitigation and the acreage proposed for beneficial use. See Section 6.1.1.

Discussion: Previously discussed.

Action Required: Follow through with required action.

Action Taken: Section 6.1.1 has been updated per comment.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

3. Appendix D – Restoration. Restoration is a project purpose and needs to be addressed separately from mitigation, establishing authority, resource significance, benefit metrics, alternatives development, separable element assessment, incremental analysis, cost increment net the least cost dredging disposal option (see page E-20 of 1105-2-100) and justification based on cost and significance.

District Response: Restoration is not a project purpose. As was discussed during the 9 June 2009 HQ RIT meeting, reference to NER benefits will be removed from the report and replaced with incidental environmental benefits.

Discussion: Previously discussed. Response adequate.

Action Required: Follow through with required action.

Action Taken: All sections in the report referring to NER benefits have been removed and replaced with incidental environmental benefits. See Page x and Sections 1.7, 5.4.3, 5.6, and 5.6.2.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

3. Formulation of Beneficial Use Outputs. Please explain how the EQ outputs from the beneficial use element of the project were formulated. The report lacks clarity on the plan formulation process employed for this piece of the project. Even if these are ancillary to the navigational aspects of the report, the report needs to explain how the PDT arrived at the recommended restoration plan.

District Response: There are incidental environmental benefits to using restoration of Great Marsh Island as the disposal alternative. Use of Great Marsh Island is the least cost disposal option. See section 6.3.1.

Discussion: Response adequate.

Action Required: Follow through with required action.

Action Taken: Section 6.3.1 has been updated per the comment.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

4. Marsh Mitigation and Restoration. Please describe how the mitigation marsh and restoration marsh perform under future storm surge and sea level rise scenarios. Also, from a technical standpoint, planting S. alterniflora sprigs on 3' centers will likely produce barren habitat. Adding heterogeneity of elevations and ecotypes may be a better plan when viewed over the period of analysis.

District Response: Marsh mitigation design is based on the existing conditions of successful marsh stands in surrounding equivalent environments. If the design were altered to match conditions of future predicted water levels then the success of the mitigation would likely fail and not be viable until such time when the future conditions actually exist. There is a limit range at which the identified species for mitigation can thrive.

Do not concur that planting *Spartina alterniflora* on 3' centers will likely produce barren habitat. The proposed planting density was discussed with three different consultants who have successfully established low salt marsh in Florida by planting *S. alterniflora* on 3' centers. One of these consultants, Mr. Robin Lewis, co-instructs USACE wetlands restoration classes, and has over 200 successful restoration projects to his credit. Planting *S. alterniflora* on 3' centers has become a standard practice in Florida. The more important issue will be achieving the correct elevation to support salt marsh, which is why the work will be done in phases. As described in the proposed plan, high and low salt marsh will be created which will provide some heterogeneity of elevations and ecotypes.

Discussion: Information provided in the report was discussed.

Action Required: Include discussion in the report that reference detailed EN analysis in EN Appendix, and include similar sea level rise analysis for marsh mitigation in report.

Action Required: Information on Sea Level Rise has been added to the main report Sections 2.2.3 and 6.3.2 and has been updated in the Engineering Appendix A Paragraph 5.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

5. Page 12, Sturgeon and Sawfish Data. Please define "recent" as used in discussing the data for sturgeon and sawfish. It is important to use the most recent data and describe any trends of data aberrations.

District Response: Encounter reports for the sawfish date from 1999-2006. A two year survey for shortnose sturgeon in the St. Johns River was performed during 2002-2003 with one sturgeon being collected. This information shall be added to the report.

Discussion: Response adequate.

Action Required: Follow through with required action.

Action Taken: Changes made to Section 2.3.2.5 and 2.3.2.6.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

6. SAV Surveys, Page 12. Have there been any SAV surveys conducted in the project area in the past 5 years? It is important to use the most recent data and describe any trends of data aberrations.

District Response: According to the South Florida and St. Johns River Water Management Districts and the Florida Department of Environmental Protection, seagrasses in Florida are restricted to the southeast and east central coastal portions of the state. Patches of seagrass have been verified as far north as Volusia County, and occur with greater density to the south, e.g. Indian River Lagoon. They do not occur within the study area or lower St. Johns River estuary of northeast Florida. Freshwater SAV, i.e. *Vallisneria*, also does not occur within the study area because it's too saline, but can be found further upstream.

Discussion: Response adequate.

Action Required: Follow through with required action.

Action Taken: No further action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

7. Section 106 Compliance, Section 2.3.5. What is the current status of Section 106 compliance?

District Response: The initial Section 106 consultation has been conducted. This called for an underwater cultural resource survey, which is in progress. Completion of the Section 106 consultation will depend on the results of the survey.

Discussion: Status was discussed.

Action Required: continue with survey.

Action Taken: This effort is ongoing. SAJ has completed the field work and identified an underwater prehistoric site under the proposed Big Marsh Island component. The draft report has been received however additional information is needed prior to consulting with the State Historic Preservation Officer and Federally recognized Tribes. However, based on the field work summary report and discussions with the contractor, it is anticipated that the following recommendation will be made; a "no adverse effect" determination for fill over the site. Care will be given to assure the Reconfigured Training Wall does not impact the site and care will be given to how the material is placed in the site as to not cause a disturbance. If other options could have an adverse effect then additional testing will be necessary.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

8. Ambient Noise Level, Section 2.3.9. The report should state the ambient noise level in the project area. This is important for a baseline to compare any construction or on-going operation noise with. Otherwise, any statement about noise levels has no foundation or analysis. PDT should consider using this or similar chart as a standard

and consult with the local (County or State offices) for noise ordinance levels as a comparison for the analysis. http://www.asha.org/public/hearing/disorders/noise.htm

District Response: Ambient noise level information and expected noise levels caused by the proposed construction will be added to the report.

Discussion: Response adequate.

Action Required: Resolved. Follow through with changes.

Action Taken: Additional information added to 2.3.9 per the comment.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

9. Sea Level Rise, Page 54. The Report should describe how the various project elements will perform and be able to adapt to on-going sea level rise projections and Category storm surges for this area. This is important for the training wall features to ensure life cycle performance and sustainability but is critical for the restored marsh. The PDT should consult storm surge mapping for the project are and compare the project designs with these elevations. The same should be done using the projected SLR scenarios for this area of the Atlantic seaboard. These "scenarios" or planning and engineering considerations are important to optimize the investment in the project features and to ensure the most robust and best performing plan is being considered in the decision making process. Suggest using a design template or other Figure to address this issue and show differences in water elevations vs. the selected plan features.

District Response: Please refer to the detailed discussion in the Engineering Appendix, Paragraph 5 regarding structural performance and adaptability relative to predicted Sea Level Rise. The analysis was performed in accordance with ER 1105-2-100. Regarding the performance of the restored marsh, please see response to comment k. v above.

Discussion: Previously discussed.

Action Required: Include discussion in the report that reference detailed EN analysis in EN Appendix, and include similar sea level rise analysis for marsh mitigation in report.

Action Taken: Discussion was added to the main report Sections 2.2.3, 6.3.2 and the EN Appendix A.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

10. Federal Lands Issue, Page 53. Usually when we are impacting Federal Lands, we are not removing acreage via excavation as we are proposing with the TSP. In

neither the report and the RE Appendix there is not sufficient explanation of how the Federal lands will be secured or dealt with in accordance with ER 405-1-12 to implement the project. Due to the nature of the project impacts to the landform (excavation to below MHW) the project may need more than a RE permit from the land holder. Also, describe any agreement to lease this area to the County Parks Department and how that may be modified to secure needed RE.

District Response: Concur regarding the need to expand on the acquisition of lands via transfer/permit from one federal agency (Navy) to another (Department of the Army). Will do additional review/analysis in accordance with ER 405-1-12 and revise that portion of the report which addresses federal lands. The Navy will address any of its existing agreements with the City of Jacksonville/Parks and Recreation Department. Lands required for the project will no longer be available for use by the City of Jacksonville. Any future agreement between the Navy and the City of Jacksonville, will not involve project lands.

Discussion: Response adequate.

Action Required: Follow appropriate guidance ER- 405-1-12.

Action Taken: Section 6.4 and the Real Estate Appendix C have been updated per ER 405-1-12.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

11. Chicopit Bay Section 1135 Project. What will be the eventual result or recommendation of the Chicopit Bay Section 1135 project? What was the scope and planning area? What past project was that study evaluating? Does the beneficial use and restoration of the aquatic ecosystem at Great Marsh Island render that project unnecessary?

District Response: The study was put on hold pending the analysis of the modeling for this Jax Mile Point project. The beneficial use and restoration at Great Marsh Island does render the Chicopit Bay study unnecessary as it resolves the main problems associated with that report.

Discussion: Response adequate.

Action Required: No further Action Required.

Action Taken: Section 1.6.1 has been updated to include the information above.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

12. NMFS Recommendations Essential Fish Habitat, Page 73, Section 7.3. Please describe any conservation recommendations from NMFS' review of the EFH

analysis. These may be important commitments or constraints on the project if adopted.

District Response: Coordination with NMFS regarding EFH is on-going.

Discussion: Response adequate.

Action Required: Please continue coordination with NMFS.

Action Taken: No further action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

13. Water Circulation Impacts, Page 64, Section 7.3.2.2. For water circulation impacts, please describe any modeling done to support the assertion that the FIC would enhance or restore past flushing of silt through this area. Is the shoaling having an adverse effect on the EFH? The report needs to quantify the improvement related to this FIC in order to support the CE/CIA for this separable element.

District Response: The assumption, which was proven by historical sources, shows that restoring the pre-breakthrough depths will allow the flows from the Greenfield and Mt. Pleasant Creeks to be restored. Since the breakthrough of Great Marsh Island the area of the Flow Improvement Channel has shoaled in as can be seen on the Navigation charts on pages 24 and 25 of the main report. During an on-site meeting with NMFS, it was agreed that shoaling within Chicopit Bay has adversely affected EFH. Shoaling has significantly reduced the depths of the bay as depicted on NOAA navigation charts (1993) for this area, and appears to have restricted flushing of silt. The FIC should improve flushing and would also restore deeper water habitat. This is improvement provides incidental environmental benefits, it accounts for 8 of the 53 acres used for beneficial us of restoration of Great Marsh Island. The 8 acres provides an additional 72,000 cy of material. The added cost of this feature will be shown.

Discussion: Impacts as a result of navigational modifications should be referenced for the reasoning of implementing F.I.C.- not EFH or other environmental effects.

Action Required: Revise report as appropriate.

Action Taken: As is described in Section 5.4.3 under number 4, the Flow Improvement Channel is necessary to offset adverse impacts of closing off the breakthrough at Great Marsh Island. The breakthrough at Great Marsh Island has caused Chicopit Bay to shoal in, see Figures 15-17 under Section 4.1. Also see Comment c.vii.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

14. Terrestrial Wildlife Resources, Page 65, Section 7.4.2.2. For terrestrial wildlife resources, please describe the analysis conducted to support the statement that impacts "should be minimal". It appears that a good portion of available terrestrial habitat will be removed to implement the project.

District Response: The statement "should be minimal" shall be deleted. Impacts to terrestrial wildlife shall be restricted to an estimated four acres of uplands. Additional description of this area shall be added.

Discussion: Response adequate.

Action Required: District to include further discussion on "minimal" requirements.

Action Taken: Changes per the comment have been made to Section 7.4.2.2.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

15. Cultural Resources Survey, Page 66, Section 7.5. When will the cultural resources survey be completed?

District Response: The task order has been issued. The survey is expected to be complete August 2009. We expect the results September 2009. The draft report should be ready for consultation with SHPO in October 2009.

Discussion: Response adequate.

Action Required: Keep progressing on obtaining 106 compliance.

Action Taken: This effort is ongoing. SAJ has completed the field work and identified an underwater prehistoric site under the proposed Big Marsh Island component. The draft report has not been received to date thus the consultation is pending. However, based on the field work summary report and discussions with the contractor, it is anticipated that the following recommendation will be made; a "no adverse effect" determination for fill over the site. Care will be given to assure the Reconfigured Training Wall does not impact the site and care will be given to how the material is placed in the site as to not cause a disturbance.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

16. Emissions Calculations, Page 67, Section 7.7.2. Describe any emissions calculation prepared to support the statement that there will be a temporary and minor degradation of air quality. Given the statement on Page 16, Section 2.3.8, simply state that due to the project area being in attainment for all AQ standards, no emissions calculation was necessary. Would be a good idea to show some basic coordination with the FDEP Air Program office as well as stated for Section 2.

District Response: We have done extensive air emission analyses for similar projects; however, the result has always indicated that emissions from the project would not exceed any AQ criteria or attainment status. Also, our past analyses have shown that project emissions would be very small compared to total emissions recorded for the county where the project would occur. These findings shall be described in the report, and no emission calculation will be performed for this project. The draft report would be coordinated with FDEP.

Discussion: Response adequate.

Action Required: FDEP concurrence to be included in the report.

Action Taken: Section 7.7.2 has been updated per the comment.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

17. Mitigation Plan Summary, Page 1. In the Mitigation Plan Summary there is a statement on Page 1 that the restored marsh would be monitored for 3 years but in the report it stated 5 years. Please clarify.

District Response: The monitoring shall be performed for three years. This shall be clarified in the report.

Discussion: Response adequate.

Action Required: Clarify monitoring plan in the report.

Action Taken: The Mitigation Plan (Appendix D) has been updated to five years and is now consistent with the main report.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

J. Real Estate Appendix

1. Mapping, Page 7. The Maps the reader is referred to on Page 7 of the RE Appendix are not RE maps. The project report needs appropriate RE mapping included.

District Response: Due to the limited impacts to lands, it was deemed sufficient to reference the maps found in the Engineer Appendix. In order to be more formal, will look at the existing maps and highlight those portions which address real estate requirement/information and copy them to the RE Appendix.

Discussion: Maps provided in RE appendix was discussed.

Action Required: Provide required real estate mapping in the RE appendix.

Action Taken: Maps were added to the RE Appendix C per the comment.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

K. O&M Issues.

1. O&M Issues. Please describe how any O&M issues will be addressed as part of this FR/EA. It is important to describe these summarily and to identify any ongoing NEPA or other compliance issues in this project report so as not to pin those on future CONOPs folks to document and resolve. This can also ensure proper permitting at the state and local level so as not to hinder efficient O&M action and expenditures in future years. A simple table of actions and a concise description of the affects of the actions should suffice.

District Response: Please refer to the detailed discussion in the Engineering Appendix, Paragraphs 21, 22, and 23.

Discussion: O&M issues were discussed. Response adequate.

Action Required: No further action required.

Action Required: No further action required.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

L. Cost Estimating Comments.

1. Estimate Narrative. The narrative stated in par 6.2 and on the MCACES estimate is not in compliance with the ER. There is no information about the factors and rates that were used for development of contingencies, construction management, and PED costs. Also, there is no discussion about identified risks and uncertainties. ER 1110-2-1302 (par. 8) states "The estimate prepared (utilizing the latest approved MCACES software) must contain a narrative that discusses cost relationships and assumptions made, based on the level of design, quantity issues and unknowns, and identified risks or uncertainties used in the development of contingencies." The district should include information pertaining to the development of contingencies, construction management and PED costs, and discussion about risk and uncertainties in the report and on the MCACES estimate. Guidance for development of cost estimates is described in ER 1110-2-1302 and ETL-1110-2-573.

District Response: An independent cost review has already been performed on the Draft Final Plan cost estimate including the MCACES by the Walla Walla District Cost Engineering Center of Expertise (DCX). Also, a separate Cost Engineering Appendix including detailed discussions on the cost estimate assumptions and

contingency analysis will be included in the Final Report that will be in compliance with the cost engineering ETL and ER

Discussion: Response adequate.

Action Required: Provide required information.

Action Taken: The Cost Engineering Appendix has been included in the Engineering Appendix A.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

2. Cost Risk Analysis. The contingency factor applied to the estimate is not fully supported and do not conform to the Corps cost engineering guidance. Guidance prescribed in ER 1110-2-1302 and ECB 2007-17 requires cost risk analysis methods to be used for the development of contingency for the Civil Works Total Project Cost estimate. Also, the ECB prescribes a formal cost risk analysis shall be prepared for all decision documents requiring congressional authorization for projects exceeding $40million. The district should use cost risk analysis for the development of contingency factors to comply with the ER and ECB.

District Response: A Cost Schedule Risk Analysis has been completed by the Walla Walla DCX. The cost risk based contingencies will be applied to the Total Project Cost and Schedule for the Recommended Plan.

Discussion: Response adequate.

Action Required: Provide required information.

Action Taken: Cost Engineering Appendix has been added to the Engineering Appendix A. Cost Risk Analysis has been complete and is documented in the appendix.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

3. Total Project Cost Summary (TPCS). A TPCS is required and should be included in the report as prescribed in ER 1110-2-1302. Guidance for development of TPCS can be found in Appendix B, ETL 1110-2-573.

District Response: The Total Project Cost Summary will be included in the Final Report in the separate Cost Engineering Appendix.

Discussion: Response adequate.

Action Required: Provide required information.

Action Taken: The Cost Engineering Appendix has been added to the Engineering Appendix A. The Total Project Cost Summary is included.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

4. Table 1, Total Project Costs. The Total Project Costs stated in Table 1 in the report could be understated. The contingency factor applied to the project costs is not based on cost risk analysis. This Table should be corrected based on the results of the cost risk analysis.

District Response: Table 1 will be updated based on the cost risk analysis contingencies.

Discussion: Response adequate.

Action Required: Provide required information in next version of appendix.

Action Taken: Table 1 has been updated per the 2010 Cost Engineering Appendix. Cost Risk Analysis is complete and resulted in a Contingency of 26%, up from the original 20% assumed prior to the completion of the Cost Risk Analysis. Full documentation of the cost engineering analysis can be found in Appendix A.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

5. Project Cost Update, Page 51, Section 6.2. The project cost estimate is prepared at October 2007 price levels, these should be updated prior to the DPR/DEIS being circulated for comment or certainly before the FDPR/FEIS is sent back up to HQ.

District Response: The project cost estimate will be updated to the current price level and will be reflected in Section 6.2 and in the Executive Summary.

Discussion: Response adequate.

Action Required: Changes will be made in next version of report.

Action Taken: Section 6.2 and the Executive Summary have been updated with the current FY11 price levels.

HQUSACE Assessment: Implementation is complete. **Comment is resolved.**

III. RESOLUTION OF REVIEW COMMENTS ON THE MAY 2011 DRAFT FEASIBILITY REPORT AND EA.

A. Plan Formulation.

1. Planning Constraints. Section 4.4. The text on page 35 does not explain the constraint to planning on several of the statements. Does the Atlantic Dry Dock alternative in item 1 limit alternatives for channel widening as noted in item 5? Are impacts the high value habitats in item2 to be avoided? How does home and pier development under item 4 limit planning? For item 3 explain how the pier and park constrain planning. These are just statements that explain an existing condition.

District Response: The text on Page 35 will be updated to explain how each constraint listed is a planning constraint such as; 1. widening in this area would require purchase of the business, 2. avoid impacts to the extent practicable, 3. Minimize disruption during construction, 4. Avoid impacting homeowners' access to their property.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: Section 4.4 has been updated.

HQUSACE Assessment: Implementation complete. **Comment closed.**

2. Management Measures. Section 5.2. Link each management measure with each specific objective to be described in Section 4.3. Please number or annotate each management measure.

District Response: Section 5.2 will be updated per the comment.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: Section 4.3.1.1 has been added and 5.2 updated.

HQUSACE Assessment: Implementation complete. **Comment closed.**

3. Preliminary Array of Alternatives. Section 5.4 Text and Table 5. Tie each alterative to each annotated management measure and discuss the objective(s) each alternative is associated with. Please explain the grouping of management measures into categories 1, 2, 3, 4 or 5.

District Response: Section 5.4 and Table 5 will be updated per the comment.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: Section 5.4 and Table 5 have been updated.

HQUSACE Assessment: Implementation complete. **Comment closed.**

4. Widening Alternative. Section 5.4.1 (4) Explain the statement "A widening alternative was considered further at the request of the St. Johns Bar Pilots that would allow the Pilots to lift the navigation restrictions for vessels with a DWT Horsepower ratio of .75 or more (mainly container vessels). This alternative would not alleviate the erosion problems at Mile Point." Other reasons must be given to eliminate this alternative as it appears to partially/fully meet one of the project objectives (reduce navigation restriction at Mile Point).

District Response: Section 5.4.1 explains the Hydrodynamic Modeling of Alternatives. Section 5.4.3 details alternatives carried forward. The Widening Alternative was evaluated further and a ship simulation was run 14-17 September 2009 to test this alternative. The alternative was not successful in reducing the crosscurrents, therefore vessel delays will continue due to the navigation restrictions. See Sections 5.4.3 paragraph 2 and number 2 on pages 51 and 53.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: See Sections 5.4.1, 5.4.3 paragraph 2, and number 2 on Pages 51 and 53.

HQUSACE Assessment: Implementation complete. **Comment closed.**

5. Submerged Wall Alternative. Section 5.4.1. Add the alternative that removes the submerged portion of the training wall in the initial alternative array and then explain the modeling that was done and why this plan was not carried forward.

District Response: The O&M alternative will be added to the main report.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: Sections 5.4.1 and 5.4.2 are updated to include the O&M alternative.

HQUSACE Assessment: Implementation complete. **Comment closed.**

6. <u>Flow Improvement Channel</u>. Section 5.4.2 page 55 and Section 6.0 page 62. More explanation needs to be provided in the main report to justify/explain the need and function of the improvement channel. Provide any quantitative info (number of acres impacted) and a solid qualitative description of how long and to what extent are the water quality impacts that will be prevented due to the flow improvement channel.

<u>District Response:</u> Additional explanation will be provided in the main report to explain the need and function of the improvement channel. This will include number of acres impacted and our estimate (without modeling) as to how long and to what extent water quality impacts would be prevented due to the construction of the flow improvement channel.

<u>AFB Discussion:</u> The response is adequate.

<u>Action Required:</u> Implement the response in the revised report.

<u>Action Taken:</u> Sections 2.3.6 and 7.6.2 has been updated with additional information on the FIC and water quality.

<u>HQUSACE Assessment</u>: Implementation complete. **Comment closed.**

7. <u>Tidal range</u>. The report and the EA, in the section on Tides, should explain the actual tidal range at the project site.

<u>District Response:</u> Based on NOAA Tide Gauge Station ID 8720224 (Mayport, St. Johns River) the tide range from MLLW to MHHW is 4.96 feet. This information will be added to Section 2.2.1.

<u>AFB Discussion:</u> The response is adequate. Implement the response in the revised report.

<u>Action Required:</u> Implement District response.

<u>Action Taken:</u> Section 2.2.1 has been updated.

<u>HQUSACE Assessment</u>: Implementation complete. **Comment closed.**

<u>B. Economics.</u>

1. <u>Economics of the Tentatively Selected Plan</u>. Reference Table 1 on page vi and Paragraph 1 on page vii. On April 11, economic reviewers from the Office of Water Project Review, SAD, and SAJ met to discuss the economics of the tentatively selected plan (TSP). It was agreed that the Case 5 (all vessels including TraPac, but excluding Hanjin, and growth for all years) would be the supportable most likely future scenario and that other scenarios could be shown as economic sensitivity

analyses. The Executive Summary of the main report appears to show Case 5 as sensitivity and other scenarios as sensitivity. The report should be revised, as discussed, to show Case 5 as the supportable most likely scenario.

District Response: Concur; the report will be updated to show Scenario 5 with growth and excluding Hanjin as the TSP (the supportable most likely scenario).

AFB Discussion: The response is adequate. Implement the response in the revised report.

Action Required: Implement District response.

Action Taken: The report has been updated in the Executive Summary Page vi, Section 5.6, Section 6.2, and Table 15.

HQUSACE Assessment: Implementation complete. **Comment closed.**

2. Economic Conditions. Section 2.4. In main report, need more detailed description/better connection between navigation project and economics/fleet detailed in last paragraph of 2.4 and Section 2.4.1. Paragraph 2.1 in Economic Appendix B does this and some of this info should be brought up into the main report. Also need better description of economic impacts of the no-action scenario in the main report. What are the economic consequences associated with the existing conditions/no-action scenario….or alternatively, what are the navigation benefits from this improvements at Mile Point? These are also found in the Economic Appendix and in 2008 Dr. Checks comments; incorporating some of this into the main report would be beneficial.

District Response: Concur; information from Economic Appendix B will be added to the Main Report. The economic consequences of the no-action scenario are the continued incidence of the additional resource costs of commodity transport associated with vessel tide delays. Vessels anchored off the coast as a result of tide delay waste fuel and labor, as well as both private and public sector capital resources. The private capital wasted is the vessel, which could be otherwise utilized for its intended function (commodity transport). The public sector capital resource wasted is a 40 ft deep navigation channel restricted to operating as a 33 ft deep channel for significant periods of time. Given the tendency of the world fleet to operate at increasingly deeper sailing drafts, this problem is likely to be exacerbated over time. As older vessels reach the end of their service life, they are likely to be replaced with newer vessels that tend to operate at deeper sailing drafts. The alleviation of these inefficiencies is the navigation benefit associated with the recommended channel improvements.

AFB Discussion: The response is adequate.

Action Required: Implement District response.

Action Taken: The response has been added to Section 2.4. Chasten

HQUSACE Assessment: Implementation complete. **Comment closed.**

3. Economics. Section 5.6.1 Table 9. Need to add text and tables explaining how the NED benefits were derived. Bring forward this information from the economics appendix.

District Response: Concur; recommend adding excerpts from section 7.1 from econ appendix as follows:
NED benefits are the time savings to vessels delayed by Mile Point tidal restrictions for entry and exit from Jacksonville Harbor. The Jacksonville District supplied a Mile Point benefit spreadsheet to be used for calculating the without-project delay costs and benefits resulting from with-project reductions of existing ebb tide constrained sailing drafts.

The spreadsheet calculates the vessel average delay hours as a function of sailing draft and tides, effectively acting as a typical tide delay function, but with lower sailing draft tidal delay thresholds reflecting the Mile Point restrictions (>33 ft sailing draft inbound and >36 ft sailing draft outbound). The Mile Point without-project inbound sailing draft restriction of >33 ft is used as the basis for all delay estimates except for the NWA vessels calling TraPac for which a 34 ft inbound delay threshold is used. The Mile Point inbound sailing draft restriction (>33 ft) is applied to a vessel call list contained in the worksheet Restriction WO Project to establish the delay time and associated vessel costs.49 Modifications to the Mile Point sailing draft restriction as a result of with-project conditions are applied to a vessel call list contained in the worksheet Restriction W Project to establish the changes in delay time and associated vessel costs.

Once the baseline vessel delay costs are calculated for a particular vessel call list (interactions between the Restriction WO Project and Ebb and Tide Delay Without and between the Restriction W Project and Ebb and Tide Delay With), the Growth worksheet will allow the reductions in vessel delay costs associated with the different fleets (bulk, tanker, container, general cargo) to change in response to projected changes in vessel calls. The Growth worksheet allows for changes in the vessel calls for each year of the project life, 2015 to 2065.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: Section 5.6.1 has been updated to include the response.

HQUSACE Assessment: Implementation complete. **Comment closed.**

4. Economic Appendix. Table 58 on page 92 shows the benefits for various scenarios as calculated using the FY 2010 discount rate of 4 and 3/8 percent. As a study progresses and crosses fiscal years, the discount rate must be update. The current FY 11 discount rate is 4 and 1/8 percent (EGN 11-01). The report and economic appendix should be updated using the proper discount rate and future submittals should be cognizant of the applicable discount rate when submitted.

District Response: Concur; the appendix will be updated per the comment.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: The Economic Appendix has been updated with the FY11 interest rate.

HQUSACE Assessment: Implementation complete. **Comment closed.**

C. Environmental/Resources.

1. Cultural Resources. Section 2.3.5. Existing Mile Point Training Wall is under evaluation for eligibility in National Register of Historic Places. This should be confirmed before proceeding.

District Response: This is still under evaluation; however SAJ does not anticipate an adverse effect.

AFB Discussion: Response is not adequate. This issue requires further discussion.

DISTRICT Response: The existing Mile Point Training Wall is under evaluation for eligibility in National Register of Historic Places. The wall is a historic structure and its significance is still under evaluation. If it is determined that the structure is significant and that project implementation will create an adverse effect then the following steps will be undertaken: Determine if project alterations are possible that will avoid or minimize the effect. If avoidance is not possible then develop a MOA to outline mitigation of effects.Implement mitigation of adverse effects.

Of note: These mitigation costs are 100% Federal.

Action Required: The revised response is adequate. Implement the response in the revised report.

Action Taken: Response added to Section 2.3.5.

HQUSACE Assessment: Implementation complete. **Comment closed.**

2. <u>404(b)1 Analysis</u>. In the 404(b)(1) analysis on Page 7 under section e.7, other wildlife, a statement is made that the project will result in a net increase of wetland functions, including habitat. It is unclear how this restoration would have a net increase rather than simply an increase over the current for likely future projected wetland acreage in this project area.

<u>District Response:</u> This statement will be changed to net increase of wetland acreage, specifically salt marsh.

<u>AFB Discussion:</u> The response is not adequate. This issue requires further discussion.

<u>DISTRICT Response:</u> This statement will be changed to an increase of wetland acreage. The word "net" will be deleted.

<u>Action Required:</u> The revised response is adequate. Implement the response in the revised report.

<u>Action Taken:</u> The word "net" has been deleted.

<u>HQ Assessment:</u> The Action Taken states that the word "net" has been deleted, but it does not appear to have been done. Further, Appendix D (reference Tables 1, 2, and 3) are not a clear depiction of the mitigation that is being done. These tables include in the cost of mitigation the cost of disposal of dredged material, which is not a mitigation cost but the least cost disposal option. The Tables in the Appendix need to be revised to show only the cost of mitigation, which should correspond to the Summary of Total Project Cost Table in the Executive Summary and Main Report.

<u>Action Taken:</u> District will implement recommended changes.

<u>HQ Assessment</u>: Implementation complete. **Comment closed.**

3. <u>404(b)1 Analysis</u>. In the same Section 404(b((1) analysis on the next page under f, there is a statement that this project taken in conjunction with other on-going actions will to result in SIGNIFICANT cumulative effects on the aquatic ecosystem. Taken together with past navigation projects in this area and the potential future deepening project study, it appears that many past actions have indeed combines to alter this aquatic ecosystem in a significant manner, especially when view through the lens of successive EISs. The team should consider changing this language to reflect the EIS level analyses which have been conducted for the project area.

<u>District Response:</u> <u>The district</u> agrees that the cumulative impacts of past activities have clearly combined to significantly affect the St. Johns River ecosystem. A future deepening project could significantly affect the river as well. District has described these effects in Section 7.14 of the report. However, it is the District's determination that the Mile Point project would not have a significant adverse impact on the river's

ecosystem. In fact, the project would provide significant environmental benefits, such as the restoration of Great Marsh Island. Part f of the Section 404 (b) evaluation will be changed to better summarize Section 7.14 of the report.

AFB Discussion: The response is not adequate. This issue requires further discussion.

Action Required: Implement District Response.

Action Taken: See Part f of the Section 404(b) evaluation.

HQUSACE Assessment: Implementation complete. **Comment closed.**

4. 404(b)1 Analysis. The team should scrub the 404(b)1 to ensure the numbering and lettering on paragraphs are correct.

District Response: The numbering and lettering of the entire report will be checked and corrected as necessary, including the 404 (b) 1 evaluation.

HQ Assessment and Required Action: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: The 404(b) has been updated.

HQUSACE Assessment: Implementation complete. **Comment closed.**

5. UMAM. The team should clarify the use of UMAM to set the base for incremental mitigation planning. It is understood that the State compels this to be used and that it generates a "mitigation requirement". UMAM has not been reviewed by the ECO-PCX. It can be a part of our mitigation planning but not the sole factor to generate the first increment in the CE/ICA.

District Response: Per comment d.iii of the 08 January 2010 HQUSACE PGM, no CE/ICA is required.

AFB Discussion: The mitigation for this project is also the least cost disposal option. UMAM shows required mitigation of 18.2 acres for 8.15 acres of salt marsh impacts. The entire restoration of Great Marsh Island is 53 acres. USACE HQ has required the district to show the increment required for mitigation without UMAM. The District has agreed to do a functional assessment to show the required mitigation. Both the UMAM and functional assessment will be included in the revised report. A separate conference call will be set up to discuss UMAM on a programmatic general scale and how to proceed with its use for the planning process.
The response is not adequate. This issue requires further discussion.

Action Required: In addition to the UMAM analysis, we will perform an independent functional assessment of the wetlands so that UMAM is not the sole factor used to generate the first increment in the CE/ICA. This will be added to the report.

Action Taken: UMAM is currently under evaluation at the ECO-PCX. The Final Report will be updated with a functional assessment and an updated UMAM analysis.

HQUSACE Assessment: Implementation complete. **Comment closed.**

D. Engineering.

1. Physical Conditions. Section 2.2. Report needs a description of sediment processes in the study area. Were erosion and deposition patterns investigated, conceptual sediment budget developed? What is history of dredging in this reach, shoaling rate in channel, timeline of erosion along Mile Point? Needs better documentation of these conditions to better present the problem and potential solutions.

District Response: As is stated in paragraph 3 of Section 2.2 and also in the Engineering Appendix A under Number 4, hydrodynamic modeling showed that the crosscurrents at the confluence of the St. Johns River and the IWW at Mile Point are the primary concern of the study. Far from experiencing shoaling, the channel just north of Mile Point shows deep scouring and high flow velocities. Shoaling rates and dredging history can be found in Table 12.

AFB Discussion: Response is not adequate. This issue requires further discussion.

District Response: Based on model investigations and current measurements, the resulting bottom current velocities from the relocated training wall legs and excavation and removal of a portion of the existing Training Wall and entire surrounding area to -13 feet MLW are of such magnitude to expect little deposition to occur in either of the channels. The Chicopit Bay Flow Improvement Channel is also not expected to require maintenance dredging. Prior to the breakthrough of Great Marsh Island, a natural channel existed in the same location as the proposed Flow Improvement Channel. The historical maps on pages 30-31 of the main report show water depths up to 10 feet due to tidal flushing of Chicopit Bay as well as freshwater runoff from the neighboring creeks. Once Great Marsh Island is restored, the water from Greenfield and Mount Pleasant Creeks, as well as the large volume of water within Chicopit Bay's tidal prism, will flush in and out through the Flow Improvement Channel. It is reasonable to expect the water velocities in the channel to be sufficient to prevent shoaling within the channel.
Numerical hydrodynamic modeling of the proposed channel improvements and recommended features for the Mile Point project shows changes to current vectors (velocities and direction) under flood and ebb tide. Numerical modeling results indicate that the dangerous crosscurrents exiting the IWW southern channel under ebb tide will be redirected to more closely parallel the alignment of the Federal

navigation channel instead of being focused toward the erosion prone areas along the northern shoreline of Mile Point, thus reducing the effects of the crosscurrents on the erosion of the Mile Point shoreline.

Action Required: The revised response is adequate. Implement the response in the revised report.

Action Taken: The revised response has been added to Section 6.5.1.

HQUSACE Assessment: Implementation complete. **Comment closed.**

2. Concrete Armor Unit Stability Design. Engineering Appendix VE Study – Engineering Section 6.3.1, Value Engineering.

Concrete Structure Units can have settlement issues in this type of estuarine environment (prototype placements in New Jersey for example). Has the effectiveness and stability of CSU's been properly investigated? Have ERDC or other qualified Corps entity verify that the use and design of the two proposed concrete structural units (WADS or Reef Balls) are structurally stable in the proposed wave (ship wake) environment.

District Response: The basic range of specific Mile Point project performance conditions has been issued as a Sources Sought with criteria for structures to perform under (Tidal range/currents/wave/etc.). The structures proposed are tapered, round or angular with holes cast into the structures to limit wave energy uplift and displacement and to disperse wave energy in multiple directions to effectively dissipate it. Two or more structural units have been identified for this type of application with 13 or more years of applications as coastal or river/bay erosion systems. An RFP will be used to specifically identify product design and performance criteria to support a CSU design for subsequent approval.

A Reefball mat system is under development by ERDC with the Dade County Shoreline, Section 2038 National Erosion Control Demonstration Program, that may look like what Mile Point will resemble using that system. Two or more structural systems are expected to compete for placement with the project. Recent regional projects include a 2004 WADS application for mitigation of storm damage to Saw Grass Point Salt Marsh, on Dauphine Island, Alabama, which was supported by the National Sea Grant College Program by NOAA. This application proved to be cost effective, as well as successful with delivery of erosion protection and sustaining of salt marsh, bird, fish and oyster habitat within the Mobile Bay estuary. In addition, CESAJ-EN has evaluated the use of such CSU's and recommended that at this stage of design we should remain conservative in our approach and assume the need for additional stability measures. Therefore, a stone foundation on geotextile was incorporated as well as extending this foundation to serve as a scour apron. The currently identified structural units will be further examined for applications and additional products will be researched during the PED Phase. The use of concrete

structural units as currently identified is sufficiently developed for this phase of project formulation.

AFB Discussion:

Value Engineering assumptions associated with the civil design of the Milepoint West Training wall resulted in significantly reduced project cost. Verification of the civil design parameters must occur during feasibility as successful design is needed to support the NED plan and project justification.

EM 1110-2-1100 provides general design requirements for coastal shore protection structures and should be consulted and referenced as guidance.

Develop design criteria for the West Training Wall CAU structure including information on the character and support capability of the foundation material, filter fabric and bedding material design, and CAU stability design ensuring functional design to meet objectives of wetland & channel stabilization.

Verify that at least one proposed CAU type meets design and cost criteria as established for the NED plan.

Update the Engineering Appendix accordingly and provide the updated Engineering Appendix Section to DQC, the Coastal PCX, and SAD for review and endorsement to HQ.

District Response: Regarding the stability of the WAD units under design wave impact conditions, the following analysis is provided by SAJ EN-WC:

There is no known analytical or empirical data that applies directly to these WAD units regarding unit stability under direct wave attack. However, there are methodologies which give an indication of the stability of similar-shaped units under a variety of input wave conditions. Using guidance from EM 1110-2-1100, the Hudson methodology was used to assess the stability of the WAD units. The exact configuration of the WAD units cannot be accommodated in this guidance since these particular armor units did not exist at the time the empirical data was gathered for determining the Kd values that are incorporated into the Hudson equation. However, the 'Modified Cube' units presented in the guidance are relatively close in terms of shape and in terms of the surface area presented to impacting waves. Inputting the proper design parameters results in a calculated minimum weight of 116 lbs per unit that would be required to resist the impact of the 3-ft design wave. The proposed WAD units are estimated to weigh 20,000 lbs each (10 tons). This yields a factor of safety of 172 to 1. Therefore these units would be extremely unlikely to slide or overturn under the influence of design wave conditions.
As a follow-up, prior to source selection the Contractor would be required to submit test data to show the units' performance under real wave-loading conditions. Pending

satisfactory performance in such a test, the units could be approved for use on this project.
Other stability-related issues referred to the units settling into the bedding layer, and to the scouring of the bedding layer from around the units. In regard to the former concern the average bearing pressure of each 10-ton WAD unit would be on the order of 440 psi (12-inch wall thickness of WAD unit) or 296 psi (based on 18-inch wall thickness). These bearing pressures are well within the tolerable loading of the bedding layer. The WAD units are cast with stainless steel lifting eyes on the top of each unit so that they can be lifted using appropriate equipment. In the event of settlement of the bedding layer into the underlying sediment or settlement of the unit into the bedding layer, the individual units can be lifted, the foundation reinforced, and the units replaced. Note that no core borings of the underlying sediment along the training wall alignments have been obtained at this time; this data will be incorporated into final design when the field work is completed.
As related to the issue of scouring of the bedding stone, the preliminary designs of both training walls have been performed using design values for current velocities and wave heights. In the case of the western training wall a design current velocity of 5 fps was used, along with a design wave height of 3 feet. This level of design was deemed appropriate for the feasibility phase of this project. This design can be modified if conditions warrant, during the PED phase of the project; however, with the incorporation of the foundation element as identified in this Study there is very little risk that such design modifications would result in any substantive increase in cost to the project.

Action Required: The revised response is adequate and the information will be added to the report. The PDT will continue to develop the foundation stability. Implement District Response.

Action Taken: Section 6.3.1.1 has been added with the information provided in the response.

HQUSACE Assessment: Implementation complete. **Comment closed.**

E. Selected Plan.

1. Recommended Plan O/M. Section 6.0. Recommended Plan (or include in prior section). Need more quantitative description of potential O&M dredging requirements from this recommended alternative. Anticipated shoaling and erosion areas of the Pablo Creek/IWW entrance are described briefly. Better detail on the sedimentation processes may help explain impacts.

District Response: Section 6.5.1 states that little or no significant net increase in shoaling is predicted as a result of the reconfiguration of the Mile Point Training Wall. Therefore no additional O&M is expected under the with-project condition.

AFB Discussion: The response is not adequate. This issue requires further action.

District Response: Examination of the maximum flood and ebb tide current vectors indicate that flow velocities within the Federal navigation channel are very similar between the existing and with-project condition and in isolated areas of the Mile Point turn are about 1 foot/second less under the with-project condition. This comparison suggests that little or no significant net increase in shoaling rates will occur in the Jacksonville Harbor Federal channel over existing project conditions. The Chicopit Bay Flow Improvement Channel is also not expected to require maintenance dredging. Prior to the breakthrough of Great Marsh Island, a natural channel existed in the same location as the proposed Flow Improvement Channel. The historical maps on pages 30-31 of the main report show water depths up to 10 feet due to tidal flushing of Chicopit Bay as well as freshwater runoff from the neighboring creeks. Once Great Marsh Island is restored, the water from Greenfield and Mount Pleasant Creeks, as well as the large volume of water within Chicopit Bay's tidal prism will flush in and out through the Flow Improvement Channel. It is reasonable to expect the water velocities in the channel to be sufficient to prevent shoaling within the channel.

Action Required: The PDT will perform a simple tidal prism calculation to be added to the report.

Action Taken: Section 6.3.4 has been added and Section 6.5.1 has been updated.

HQUSACE Assessment: Implementation complete. **Comment closed.**

2. IWW Safety. Section 6.0. Will there be a safety issue transiting the IWW from Sister's Creek to Pablo Creek due to the changed location of the entrance?

District Response: Please refer to the Engineering Appendix Attachment C, Navigation Study for Mile Point Channel Improvements, and more specifically the discussion regarding two-barge tow simulations. The conclusion of the ship simulation from the towboat captains was that the project improved navigation for tow traffic on the IWW. The removal of 3110' of the training wall will enhance the safety of transiting the IWW from Sister's Creek to Pablo Creek as the existing hazard of submerged rocks is being removed. The location of the entrance to Pablo Creek (IWW) is not being directly changed by the construction of this project. In fact, the entrance to Pablo Creek will now become a larger open area that will offer more flexibility for navigation between the IWW and Jacksonville Harbor. If the need ever arises to realign the IWW to the east due to shoaling in the existing alignment, the aids to navigation can be reset by the USCG and the Corps will adjust the control data for the channel as is standard practice along various reaches of the IWW and other shallow draft navigation projects throughout the Jacksonville District.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: See the Engineering Appendix A, Attachment C, Page 5.

HQUSACE Assessment: Implementation complete. **Comment closed.**

3. Scour Apron. Section 6.3.1 page 66. At what location was the scour apron eliminated? Explain modeling/analysis done to justify eliminating this critical item and why remaining scour protection is sufficient.

District Response: Preliminary designs included extensive armoring of the channel bottom in the Intracoastal Waterway (IWW). Upon further analysis during the value engineering study, it was determined that armoring of the entire channel bottom was unnecessary. Although hydrodynamic modeling predicted that higher water velocities along the eastern shoreline of the IWW have the potential to erode and undermine the new training wall, armoring of the entire confluence area would not be necessary or desired. It is more appropriate to concentrate on providing enhanced scour protection directly to the individual structures rather than a broad based scour feature under the entire width of the IWW.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: Section 6.3.1 has been updated with the response.

HQUSACE Assessment: Implementation complete. **Comment closed.**

4. Dredge Material Disposal. The tentatively selected plan includes disposal of dredge material at Great Marsh Island as the least cost disposal option, or base plan, in accordance with ER 1105-2-100 Section E-15 para a.(3). In order to show this, the report needs to include more detailed information on the total delivered placement cost disposal at both the existing Buck Island Disposal Area and the Great Marsh Island site. This should include cost tables and figures.

District Response: Please refer to the Engineering Appendix Attachment E, VE Study FY'08, and more specifically Proposal C-2. Page 20 of the Attachment (page 8 of 8 for Proposal C-2) is a Cost Estimate Worksheet and provides the difference in cost between the project with disposal of all material at Great Marsh Island (Alt. VE-3B) versus the original project (Alt. 3B) that uses Buck Island for disposal of all material other than the material needed to complete the minimum mitigation requirement.

AFB Discussion: Issue will be resolved by adding a simple summary table and figure, with reference to Engineering Appendix to the next version of the draft report in the Main Report section.

Action Required: Implement District response.

Action Taken: Section 5.6.2 has been added.

HQUSACE Assessment: Implementation complete. **Comment closed.**

5. Storm surge performance of project elements. The report should explain how the various project elements will be affected by and perform under certain Category storms in this area.

District Response: The project elements involving the relocated training wall will not be required to perform during any category of hurricane as general navigation is expected to be suspended during those storms. The training wall structures are not anticipated to be affected greatly by hurricanes; however, that will ultimately depend on the dynamics of each individual storm.

AFB Discussion: The response is not adequate. This issue requires further discussion.

District Response: Per HQ USACE guidance on 19 May 2011; SAJ EN-WC has provided storm surge levels from FEMA, and the structural stability of the WAD units under such surge levels.

The FEMA storm surge values for Atlantic Beach, approximately 2 miles to the east of the Mile Point project site, are as follows:

Return Interval	Surge Level
(years)	(feet)
2	2.7
5	5.1
10	6.6
50	9.8
100	11.0

These surge levels do not include the effects of astronomical tides. Therefore, the less-frequent storm surge events may occasionally overtop the training wall when added to the local tide level. These WAD units are designed to be completely overtopped however, and as result no damage to the structures is expected from such overtopping events. Once submerged the structures would actually be subjected to less wave impact energy than an emergent structure.

Even under the influence of the design wave no damage to the WAD structures is expected at these elevated water levels. The design wave height is 3 feet along the western training wall, which is the location of the WAD units. The design waves are

generated by ship wakes and as such are completely independent of increased water depth. As detailed in the SAJ response to Comment #31, these WAD units are highly stable under the influence of 3-foot waves, so no adverse effects on the units are anticipated due to wave action at any water level.

The only adverse effect that can be identified due to elevated storm surge levels is that the WAD units would lose some of their effectiveness at dissipating wave energy when overtopped. As seen in the above surge level vs. frequency of recurrence table, such overtopping events would occur extremely rarely, and would usually last for short durations (near the time of high tide only).

Action Required: Implement the response in the revised report.

Action Taken: Section 6.3.3 was added to the main report with the above storm surge response. Trulick

HQUSACE Assessment: Implementation complete. **Comment closed.**

6. Project monitoring. The salt marsh element of this project has both habitat mitigation and non-mitigation beneficial use of dredged material. The team should compare the WRDA 2007 Section 2036(a) mitigation monitoring guidance and the WRDA 2007 Section 2039 restoration monitoring guidance and determine which is best suited for the project monitoring to ensure at least the mitigation effort succeeds. HQ feels that the project's beneficial use marsh acres are not technically subject to the Section 2039 guidance, since those acres are an ancillary benefit of the project and not its purpose.

District Response: The District's mitigation plan, including monitoring, is in accordance with the guidance provided in WRDA 2007 Section 2036 (a). We concur that this guidance should be used for the mitigation, and the beneficial use marsh acres should not be subject to the Section 2039 guidance, since those acres are an ancillary benefit of the project and not its purpose.

AFB Discussion: The response is adequate.

Action Required: Implement District response in next version of the draft report.

Action Taken: Section 6.1.1 and the Mitigation Appendix now references Section 2036(a) of WRDA 2007. The mitigation plan is in compliance with this guidance.

HQUSACE Assessment: Implementation complete. **Comment closed.**

F. Cost/Cost Share.

1. Study cost sharing. The Report does not appear to cite how or whether the costs of the study and preparation of the subject report are being funded, including how or

whether the sponsor is providing any cost share towards these activities. Parts 1.2 to 1.5 of report should be revised to clarify whether a feasibility cost sharing agreement or other instrument has been executed to cover the costs of the study.

District Response: Concur. The cost sharing agreement details will be added to the report. The feasibility cost sharing agreement was executed 12 March 2003. The study is cost shared at 50/50.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: The following was added to Section 1.5. "The feasibility cost sharing agreement was executed 12 March 2003. The study is cost shared at 50/50."

HQUSACE Assessment: Implementation complete. **Comment closed.**

2. Display of Total Project Costs. Table 1 in the Executive Summary and Table 15 in the Report/DEIS show all of the 'costs' for the project, but lump together financial costs with associated costs and the 10% over time cost adjustment. When the Congress authorizes a project, they will authorize General Navigation Features (GNF) as total project cost and not aids to navigation and the 10% over time adjustment. For clarity, the tables should be revised to differentiate those costs to be apportioned as part of the Corps implementing the project from the associated costs and 10% over time adjustment.

District Response: Concur. Jacksonville District will update the tables per the comment.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the revised report.

Action Taken: Tables 1 and 14 have been updated to show total GNF is a separate line item.

HQUSACE Assessment: Implementation complete. **Comment closed.**

G. Legal.

1. Sponsor Statement of Financial Capability. While part 6.8.3 of the report states that the sponsor "has accepted the financial responsibility" related to its participation in the project, the report does not appear to include a certification by the non-Federal sponsor that it has a preliminary financing plan for providing non-Federal share of the project's costs. This will be required prior to final approval of the report. See CECW-PC memorandum dated 12 June 2007, Lean Six Sigma (L6S) Actions to

Improve the Project Cooperation Agreement Process – Non-Federal Sponsor's Self-Certification of Financial Capability ("a non-Federal sponsor will sign the Non-Federal Sponsor's Self-Certification of Financial Capability For Decision Documents (enclosure 3) for such purpose.").

District Response: Concur. The non-Federal sponsor will provide this letter with the final report submittal.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the final report.

Action Taken: This letter will be included in the Final Report Submittal.

HQUSACE Assessment: The sponsor's self-certification provided in Attachment G uses the form language for agreements. Since this is a feasibility report seeking Congressional authorization the self-certification form for decision documents should have been provided. Please advise the sponsor of the difference in language between the two forms and explain that the decision document form includes the following language: "I understand that the Government's acceptance of this self-certification shall not be construed as obligating either the Government or the Non-Federal Sponsor to implement a project." The complete decision document form language is shown on the following website: http://usace.army.mil/CECW/PPA/Pages/forms.aspx. This comment will remain open until the proper self certification form is electronically submitted.

Action Taken: District forwarded the correct sponsor self certification.

HQUSACE Assessment: Implementation complete. **Comment closed.**

2. Letter of intent. While part 6.8.4 of the report indicates that the non-Federal sponsor supports the project, the report does not appear to include a letter of intent from the sponsor documenting that support. A letter of intent will need to be included to ensure that sufficient local support for the project will enable it to be implemented, as required by ER 1105-2-100, Appendix G, at G-9 ("The non-Federal sponsor's acceptance of, or desired departures from, the terms of the applicable model PCA must be presented, including: 1) applicable cost sharing and financial policies; 2) policies regarding provision and valuation of non-Federal lands, easements, rights-of-way, and disposal areas provided by non-Federal sponsors; 3) policies governing non-Federal project construction; and, 4) other provisions required by law and policy for new start construction projects.")

District Response: Concur. The non-Federal sponsor will provide this letter with the final report submittal.

AFB Discussion: The response is adequate.

Action Required: Implement the response in the final report.

Action Taken: This letter will be included in the Final Report Submittal.

HQUSACE Assessment: Implementation complete. **Comment closed.**

3. Construction authority. In this office's prior review of the enhanced project modification report submitted for the project in October 2010, the District proposed to implement the construction of the project under existing authority provided by Section 6 of the River and Harbor Act of 1909, 33 U.S.C. 5.(a). Given the absence of any mention of Section 6 in the draft feasibility report now submitted, it appears that the District has decided to pursue a traditional course to implement the project, including seeking construction authorization from the Congress. However, the report does not appear to make clear that prior to implementation of the project, Congress will have to enact additional authority. This should be made clear in the recommendation section in part 8.0 of the report, which currently only acknowledges the need for additional appropriations to carry out the project.

District Response: Concur. Section 8.0 currently states. "I recommend that the plan selected herein for the Relocation of the Mile Point Training Wall, which combines the reconfiguration of the existing training wall, restoration of Great Marsh Island which is the least cost disposal option, and the creation of a flow improvement channel in Chicopit Bay be authorized for implementation." To further clarify, we can add "by Congress" after "authorized." Another option is to add "The work proposed is not within existing authority." That could go before the sentence beginning "I recommend."

AFB Discussion: Issue will be resolved by adding "by Congress" and "This work is not within existing authority" in the next version of the report.

Action Required: Implement the response in the final report.

Action Taken: "by Congress" and "The work proposed is not within existing authority" has been added to Section 8.0 paragraph 2.

HQUSACE Assessment: Implementation complete. **Comment closed.**

H. General.

1. Review Plan. The review plan has been updated in accordance with EC 1165-2-209. In general the plan looks very good however, it is noted that the ATR lead is to be from outside the home MSC to assure independence in accordance with Section 5 of the March 2011 Review Plan and paragraph 9.c. of the EC. The ATR lead for this study is shown on page 13 as being from the PCX in Mobile District, which is not in

accord with guidance and the plan. For the final ATR action a team lead should be designated from outside the home MSC.

District Response: Noted; this issue will be coordinated with the Deep Draft Center of Expertise.

Discussion at AFB: This issue is not resolved and requires further discussion.

District Response: Concur; the ATR team lead will be designated from outside the home MSC for the final ATR.

Action Required: The revised response is adequate. The District will work with the DDNPCX to resolve this issue. Implement the response in the final report.

Action Taken: The Jacksonville District is working with the DDNPCX to ensure the ATR team lead for the Final Report will be from outside the home MSC.

HQUSACE Assessment: Implementation complete. **Comment closed.**

2. Model Certification/Approval. The review plan indicates that model for economic analysis has been submitted to the DDN-PCX for review. What is the status of the review and recommendation of the DDN-PCX? Please note that Model Certification/Approval must be given by HQ prior to the Civil Works Review Board.

District Response: The DDN-PCX will commence the model review after AFB, pending higher authority approval of the economic assumptions for the proposed plan. In 2009 the spreadsheet models for the benefit evaluation for the reconfiguration of the training wall has been provided to the Deep Draft Navigation Planning Center of Expertise (DDN PCX). The DDN PCX granted an "Approved for Use" designation for the spreadsheet models.

AFB Discussion: The response is acceptable. All models will need to be forwarded to the HQ model certification panel for final consideration.

Action Required: Implement District Response.

Action Taken: All models have been sent to the DDNPCX and will be forwarded up to HQ for consideration.

HQUSACE Assessment: Implementation complete. **Comment closed.**

IV. RESOLUTION OF REVIEW COMMENTS FROM THE OCTOBER 2011 FINAL FEASIBILITY REPORT AND EA.

The review of the final feasibility report and environmental assessment produced only editorial comments and required no substantive revisions.

Prepared By:

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