Agency Technical Review Summary Report

June 2020

For Review Of:

Pearl River Watershed Hinds & Rankin Counties, Mississippi Integrated Feasibility Report & Environmental Impact Statement

February 2020
(Non-Federal Sponsor Prepared Decision Document)

Review Management Organization:

FRM-PCX

US Army Corps of Engineers ®

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Subject: Pearl River Watershed, Hinds & Rankin Counties, Mississippi - Integrated Feasibility Report & Environmental Impact Statement

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1. Introduction

This Agency Technical Review (ATR) Summary Report documents the ATR performed for the draft and final subject product(s) from June 2017 to April 2020. The products were developed by the Rankin-Hinds Pearl River Flood and Drainage Control District under the authority of Section 211 of the Water Resources Development Act of 1996. In the context of Section 211 and this ATR Summary Report, the Rankin-Hinds Pearl River Flood and Drainage Control District is the "Non-Federal Interest" responsible for the products subject to review and the "project delivery team" or "PDT" is the team established by the Non-Federal Interest to produce the products subject to review. The Vicksburg District (MVK) provided limited technical support to the Non-Federal Interest during development of the products. The MVK point of contact for the review was Mr. Jared Minor, Project Manager, CEMVK-PP-D. The ATR Team Lead was Ms. Sara Schultz, Regional Technical Specialist in the Sacramento District, CESPK-PDW. The Flood Risk Management Planning Center of Expertise (FRM-PCX) is the Review Management Organization (RMO) with responsibility for managing the ATR.

2. References

The ATR was conducted in accordance or in coordination with the following documents:

a. Engineering Circular (EC) 1165-2-217, Review Policy for Civil Works, dated 20 February 2018.
b. Review Plan, Pearl River Watershed, Hinds and Rankin Counties, Mississippi, version dated 12 November 2019.

3. Review Details

a. DrChecks[SM] Review Record

- *Project ID*: Pearl River Watershed Study
- *Project Name*: Pearl River Watershed-Integrated Draft Feasibility Report & EIS
- *Review ID/Edit*: 00001

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- *Project ID*: Pearl River Watershed Study
- *Project Name*: Pearl River Watershed-Integrated Final Feasibility Report & EIS
- *Review ID/Edit*: 00002

b. Type of ATR: Draft and Final

c. List of Product(s) Reviewed: Table 1 lists the products reviewed during ATR of the draft and final reports. Note that some additional appendixes were added in the final report and a few other appendixes changed names/letters between the draft and final reports.

Table 1: Products Reviewed List

Draft Report	Final Report
Draft Integrated Feasibility Report/ Environmental Impact Statement (EIS)	Final Integrated Feasibility Report/ Environmental Impact Statement (EIS)
Appendix A – Plan Formulation	Appendix A – Plan Formulation
Appendix B – Economics	Appendix B – Economics
Appendix C – Engineering[1]	Appendix C – Engineering[1]
Appendix D – Environmental	Appendix D – Environmental
Appendix E – Cultural	Appendix E – Environmental Justice
Appendix F – Environmental Justice	Appendix F – Cultural Resources
Appendix G – Public Involvement (Public Comments)	Appendix G – Public Involvement
	Appendix H – Public Comments (Summary)
	Appendix I – Reserved for Technical Reviews
	Appendix J – Biological Assessment and Biological Opinion
	Appendix K – USFWS Fish and Wildlife Coordination Act Report and Response

[1] Appendix C includes cost engineering and real estate

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d. ATR Chronology

Tables 2 and 3 highlight specific milestones in the ATR timeline.

Table 2: Draft Report ATR Review Chronology

Review Step	Date
ATR Kickoff Meeting	15 Jun 2017
Draft Report Documents provided for review / Start of ATR	21 Jun 2017
Comments provided in DrChecks	19 Jul 2017
ATR Comment Backcheck #1[1]	13 Sep 2017
ATR Comment Backcheck #2	14 Dec 2017
ATR Comment Backcheck #3	25 Apr 2018
ATR suspended pending preparation of the final report	15 Jun 2018

[1] The initial backcheck was performed informally outside of DrChecks in a spreadsheet, per request from the Non-Federal Interest.

Table 3: Final Report ATR Review Chronology

Review Step	Date
Final Report Documents provided for review	12 Nov 2019
ATR Kickoff Meeting / Start of ATR	12 Nov 2019
Comments provided in DrChecks	6 Dec 2019
Revised Documents provided in Dr Checks for backcheck	11 Feb 2020
ATR of Final Report Concluded (Summary Report Completion)	2 Jun 2020

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4. Background Information

a. Brief Description of the Product(s) Reviewed: In the Water Resources Development Act of 2007 (Section 3104), the US Congress conditionally authorized the construction and funding of $133,770,000 for a flood damage reduction project in the Pearl River Watershed in Rankin and Hinds counties, MS. The conditional authorization stipulated that the Secretary shall compare the level of flood damage reduction provided by the plan that maximizes national economic development benefits of the project to that of locally preferred plan and that the chosen plan must be environmentally acceptable and technically feasible.

The feasibility study was originally performed under Section 211 of the Water Resources Development Act of 1996. Section 211 gave a non-Federal interest the opportunity to take the lead in the planning and design for a flood control project in cooperation with the U.S. Army Corps of Engineers (USACE).

Latest USACE discussions concluded that the study is now authorized under PL 110-114, Section 3104, WRDA 2007. The Non-Federal Interest, the Rankin Hinds Pearl River Flood and Drainage Control District, is the lead in assessing the feasibility of flood risk reduction for the Pearl River Watershed within Rankin and Hinds Counties, MS.

b. Prior ATR History: No ATR was performed prior to the reviews covered in this ATR Summary Report. This summary report covers ATR of the draft report documents (June 2017 – June 2018) and the final report documents (November 2019 – May 2020).

5. ATR Team Composition

Hinds & Rankin counties, Mississippi, are located within the Vicksburg District and the Mississippi Valley Division (MVD). To maximize the independence of reviewers, the ATR team leader (ATR Lead) was selected from outside MVD and the ATR team members were selected from outside the MVK. No ATR team members were involved in the day-to-day production of the product(s) reviewed. All the ATR team members, including the ATR Lead, are certified to perform ATR by their respective Communities of Practice.

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The composition of the ATR team for this review was based from the study's latest review plan (2. References 1.b.), and the scope and content of the product(s) to be reviewed. The contact information and review roles for each ATR team member are provided in Enclosure 1 along with the PDT information. The experience, qualifications, and certifications of each ATR team member are provided in Enclosure 2. With the length of time between the draft and final review of the documents, the ATR Lead and five ATR members needed to be replaced due to retirement and other commitments (cultural, structural, geotechnical, H&H and cost engineering).

6. Charge to Reviewers

The charge to reviewers established the specific objectives of the ATR and the specific assessment sought from the ATR team. The charge for this review was developed by the ATR Lead, Project Delivery Team (PDT), and ATR team as appropriate. It was based on the scope and content of the product(s) reviewed. The charge to reviewers is provided in Enclosure 3.

7. Assessment of Quality Control/Quality Assurance (QC/QA)

In accordance with reference 1a, the ATR team is charged with assessing the District Quality Control (DQC) performed by the USACE District responsible for the products subject to ATR. In this case, the products subject to ATR were not developed by a USACE District, but rather by the Non-Federal Interest. No formal QC/QA documentation or certification of quality QC/QA was provided by the Non-Federal Interest PDT, limiting the ability of the ATR Team to assess the effectiveness of the QC/QA performed. The PDT did provide a verbal explanation of their QC/QA process that consisted of team meetings and informal annotated documents. The PDT further offered to provide these annotated documents, however the ATR team determined it would not be an efficient use of time to review marked up versions of the report. Rather, the ATR team assessed the effectiveness of QC/QA based on the quality and condition of the draft and final documents received for review.

Judging from the quality and condition of the documents reviewed and types of comments generated, it is the opinion of the ATR Team that QC/QA was inconsistent. This may have been caused by a number of factors, potentially including, but not limited to, lack of a formal process for documenting

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QC/QA and lack of familiarity with USACE guidance governing planning studies and reports.

8. Review Summary and Discussion of Significant Findings

Review of the draft and final products was challenging because the products were developed by a Non-Federal Interest with minimal assistance from USACE. Additionally, the PDT was not familiar with many of the USACE policy requirements for project justification and level of detail needed to support a recommended plan. The ATR team provided guidance and support to the PDT in a number of areas, including economics and cost engineering, where additional analysis was conducted as a result of the ATR review.

The ATR of the draft report products generated 153 comments with 19 critical flagged and 24 high significance. The ATR of the final report products generated 94 comments with 5 critically flagged and 28 high significance. Many issues raised during the review of the draft report were revisited during review of the final report with the PDT conducting additional analysis to respond to the review comments. This additional analysis allowed for many of the issues raised during both reviews to be addressed, however some outstanding concerns on the final products remain as noted below.

At the request of the Non-Federal Interest, no further coordination between the ATR team and PDT to resolve the outstanding concerns will occur. All comments on the final products have been closed in DrChecks. The following two subsections summarize the critically flagged and high significance comments from ATR of the final report products. The first subsection summarizes comments that were resolved sufficiently to support plan selection, justification, and implementation. The second subsection summarizes comments that have not been fully resolved and may require further action to support plan selection, justification, or implementation based on the best professional judgment of the ATR team. Finally, a third subsection briefly summarizes the critically flagged and high significance comments from ATR of the draft report products.

8.1 Final Report Significant Comments Closed with Adequate Resolution

The following high significance comments were resolved adequately and have been determined not to affect selection, justification or implementation

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of the Recommended Plan. High Significance Comments were identified in 7 review disciplines: Economics, Risk Assessment, Hydraulic Engineering, Environmental, Geotechnical Engineering, Cost Engineering and Plan Formulation.

The ATR team designates the significance of each of the comments based on best professional judgment. Critical/High significance comments are those in which the ATR team identified a fundamental issue within study documents or data that was equally or more likely than not (50% or greater chance) to influence the technical, legal, or policy basis for selection of, justification of, or ability to implement the recommended plan.

The following is a list of the high significance comments that have been resolved:

1) **8283962** (Risk Assessment): In order to perform an adequate review of the risk assessment, the HEC-FDA risk inputs, including but not limited to the exceedance probability-stage curves, will need to be verified. The reviewer requested the most current HEC-FDA model(s) containing the risk inputs (exceedance probability-stage curves, transform flow curves, ERLs, top of levee elevations, etc.) for review. The comment was closed after the PDT provided the requested information.
2) **8283964** (Economics): No DQC documentation or certification was provided to the ATR team. Because this document has been developed by a non-Federal interest using the Section 211 authority, the USACE DQC process was not followed. The comment was closed when it was determined no DQC documents were available beyond track changes versions of the report.
3) **8283978** (Economics): Documentation of the incremental analysis should be included in the Economic Appendix. The comment was resolved by revision to Appendix B to include a table showing the costs and benefits for each added increment.
4) **8283979** (Risk Assessment): The complete presentation of risk assessment results is needed to ensure uncertainty information is conveyed in various ways to help in decision making. The comment was closed when the requested information was provided by the PDT in the updated Economics Appendix.
5) **8283980** (Economics): No data was provided to support the benefits associated with preventing damages to the WWTP. The comment was closed when the PDT provided information in the updated Economics

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Appendix showing the existing levee could be upgraded to elevations reducing the flood risk up to the 0.02% ACE event.

6) **8283985** (Economics): Recommend that a more complete and thorough analysis and documentation of the estimation of intensification and location benefits be included in the Economic Appendix. The comment was closed when the PDT provided the requested information in the updated Economics Appendix.
7) **8285667** (Economics): The Economic Appendix does not indicate whether or not the waste water treatment plant levee is economically justified on an incremental basis. The comment was resolved with the inclusion of an incremental analysis table comparing costs to benefits for each increment.
8) **8284201** (Hydraulics): The proposed weir may be considered a dam which could require more permitting or other regulatory work. ER 1110-2-1156 (Safety of Dams) section 1.6 (2) lists an impounding volume criteria of 50 Acre Feet above which a water control structure is considered a dam. The comment was closed when the PDT responded they have coordinated with the required regulatory offices.
9) **8284826** (Environmental): A USFWS Coordination Act report has not been included, and it's unclear what input USFWS has provided on the proposed action. The comment was closed when the Final CAR was provided to the reviewer.
10) **8285050** (Geotech): Interior Drainage Structures. The comment noted that interior drainage structures would be impacted by the proposed alternative. The PDT evaluated a combination of a land side channel with a gated structure through the Richland levee and found it could be a feasible solution to allow the pump station to gravity flow as currently designed. As an alternative to the landside ditch option, the large area available at this location as a sump provides significant storage which can alleviate some of the increased pumping needs. The response resolved the concern and the comment was closed.
11) **8285057** (Geotech): Removal of the riverside blanket would expose sand layers on the riverside of the levee which could worsen seepage issues. The comment was resolved by the PDT adding language to Section 2.4 of the Construction Methods and Geotechnical Analysis to explain that a 40-foot wide semi-compacted impervious riverside maintenance berm to limit seepage through the levee would be added. In addition, the levee setback will involve crossing the old river channel at various locations. Slurry trenches were assumed to be needed at those sites for cost estimates.
12) **8285719** (Plan Formulation): Include info on Population at Risk. The number of people living in the floodplain should be included in the

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report in order to communicate flood risk to the public and decision makers. The PDT modified the Report and Appendix A to include statistics on the number of people in the floodplain and the comment was closed.

13) **8285721** (Plan Formulation): Focus on Life Safety. The problem statement should focus on risks to life safety. The PDT modified the problem statement in the Report and Appendix A to focus on reducing risk to life safety and the comment was closed.
14) **8285266, 8285268, 8285274, 8285277, 8285279, 8285282, 8285283, and 8285284** (Cost Estimating) Comments concerning labor rates, MII notes, site specific crew details, Monte Carlo analysis, TPCS template, and PED and Construction Management costs were all resolved and closed through coordination with the PDT.

8.2 Final Report Significant Closed Comments Requiring Future Resolution.

The following comments have been closed; however, concerns raised in the comments related to plan selection, justification or implementation have not been fully allayed. The comments were closed when additional responses to follow-on backcheck comments did not yield new information.

Note that a subset of these comments are identified as Critical, "Flagged for Follow Up" in DrChecks[SM] pending a future review. A "Critical" comment is defined as one in which a fundamental issue was identified within the study documents or data that is highly likely (near certain) to influence the technical, legal, or policy basis for selection of, justification of, or ability to implement the recommended plan. These comments remain flagged in DrChecks[SM] and are noted here with an asterisk (*).

For USACE developed products, ATR comments that cannot be fully resolved between the ATR team and the PDT are elevated to the USACE vertical team for resolution. In this case, the Non-Federal Interest is aware of the remaining concerns and there is no vertical team assigned to resolve outstanding issues. The comments are closed, denoting the completion of USACE ATR of the subject products, but are highlighted in this summary to inform decision making or potential future project studies or implementation.

1) **8283969** (Economics): Benefits associated with the State and local government emergency costs were not initially provided. The PDT provided this information after coordination with the reviewer. The reviewer also informed the PDT that flood fighting benefits have not

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been allowed in other USACE studies and that these benefits may need to be removed in the future. The comment was closed when the PDT acknowledged that those benefits may need to be removed.

2) **8283970** (Economics): Displacement and emergency costs-related categories in the NED analysis should be part of the Other Social Effects (OSE) account per direction from HQUSACE. In the absence of written guidance directing their removal, the PDT determined that it was most appropriate to maintain the same benefit calculation method used in the Draft ATR and IEPR reviews. The comment was closed when the reviewer advised the PDT that the vertical team may require the removal of these benefits, the result of which could decrease project benefits and potentially jeopardize project justification.

3) **8283984** (Economics): Location benefits comprise more than 25% of total benefits so it is critical that the derivation of these benefits are presented fully. It is important to note that this benefit category is rarely used because of policy concerns related to E.O 11988 (Development in the Floodplain). Project justification appears to be very sensitive to the inclusion of these benefits. The comment was closed when the PDT provided the requested information in the updated Economics Appendix.

4) **8284197** (Hydraulics): Weir submergence may not be taken into account in the RAS models. If the discharge coefficient doesn't change, discharge over the weir may be erroneously high in which case the flood profile reductions shown in Table 3.3 would be too high. The comment was closed when the hydraulic model was provided to the reviewer.

5) **8284198** (Hydraulics): The addition of a weir and repositioning a levee upstream resulted in a 5-8 ft reduction in the 100-year flow profiles which is not typical and requires thorough review. Water control structures such as the weir are typically submerged during large flood flows at which time flood profiles return to normal or higher levels upstream. The comment was closed when the RAS model was provided to the reviewer.

6) ***8284825** (Environmental): A Summary of Public Comments received or a description for how each comment was considered and addressed within the decision-making process was not provided in the Final Report Documents. The comment was closed when the PDT provided a

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database of the comments received and a summary of the comments which was incorporated in to the report. The reviewer requested that USACE OC verify that comments were considered to the extent that is legally sufficient.

7) ***8285055** (Geotech): The Weir should be classified as a dam. These features should be designed like dams to meet USACE design criteria (slope stability (EM 1110-2-1902), seepage (EM 1110-2-1901), and frequency of event (PMF)). Levees upstream shall be fully analyzed and designs shall meet criteria of EM 1110-2-1913. These items should be captured and conveyed in the Construction Methods and Geotechnical Analysis Portion of the Feasibility Report so that they are followed through with during PED.

The reviewer coordinated with the Levee Safety Center and MVK Geotechnical Branch to discuss how the design would be effected by the permanent hydraulic loading on the levees due to the new weir being constructed and holding a normal pool to El 258. The permanent pool upstream of the proposed weir will result in a permanent hydraulic head of up to 8 feet on the levees. The weir and levees upstream (where the landside elevation is lower than El 258) that will hold the permanent head will function as a dam.

The comment was closed when the PDT responded that a permanent hydraulic head of 8 feet on the toe of the levees is not expected. They explained further that most existing levee toe elevations are currently at elevation 260/+ feet. Excavation limits, to be finalized during PED, can be adjusted as needed to insure all aspects of seepage are accounted for, and excavation can be limited near levees where seepage is a concern. Cost estimates include allowances to address seepage concerns as necessary during PED. The final the levee and channel improvement reach design will adhere to all USACE guidelines, whether a dam or levee, as required. The design team will coordinate with USACE to determine which guidance to utilize during each phase of design.

8) **8285702** (Plan Formulation): Formulation of a Nonstructural Alternative. A viable smaller non-structural alternative may have been overlooked due to the assumption that the non-structural plan had to meet the same outputs as the structural alternatives. The comment was closed with a recommendation that the PDT include non-structural measures in the final plan.

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9) ***8285727** (Plan Formulation): Incremental Analysis of Final Array needs to display justification for the weir. Incremental justification was conducted but follow up should be done for the cost allocation to determine if weir is a LERRD and provides an O&M function, meaning that it is a non-Federal cost.

10) **8285740** (Plan Formulation): The Level of Performance of the Recommended Plan is not described nor is the associated risk reduction afforded by the plan as required by ER1105-2-100. The comment was closed with a recommendation to compare the FWOP to the With-Project condition (Channel Improvements) in a table in the main report (EIS) for the reach with the lowest with project performance.

11) ***8293837** (Real Estate): The Standard Fee Estate required for the project should be compared to the current rights owned by the sponsor. An analysis of the interests currently owned and those required by the federal Government has not yet occurred and could delay construction, credits or reimbursements. The comment was closed based on the understanding that the appropriate analysis would be conducted at a later date.

The report speaks to the NFS having control of project lands rather than in terms of estates or rights owned. The NFS control may not match the required standard estate of the Corps or the requirements of the PPA and the REP does not contain an analysis of this. It is important to understand if title is in the name of the NFS.

12) ***8293843** (Real Estate): Language necessary to restrict the surface mineral rights is not included in the fee estate. The comment was closed based on the understanding that the Real Estate plan would be revised to address this topic.

A complete record of the final ATR comments, responses, and associated resolutions, and review documents are available in DrChecks[SM]. The Final Report comments are provided in Enclosure 4.

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8.3 Draft Report Critically Flagged and Significant Comments

The comments received on the draft report were either responded to with sufficient detail or were flagged for follow up in the review of the Final Report and are addressed in the preceding sections. Therefore, these comments are only briefly mentioned here for awareness. The comments identified as "open" or "flagged for follow up" have been resolved to the extent practical during the ATR of the final report.

ID#	Discipline	Summary of Comment	Resolution
Critically Flagged Comments			
7058527	Geotechnical Engineering	EO11988 compliance – TSP effects to wetlands	B/C ratio for other alternative less than one.
7066365	Civil Engineering	Level of Performance of Final Array not shown, Suite of flood frequencies not used – only targeted the 1% event	(Open) Flood event profiles added but report still does not include range of frequencies.
7067746	Economics	Without Project engineering performance statistics are not documented.	With and without project performance statistics have been added.
7067773	Economics	Describe how benefits associated with prevention of emergency costs were calculated.	Included evacuation and reoccupation benefits table.
7069330	Cost Engineering	Present cost contingencies separately to confirm they are included. Include date of table.	(Open). This comment has been resolved through the final ATR review.
7069332	Cost Engineering	Contingencies used are too low.	(Open). This comment has been resolved through the final ATR review.
7069337	Cost Engineering	Unit Pricing is too low.	(Open). This comment has been resolved through the final ATR review.
7069585	Real Estate	LERRD's costs incorrectly calculated.	(Closed; Flagged For Follow Up) $12 Million utility adjustments should be analyzed to determine if it is a relocation and LERRD in the 02 Account rather than cost-shared construction item.
7069594	Real Estate	Non-Policy Compliant with ER 405-1-12: Real Estate Plan requirements.	(Closed: Flagged For Follow Up) this comment was reiterated in the Final Report review.
7069678	Real Estate	It is unclear if the sponsor controls the land in fee title as required.	This comment was reiterated in the Final Report review.

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7069699	Real Estate	Non-Standard Estates need to be identified using required language	(Closed: Flagged For Follow Up) This comment was reiterated in the Final Report review.
7069702	Real Estate	Include non-Federal sponsor capability analysis	Language regarding eminent domain was added.
7069773	Real Estate	Break out project purposes to include recreation and environmental project features which may impact crediting and cost share percentages.	(Closed: Flagged For Follow Up) Recreation lands were not separate. REP needs more detailed description of standard estates required. This comment was reiterated in the Final Report review.
7071779	Environmental	Screening criteria do not use P&G definitions.	(Open) Response did not address comment however comments by other reviewers also addressed this concern and the report was modified accordingly.
7071790	Environmental	TSP Impacts to Wetlands with no discussion of LEDPA.	(Open). Response was non-responsive to the question. Comment was backchecked during review of the final.
7071797	Environmental	Fish & Wildlife Coordination Act Compliance is unclear – has coordination taken place?	Will provide FWCA and Section 7 Consultation documentation for the Final report.
High Significance Comments			
7053637	Hydraulic Engineering	Levee Fill Quality from channel excavation is unclear	Only suitable material would be used.
7056800	Cultural	Coordination with SHPO and tribes must be documented.	Will include correspondence when coordination is complete.
7058738	Geotechnical Engineering	Costs for upgrade Pumps are not included.	Revised modeling shows upgrades to pumps not needed.
7058837	Geotechnical Engineering	Include justification for removing levee segments.	Additional detail added to report to show this is economically effective.
7059001	Geotechnical Engineering	Structures evaluated for non-structural alternative (A) at 500 year level while other alternatives analyzed at 100 year.	Hydraulic profiles for flood event comparisons between the alternatives were added to the report.
7059083	Geotechnical Engineering	Mitigation Costs for Alt A seems low compared to Alt b even though wetland disturbance is 3.5 times greater than Alt B.	Mitigation costs have been updated.
7059420	Geotechnical Engineering	Backwater Flooding combined with headwater flooding on tributary creeks has not been analyzed.	Timing of tributary flooding was modeled to show it is not impacted by TSP
7059464	Geotechnical Engineering	Use of dredged soils for levee construction will be difficult to process for engineered fill. May increase costs.	Only proper material will be used.

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7061147	Geotechnical Engineering	Will Traffic be impacted during flood events greater than 100 year? State residual risk.	Language was added to report to clarify traffic impacts and residual risk.
7061193	Geotechnical Engineering	How will the project perform during larger events than the 1% that was modeled?	Additional description of the TSP performance during larger events was added to the report.
7066363	Geotechnical Engineering	Extent of contamination from HTRW sites within the study area has not been described.	Further testing and additional language will be added.
7066364	Geotechnical Engineering	Acknowledge responsibility for providing LERRDs clean of HTRW contamination	Text added to "non-Federal Responsibilities" section in the report.
7066368	Civil Engineering	Channel excavation serve no conveyance/flood improvement since it is inundated by weir impoundment.	Height of the weir was selected to provide cost effective balance between flood risk management conveyance and expense of floodplain excavation. The expanded channel limits the sponsor's maintenance requirements through vegetation control.
7069528	Hydraulic Engineering	Climate Change has not been addressed.	Policy requires qualitative analysis only. This will be added to the report.
7069774	Real Estate	REP does not address Disposal Requirements. What will be done with excavated fill beyond levee construction?	Disposal will be placed behind the levees identified in REP to be acquired for the project.
7069776	Real Estate	The REP does not include the LERR needed for Mitigation.	Mitigation land costs will be included in the REP.
7071776	Environmental	Identification of Level of Performance as related to LEDPA	(Open) Alternatives formulated to meet the 1% event but a larger event was also analyzed. TSP is most cost effective.
7071781	Environmental	Why is a new Weir needed to reduce flood risk?	More description of the new weir was added to the document. New weir impounds water which keeps conveyance area free from vegetative growth.
7071784	Environmental	How were environmental impacts considered during selection of the TSP which includes over 1000 acres of wetland fill.	(Open) Selection of the TSP was done considering all of the evaluation criteria and the planned objectives.
7071786	Environmental	Explain impacts of each alternative on flood heights	Over-excavation of the floodplain increases the conveyance which reduce the flood evaluations and reduces the flood risk.
7071787	Environmental	Describe impacts to Tributaries from the plan	This information is in the Engineering Appendix. It would be helpful to bring this in to the main report.

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7071795	Environmental	Describe how impacts were assessed and Mitigation needs were identified.	(Open) The mitigation plan was updated to respond to the comment and a Mitigation and Adaptive Management plan will be added.
7071796	Environmental	It appears Recreation was used as a criteria to select the TSP but was not identified as an objective of the project.	Recreation was not used as a key factor for selecting the plan.
7073089	Plan Formulation	The report states that Alt C is the TSP, the LPP and the NED but does not provide a comparison of the annualized cost, annualized benefits and the net benefits in order to determine that the NED plan had been correctly identified.	The average annual costs, benefits and B/C ratio for Alts B and C were added to the report.

A complete record of the draft ATR comments, responses, and associated resolutions, and review documents are available in DrChecksSM. The Draft Report comments are provided in Enclosure 5.

9. Status of Cost Engineering Mandatory Center of Expertise (MCX) Coordination and Certification

The Cost Engineering MCX reviewer was assigned by the MCX and the reviewer provided comments in DrChecks^{SM} along with the rest of the ATR team. There were a number of significant cost related comments and these were all resolved and closed through coordination between the reviewer and the PDT. MCX cost certification has been provided to the PDT and is included as Enclosure 6 to this report.

10. Lessons Learned

- Studies developed by Non Federal project proponents are challenging; an up-front game plan for processing and approval is a necessity.

- Without clear guidance on approval process and clear understanding of USACE policy and guidance, the process can easily bog down. For example, the review of the draft report took more than a year and the review of the final report took 7 months. Part of this time was used by the PDT to conduct additional analysis to support the study recommendations after the ATR team identified gaps or flaws in the analysis.

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- ATR Lead role is more involved in coordinating, advising, and educating during the review.

- ATR Team members were reviewers but also educators and guides to the Non-Federal Interest. However, it is unclear to what extent the Non-Federal Interest is required to abide by USACE policy and guidance. For example, there were several comments related to current accepted practice within the USACE economics community of practice that have not been spelled out in formal guidance, but serve to ensure policy requirements are met. The reviewer recommended revisions based on the current practice which were not accepted by the PDT. The result could be that many of the benefits used to justify the project are not accepted as policy compliant.

- Review Plan needs to be more specific especially with regards the conduct and documentation of QC/QA. Need a strategy for how to deal with situations where no evidence of DQC is provided.

11. Statement of Completion and Certification of ATR

The ATR Statement of Completion is included in Enclosure 7. No USACE ATR certification has been prepared for this ATR as the products reviewed were not prepared by USACE.

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Enclosure 1

Contact Information and Review Role(s) of ATR Team & PDT Members

DRAFT and FINAL REPORT ATR TEAM CONTACT INFORMATION

Discipline	Draft Report	Final Report
ATR lead	Miki Fujitsubo N/A	Sara Schultz [redacted]
Plan Formulation	Sara Schultz [redacted]	Sara Schultz [redacted]
Economics / Risk Analysis	Timi Shimabukuro [redacted]	Timi Shimabukuro [redacted]
Environmental Resources/ NEPA	Elliott Stefanik [redacted]	Elliott Stefanik [redacted]
Cultural Resources	Robert Dunn N/A	Eric Williams [redacted]
Civil Engineering / HTRW	Kirk Sunderman [redacted]	Kirk Sunderman [redacted]
H&H Engineering / Climate Change	Tom Gambucci [redacted]	Tom Gambucci [redacted]
Geotechnical Engineering	Jamie Evans [redacted]	Nicholas Aleman [redacted]
Structural Engineering	Cory Delong [redacted]	Daniel Rocha [redacted]
Cost Engineering	Jim Neubauer N/A	Bill Bolte [redacted]
Real Estate	Paula Johnson- Muic [redacted]	Paula Johnson- Muic [redacted]

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PDT CONTACT INFORMATION

Position	Name	Phone Number	Email Address
Chief Legal Counsel	Keith Turner	601-965-1958	[redacted]
Project Manager/ Lead Engineer	Blake Mendrop, P.E.	[redacted]	[redacted]
Environmental	Walt Dinkelacker	[redacted]	[redacted]
Economist	Jesse McDonald	[redacted]	[redacted] contact Blake first
Consultant	Dallas Quinn	[redacted]	[redacted]
Executive District	Garry Miller	[redacted]	[redacted]
Legal Counsel	Betty Ruth Fox	[redacted]	[redacted]
Environmental/ Solid Waste	Blake Mendrop	[redacted]	[redacted]
Engineer	Koby Wofford	[redacted]	[redacted]
Water Quality	Blake Mendrop	[redacted]	[redacted]
Planning	Blake Mendrop	[redacted]	[redacted]
Cultural Resource Report	Walt Dinkelacker	[redacted]	[redacted]

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Enclosure 2

Experience and Qualifications of ATR Team Members
ATR TEAM EXPERIENCE & QUALIFICATIONS STATEMENTS

Final Report ATR Team

Plan Formulation – Sara M Schultz
Plan Formulation Regional Technical Specialist
Sacramento District: CESPK-PDW

Ms. Schultz is a Regional Technical Specialist in the Water Resources Branch, Planning Division, Sacramento District. She is a plan formulator with 20 years of experience specializing in Civil Works projects that have focused on flood risk management, ecosystem restoration and watershed assessment. Ms. Schultz' current duties include several projects that have both flood risk management and ecosystem restoration purposes, and providing internal District Quality Control (DQC) and policy review of planning documents. She has served as a technical and policy reviewer for the South Pacific Division region. Past reviews have included Springfield, Utah, the Central Valley Integrated Flood Management Study, Yuba River Ecosystem Restoration Study, Folsom Dam Raise Study, and the CALFED (Sacramento and San Joaquin River Delta) Levee Stability Program.

Ms. Schultz earned a Bachelor's Degree in Art History from the University of California, Berkeley and a Master's Degree in Landscape Architecture from California State Polytechnic University, Pomona. Ms. Schultz has ATR certification for plan formulation.

Economics – Timi Shimabukuro
Regional Economist
Sacramento District: CESPK-PD-WE

Mr. Shimabukuro is a Regional Economist in the Water Resources Branch, Planning Division, Sacramento District. He has 19 years of water resources/risk analysis experience, including 8 years in the San Francisco District, 10 years in the Sacramento District, one year at the U.S. Bureau of Reclamation, and a quick four-month detail in the Gulf Region Central (GRC) District – Baghdad, Iraq. He has worked on various types of studies such as coastal storm-damage reduction, ecosystem restoration, multi-purpose cost allocation, PL84-99 emergency repair, MILCON-Economics, and dam safety, but focuses mainly on flood risk management. He has served as the lead economist on several FRM studies, including the Natomas PACR (2010), American River Common Features GRR (2015), West Sacramento GRR (2015), and currently, the Pajaro River GRR (2016 to present), and is familiar with risk analysis techniques and guidance.

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Prior review experience have included the Dallas Floodway FRM study (ATR) as well as multiple internal District Quality Control (DQC) reviews. Mr. Shimabukuro has a Bachelor's Degree in economics from the University of Hawaii (Manoa) and is ATR-certified for flood risk management studies.

Environmental/NEPA: Elliott Stefanik, CEMVP
Chief of the Environmental Planning Section
St. Paul District: USACE-MVP-PD-P

Mr. Stefanik has 17 years of experience between Rock Island and St. Paul Districts, working on all aspects of environmental planning studies. Mr. Stefanik is currently the Chief of the Environmental Planning Section within the Regional Planning and Environment Division North, St. Paul District. He has also has served for almost 5 years as a Biologist, Regional Technical Specialist for MVD, as well as served for four months as the Acting Operational Director of the Eco-PCX.

Mr. Stefanik's work experience has included environmental compliance (e.g., NEPA, CWA and ESA), watershed planning, habitat restoration planning, impact assessment, mitigation planning and other activities for fisheries and floodplain resources on mid-western rivers. Elliott also worked previously for two years as a fisheries biologist for a contractor in Sacramento, Ca.

Elliott is ATR Certified for Environmental Compliance and Ecosystem Restoration Planning, and has served as an ATR reviewer and ATR lead for numerous planning studies and engineering documents. Elliott has a Bachelor of Science in Biology from the University of Wisconsin, Platteville; and a Master of Science in Biology from the University of Wisconsin, La Crosse.

Cultural Resources: Eric Williams, CEMVN
Chief of the Cultural and Social Resources Analysis Section
New Orleans District: USACE-MVN-PDN-NCR

Mr. Williams is an Archaeologist with 20+ years of experience in cultural resources management for Civil Works, military construction, public land use activities. Mr. Williams has worked for the U.S. Marine Corps, U.S. Army Corps of Engineers, Bureau of Land Management, and U.S. Forest Service.

Mr. Williams' current duties include supervising and providing guidance to staff with backgrounds in archaeology, architectural history, landscape architecture, and community and recreation planning, for complex civil works projects that include both flood risk management and ecosystem restoration. He also provides internal District Quality Control (DQC) and policy review of planning documents. Mr. Williams earned a Bachelor's Degree in Anthropology from the University of South Alabama, attended graduate school at Eastern New Mexico University, and is

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currently completing a Master's of Science degree in Geographic Information Sciences with Northwest Missouri State University.

Civil Engineering – Kirk Sunderman, P.E.,
Regional Technical Specialist
Mississippi Valley Division, CEMVR-EC-DM

Mr. Sunderman is known for his expertise on leading regional, multi-discipline, technical design teams on large and complex flood risk management, navigation, and vertical construction projects. He has strong communication and collaboration skills developed through years of experience with customers, public, outside agencies and media outlets. Civil Engineering design skills include site planning and development, utilities, geometric design, civil plans and profile, and 3-D modeling (Inroads and Sketchup). Over 20 years' experience in leading flood emergency response teams, conducting levee inspections and modification reviews. Conducted well over a 100 reviews (DQCRs, ATRs, BCOES) on planning, engineering, and construction documents. He co-authored a policy that set MVR guidelines for documenting civil engineering analysis.

- Cedar Rapids FRM Project, Cedar River, Cedar Rapids, Iowa - $100 M – Technical lead for regional design team through Initial Assessment, Feasibility Report, and 35% Plans
- Mad Creek FRM Project, Mad Creek and Mississippi River, Muscatine, Iowa - $12 M – Technical lead and civil designer through Preconstruction Engineering and Design (PE&D) and Engineering During Construction (EDC)
- Charenton Flood Gate, Atchafalaya Basin, Charenton, Louisiana - $40 M – Technical lead for regional design team during Design Documentation Report phase.
- Dam Berm Riprap Repairs, Lake Red Rock, Pella, Iowa - $1.2 M – Civil designer through PE&D and EDC
- Deferred Maintenance Prioritization – Created and implemented current MVD ranking process for deferred O&M and MR&T flood risk management budget packages

Bachelor of Science, Civil Engineering, Iowa State University (1991)
Professional Engineer, State of Iowa, No. 13665, registered since 1996

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Hydraulic Engineering / Climate Change – Thomas R. Gambucci, P.E., C.F.M., D.WRE
Navigation and Flood Control Regional Technical Specialist (MVD) Rock Island District: CEMVR-EC-HH

Mr. Gambucci is a Regional Technical Specialist in the Hydraulics & Hydrology Branch, Engineering & Construction Division, Rock Island District. He is a hydraulic engineer with 22 years of experience in design and review of H&H structures and projects. He is recognized as a Subject Matter Expert (SME) in Inland Navigation and River Hydraulics and is a CERCAP.

Mr. Gambucci's current duties include dam breach analysis, PA co-facilitator for the RMC, and leader of the Navigation Sub-CoP group. This fiscal year he has completed eight ATRs as a technical and policy reviewer across the Nation. Past reviews have included navigation improvement projects (including UMR L&D2), shoreline protection projects (including coastal, Port Monmouth), and habitat restoration projects such as UMRR projects Lake Odessa and Keithsburg (Pools 17 and 18 of the Upper Mississippi River).

Mr. Gambucci received his Master's degree in Civil and Environmental Engineering from the University of Wisconsin – Madison in 1995 and a certificate of Organizational Leadership from St. Ambrose University in Davenport, Iowa in 2010. He is a registered Professional Engineer in the State of Wisconsin (No. 32903-6).

Mr. Gambucci has performed numerous ATRs throughout the nation. He is recognized as a Subject Matter Expert (SME) in Inland Navigation and River Hydraulics, is a Regional Technical Specialist in Navigation and Flood Control, and is a CERCAP (Corps of Engineers Review Certification and Access Program) certified reviewer.

Geotechnical Engineering – Nicholas (Nikko) Aleman
Geotechnical Regional Technical Specialist (MVD) Memphis District: CEMVM

Mr. Nicholas (Nikko) Aleman is a RTS for MVD and works in the Geotechnical Design Section at MVM. Mr. Aleman joined the Corps in April 2014 and has been a lead geotechnical engineer for several phases of the Bayou Meto Basin project, performed design and peer review for two phases of NOV Hurricane Protection System, is on the Team that is tasked with re-writing EM 1110-2-2502. Mr. Aleman also performs levee inspections, levee screenings, and served as geotechnical advisor for emergency flood fighting during high water events in 2015/2016, 2017, 2018, and 2019.

Prior to joining the Corps, Mr. Aleman worked for eight years in private geotechnical consulting as a project manager/geotechnical engineer on transportation, industrial, and commercial projects. Mr. Aleman has performed and managed construction materials testing services on industrial and commercial projects. Key assignments

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included design on industrial projects and transportation infrastructure projects with inter-disciplinary design teams and working as a site manager for geotechnical/CMT services on a new multi-billion dollar industrial construction.

Mr. Aleman is a registered professional engineer in the State of Tennessee. He earned his B.S.E. at the University of Tennessee at Chattanooga in 2006 and earned his M.S.C.E. at the University of Memphis in 2015.

Structural Engineering – Daniel Rocha
Chief, Structural Engineering Section, Memphis District (MVM)

Mr. Rocha is the Chief of the Structural Engineering Section, Design Branch, Engineering & Construction Division, Memphis District. Mr. Rocha is a structural engineer with 15 years of design experience in both Civil Works Structures and Building Design (MILCON and Commercial structures). In addition to his design experience, Mr. Rocha has also been an adjunct professor of Civil Engineering at Christian Brothers University in Memphis, TN since 2011, where he teaches Reinforced Concrete Design and Structural Steel Design.
Mr. Rocha currently manages a team of 6 engineers and technicians, with a significant Civil Works workload with Mississippi River and Tributaries, as well as supporting a robust Work for Others program with design projects for several districts and reach back support for Transatlantic Division in Overseas Contingency Operations.

Mr. Rocha has a Bachelor's of Science Degree in Civil Engineering and a Master's of Science Degree in Civil Engineer, both degrees earned at Mississippi State University. Mr. Rocha is a Licensed Professional Engineer in TN, GA, AR, and LA. Mr. Rocha is ATR Certified for structural engineering.

Cost Engineering – William Bolte
Cost ATR Coordinator – Cost Engineering Center of Expertise (NWW) Walla Walla District: CENWW-ECE

Mr. Bolte is the Civil Works Cost ATR Coordinator at the Cost Engineering Center of Expertise, Walla Walla District. He is a cost engineer with over15 years of experience in military, HTRW and civil works projects including flood risk management and navigation improvement projects.

Since 2011, Mr. Bolte has served as the assistant and now lead Cost ATR Coordinator for the MCX performing ATRs on various civil works projects throughout the nation. On average Mr. Bolte has been involved with forty or more ATR reviews per year, ranging from $5M or less CAP projects to Multi-Billion programmatic updates. Mr. Bolte has served many lead roles in both developing and reviewing budgets for Department of Energy and Corps projects

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Mr. Bolte earned a Bachelor's Degree in Civil Engineering and Master's Degree in Structural Engineering the Missouri University of Science and Technology, Rolla. He is a licensed Professional Engineer in the State of Washington and is registered with the Corps of Engineers as a Certified Cost Engineer.

Real Estate – Paula Johnson-Muic
Chief, Real Estate
Southwestern Division, CESWD-PDR

Ms. Johnson-Muic is a Realty Specialist serving as the Chief, Real Estate, Southwestern Division (SWD). She is an Attorney by profession and has 26 years of experience in USACE land acquisition and planning for civil cost-shared and full federal projects.

Over the last 13 years in SWD, Ms. Johnson-Muic has reviewed approximately one hundred and fifty planning and other decision documents and PPAs for quality assurance/quality control for Real Estate. Past ATR assignments include: SAS AIWW Dredged Material Management Plan (Feb-Apr 2013); NWO Chatfield Water Reallocation Study (Mar-May 2013); Central City Valley Storage Mitigation Plans and Specs (Jan-May 2013); NAN Hudson Raritan Estuary (Mar 2017).

Ms. Johnson-Muic is a licensed Attorney with a J.D. from Dickinson School of Law, and a B.A. from Penn State University in Political Science, Minor in Business. Ms. Johnson-Muic has an ATR certifications for Deep Draft Navigation, Inland Navigation, Ecosystem Restoration, Flood Risk Management, Water Management and Reallocation, Coastal Storm

DRAFT ATR REVIEWERS NOT PREVIOUSLY LISTED

ATR Lead – Miki Fujitsubo,
National Technical Specialist FRM-PCX
Sacramento District: CESPK-PD-W

Mr. Fujitsubo has over 27 years of Federal service and experience with the U.S. Army Corps of Engineers in engineering and planning. His federal service includes two years with the U.S. Fish & Wildlife Service as a senior refuge planner for California and Nevada. Other professional experience includes over 10 years the in private landscape architecture / land planning industry and parks/recreation.

Mr. Fujitsubo's current responsibilities involve serving as the national technical specialist for the FRM-PCX supporting national, MSC, and District efforts in FRM technical and policy studies, review, and providing PCX Guild programs support and training.

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Mr. Fujitsubo's past responsibilities were as a senior plan formulation and water resource regional technical specialist with successful work efforts on the American River Folsom Dam Modifications & Raise, Columbia River Basin, Sacramento River Watershed, California Central Valley, Lake Tahoe Basin, and the Sacramento-San Joaquin Delta, and Sutter Basin. Work experience for engineering includes projects in civil works, ecosystem restoration, military, and HTRW.

Mr. Fujitsubo is a Licensed Landscape Architect #2269 State of California with a Bachelor of Science in Environmental Planning/Landscape Architecture from U.C. Davis; a Certificate of Environment and Land Use Management from U.C. Extension. Mr. Fujitsubo is a certified in ATR Plan Formulation.

Structural Engineering – Cory D. De Long, PE, RTS
Structural Regional Technical Specialist
Rock Island District: USACE-MVR-EC-DS

Mr. De Long is a Regional Technical Specialist in the Structural Section, Design Branch, Engineering and Construction Division. He is a Civil Engineer with 25 plus years of experience specializing in civil works projects that include inland navigation locks and dams, ecosystem restoration, bridges, and flood risk management.

Mr. De Long's current duties include the review, inspection, and design of structures for projects that have inland navigation and flood risk management purposes. He has served as a technical and policy reviewer for the Mississippi Valley Division and the Nation. Recent reviews include the Lock and Dam No. 22 Tainter Gate Design, the Illinois Waterway Valve Bulkhead Design, and the Lock No. 19 Vertical Lift Service Gate. The most recent design completed was an anchorage weldment support for a bulkhead center post. Past designs include lock miter and vertical lift gates.

Mr. De Long earned a Bachelor's Degree in Civil Engineering from the University of Louisville, and a Master's of Engineering in Civil Engineering, with and emphasis in Structures, also from the University of Louisville, Kentucky. He is a licensed State of Iowa Civil Engineer, certificate number 13857.

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Geotechnical Engineering – James Evans
Geotechnical Regional Technical Specialist
Memphis District: USACE-CEMVM

Mr. Evans has worked for the Memphis District Army Corps of Engineers in the Geotechnical Engineering Branch since October 2006. Mr. Evans is a registered Professional Engineer in Tennessee, Arkansas, and Mississippi and holds a Bachelor of Science and Master of Science in Civil Engineering from The University of Memphis. Before accepting his current position with the Memphis District in 2006, Mr. Evans worked 7 years as a geotechnical consulting engineer for Professional Service Industries, Inc. in Memphis, Tennessee.
He has served as the Geotechnical Advisor for the Caruthersville area during the flood fight in 2008 and as the Geotechnical Advisor for the White River area during the flood fight in 2011. He has experience performing seepage analysis and design reviews of levees in the lower Mississippi Valley. He is experienced in the design of seepage berms, relief wells, and slurry trenches. He currently serves as a Geotechnical Regional Technical Specialist for the Mississippi Valley Division in the Memphis District- Geotechnical Engineering Branch.

Cultural Resources - Robert A. Dunn, Ph.D., RPA
Cultural Regional Technical Specialist
Mississippi Valley Division: USACE-MVD

Mr. Dunn has over 30 years of Corps professional experience in the fields of archaeology and cultural resources management. He has been a registered professional archaeologist (RPA) since 2001. Prior to joining the COE in 1983 he worked as a principal investigator in Wyoming for two archaeological contract firms. He has a B.A. in Anthropology from the University of Pennsylvania, an M.A. in Anthropology (Archaeology focus) from Temple University, and a Ph.D. in Geography from Louisiana State University (HQUSACE sponsored LTT) with a dual specialization in historical and ethnic geography. He began his Corps career in 1983 with Rock Island District (1 year) then served as District Archaeologist in Little Rock District (10 years) and later Philadelphia District (3 years).

He also served for nine years (1994-2003) at ERDC's Environmental Laboratory as a research archaeologist and human geographer. He has numerous publications in the fields of archaeology and ethnic geography.
Since 2006 he has served as the MVM Tribal Liaison and as a NEPA specialist. In 2011 he was selected as the Cultural RTS for MVD.

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Enclosure 3

Charge to Reviewers

Products will be reviewed for compliance with guidance, including Engineer Regulations, Engineer Circulars, Engineer Manuals, Engineer Technical Letters, Engineering and Construction Bulletins, Policy Guidance Letters, implementation guidance, project guidance memoranda, and other formal guidance memoranda issued by HQUSACE. As an initial guide, the ATR TEAM should consider the Project Study Issue Checklist in Exhibit H-2, Appendix H, ER 1105-2-100 (20 Nov 07), which includes many of the more frequent and sensitive policy areas encountered in studies.

Project Specific Review Considerations:

Reviewers should focus on assumptions, data, methods, and models, as they relate to the following study challenges:

1. Were all models in the analyses used in an appropriate manner?

2. Are the models sufficiently discriminatory to support the conclusions drawn from them? Are there sufficient analyses upon which to base the recommendation?

3. Does the environmental assessment satisfy the requirements of the National Environmental Policy Act (NEPA)? Problem, Needs, Constraints, and Opportunities. Are the problems, needs, constraints, and opportunities adequately and correctly defined?

4. Do the identified problems, needs, constraints, and opportunities include a geographic area large enough to ensure that plans address the cause-and-effect relationships between affected resources and activities that are pertinent to achieving the study objectives? Does the study appropriately address the resources identified during the scoping process as important in making decisions relating to the identification of a tentatively selected plan (TSP)?

5. Does the study adequately address downstream conditions including water quantities and water quality to the lower Pearl River and the Mississippi Sound post project?

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Plan Formulation/Evaluation

1. Was a reasonably complete array of possible measures considered in the development of alternatives?

2. Did the formulation process follow the requirement to avoid, minimize, and then mitigate adverse impacts on resources?

3. Does each Final Array Alternative meet the formulation criteria of being effective, efficient, complete, and acceptable? Definitions:

    - Effectiveness – the extent to which the alternative plans contribute to achieve the planning objectives
    - Efficiency – the extent to which an alternative plan is the most cost-effective acceptable in terms of applicable laws, regulations, and public policies.
    - Completeness – the extent to which the alternative plans provide and account for all necessary investments or other actions to ensure the realization of the planning objectives, including actions by other Federal and non-Federal entities
    - Acceptability – the extent to which the alternative plans are acceptable in terms of applicable laws, regulations, and public policies.

4. Are future Operation, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) efforts adequately described, and are the estimated costs of those efforts reasonable?

Environmental Consequences

1. Have impacts to significant resources been adequately and clearly described?

2. To what extent have the potential impacts of the alternatives on significant resources been addressed and supported?

3. Are the scope and detail of the potential adverse effects that may arise as a result of project implementation sufficiently described and supported?

4. Are cumulative impacts adequately described and discussed? If not, please explain.

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Recommended Plan

1. Does the Recommended Plan meet the study objectives and avoid violating the study constraints?

Affected Environment

1. Are mitigation measures adequately described and discussed?

2. Have prior projects and their associated environmental impacts (past and future) in the Project Area been incorporated into the Study?

3. Is the description of the climate in the study area sufficiently detailed and accurate?

4. Is the description of wetland resources in the project area complete and accurate?

5. Is the description of aquatic resources in the project area complete and accurate?

6. Is the description of threatened and endangered species resources in the study area complete and accurate?

7. Is the description of the historical and existing recreational resources in the study area complete and accurate?

8. Is the description of the cultural resources in the study area complete and accurate?

9. Is the description of the historical and existing socioeconomic resources in the study area complete and accurate? Were specific socioeconomic issues not addressed?

10. Within the context of risk-informed decision-making, comment on the extent to which impacts of the alternatives may have on hazardous, toxic, and waste issues?

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Engineering

1. Are the descriptions of the risk and uncertainties associated with the level of detail in the designs that comprise the TSP sufficient?

2. Were the technical assumptions outlined in the engineering appendix sufficiently for a feasibility study, given the level of design detail?

3. Was the hydrology and hydraulics discussion sufficient to characterize current base- line conditions and to allow for evaluation of the forecasted conditions? Have the design and engineering considerations presented been clearly outlined and will they achieve the project objectives?

4. Are any additional design assumptions necessary to validate the preliminary design of the primary project components?

5. Are the costs adequately justified?

Real Estate Plan

1. Comment on the extent to which assumptions and data sources used in the economics analyses are clearly identified and the assumptions are justified and reasonable.

2. Does the Real Estate Plan adequately address all real estate interests (public and private)?

3. Have potential relocations as a result of the project been adequately addressed?

Public Comment Questions

1. Does information provided, or do concerns raised by the public, identify any additional discipline- specific technical issues with regard to the overall report?

2. Has adequate stakeholder involvement (including public meetings and other outreach activities) occurred to identify issues of interest and solicit feedback from interested parties?

3. Has the stakeholder involvement sufficiently considered public comments from populations both inside and outside the Project Area?

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b. Key Review Considerations include:

1. Are the existing and future without-project conditions adequately described, to support the formulation of alternative plans?
2. Are there any deviations from USACE policy documented in the submission package?
    a. Is the formulation and evaluation of alternatives consistent with applicable regulations and guidance, including SMART Planning guidance?
    b. Was the selection of models appropriate for use in evaluations?
    c. Was the application of data within those models appropriate?
    d. Was the interpretation of and conclusions drawn from model results reasonable?
    e. Are the sources, amounts, and levels of detail of the data used in the analysis appropriate for the complexity of the project?
    f. Are the sources, amounts, and levels of detail of the data used in the analysis appropriate for this stage in a feasibility study?

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Enclosure 4

DrChecks Final Report Comments

(as of 8 April 2020)

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Comment Report: All Comments
Project: Pearl River Watershed-Integrated Feasibility & EIS
Review: Final - Agency Technical Review
Displaying 94 comments for the criteria specified in this report.

Id	Discipline	Section/Figure	Page Number	Line Number
8281675	Structural	Appendix C	n/a	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

REVIEW CONCERN: Design criteria for structural features for Selected Plan (Alternative C) is not explicitly referenced in Engineering Appendix
BASIS OF THE CONCERN: The engineering appendix has a few sheets explaining the design criteria used for the plan formulation, but it has no mention of engineering standards used for the structural features (Weir, baffle blocks, Box culvert, and low flow gate). Reference Appendix C / "Construction Methods and Geotechnical Analysis"/ "1.0 Design Criteria" AND attachment B Conceptual Plans for alternative C

SIGNIFICANCE OF THE CONCERN: Low

ACTION NEEDED TO RESOLVE THE CONCERN: Recommend that the design criteria for the structural design of the features be explicitly described in this section. It is similarly important to do the same for the other alternatives not selected. A shot paragraph with structural engineering description of the features and references to the correct guidance would suffice. This guidance for the structures is:
Weir, baffle blocks, RC culvert, and other concrete: EM 1110-2-2104 Strength Design for Reinforced Concrete Hydraulic Structures
Lowe flow Gate: ETL 1110-2-584 (Design of Hydraulic Steel Structures) or EM 110-2-2107 (Design of Hydraulic Steel structures, still in development stage).

Submitted By: Daniel Rocha [redacted]. Submitted On: Nov 22 2019

1-0 Evaluation **For Information Only**
Appendix C has been updated to describe the structural features with references to the correct guidance.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
The design guidance section added to Appendix C addresses all my concerned.

Submitted By: Daniel Rocha [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8281676	Structural	Appendix C	n/a	n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

REVIEW CONCERN: Size of Baffle Blocks and Weir Basin depth

BASIS OF THE CONCERN: The selected plan show baffle blocks (energy dissipators) in near the downstream end of the weir basin. While the dimensions of the baffle blocks has not been shown in the preliminary plans, these features tend to be of significant dimensions due to the very high forces they are subjected to. Additionally, baffle blocks have a significant amount of reinforcement in them (more than other typical concrete structures), and the anchorage of the blocks to the basin slab bellow requires a large thickness of concrete. It is unclear if these additional costs were considered in the cost of the weir.

SIGNIFICANCE OF THE CONCERN: low

ACTION NEEDED TO RESOLVE THE CONCERN: please clarify if the costs of associated with the baffle blocks and weir basing were included in the cost estimate.

Submitted By: Daniel Rocha [redacted]. Submitted On: Nov 22 2019

1-0 Evaluation **For Information Only**
The cost estimate in Appendix C does account for the costs associated with baffle blocks and weir basin.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
The answer provided above addresses my concerns. This comment is closed.

Submitted By: Daniel Rocha [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8283961 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The economic analysis uses an October 2017 price level to estimate benefits and possibly a different price level to estimate costs.

Basis: Table headings in current (2019) Economic Appendix indicate October 2017 price level; the benefit values in the 2019 Economic Appendix are the same benefit values that are presented in the 2017 Economic Appendix. The cost values in the 2019 Economic Appendix are different than the cost values presented in the 2017 Economic Appendix.

Significance: Medium.

Recommended Action to Resolve: Please update both benefits and costs to the current October 2019 price level.

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Submitted By: Timi Shimabukuro [redacted]). Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
The benefits and costs have been updated to the October 2019 price levels.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020
Current Comment Status: **Comment Closed**

8283962 Risk Assessment n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: HEC-FDA risk inputs/analysis.

Basis: To perform an adequate review of the risk assessment, the HEC-FDA risk inputs, including but not limited to the exceedance probability-stage curves, will need to be verified.

Significance: High.

Recommended Action to Resolve: Please provide the most current HEC-FDA model(s) containing the risk inputs (exceedance probability-stage curves, transform flow curves, ERLs, top of levee elevations, etc.) for review.

Submitted By: Timi Shimabukuro [redacted]. Submitted On: Nov 25 2019

Revised Nov 25 2019.

1-0 Evaluation **For Information Only**
The most current HEC-FDA models have been transmitted to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
Reviewer has received updated HEC-FDA model.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 03 2020
Current Comment Status: **Comment Closed**

8283964 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: DQC Review.

Basis: No DQC documentation/certification received. The ATR team is responsible for reviewing the DQC Review per EC 1165-2-217 (Water Resource Policies and Authorities, Review Policies for Civil Works).

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Significance: High.

Recommended Action to Resolve: Please provide the DQC review documentation/certification for the economics or explain what other type of review was completed prior to ATR. Has the District reviewed all work products as required by the above referenced EC?

Submitted By: Timi Shimabukuro [redacted]. Submitted On: Nov 25 2019

Revised Nov 26 2019.

1-0 Evaluation **For Information Only**

This FS/EIS has been developed by the local sponsor through the 211 process; therefore, the District only provided oversight with respect to benefit and damage categories in the early stages of this project. Continued coordination between the PDT and the Vicksburg District did occur and the District was briefed on all aspects of the study at milestones during the study's development. Any files requested during the Draft ATR were provided to reviewers, with updates made as requested. Likewise, information requested was provided to the IEPR team, and the IEPR has been completed. Additionally, the District provided QA prior to the ATR reviews.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 03 2020

Current Comment Status: **Comment Closed**

8283966 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Use of appropriate methodology to estimate structure values.

Basis: Structure values are based on depreciated replacement values per ER 1105-2-100: Planning Guidance Notebook (PGN).

Significance: Medium.

Recommended Action to Resolve: Please clarify. Are structure values based on appraised values (see page 12 of Economic Appendix) or depreciated replacement values? Please include more information in the Economic Appendix regarding the methodology used to estimate structure values.

Submitted By: Timi Shimabukuro [redacted]. Submitted On: Nov 25 2019

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1-0 Evaluation **For Information Only**

The appraised value of a structure should represent the true value of the structure which, theoretically, should be the same as replacement value less depreciation. The appraised value of the structure does not include the value of the lot. When the initial study was in its early stages, the economists conducted a windshield survey of a majority of the structures to determine if the appraised value represented replacement value less depreciation. This survey convinced the analysts that the appraised value of the structure was an appropriate estimate of the value required in ER 1105-2-100.and was the value to used to estimate structure damages.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 03 2020

Current Comment Status: **Comment Closed**

8283968 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Clarification regarding the development of content-to-structure value ratios (CSVR) used in the economic analysis.

Basis: Economic Appendix, page 9 says, "A CSVR was computed for each residential and non-residential structure in the sample based on the total depreciated content value developed from these interviews."

Significance: Medium.

Recommended Action to Resolve: Please clarify. Is the sentence referenced above in the "Basis" section describing the methodology used for this analysis to generate CSVRs or is it describing the methodology used by another study to generate CSVRs? Also, in the sentence referenced to above in the "Basis" section, what is "these interviews" referring to? Please include additional information in the Economic Appendix to clarify the source of the CSVRs.

Submitted By: Timi Shimabukuro [redacted]. Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**

Content-to- structure value ratios (CSVRs) used in the Economic Analysis of this project were the same as those used in the New Orleans District's Morganza to the Gulf Evaluations. The CSVRs were developed based on the on-site interviews conducted as part of the Morganza to the Gulf Evaluations. These interviews were conducted with the owners of a sample of structures from each of the three residential content categories and each of the eight non-residential content categories. Thus, a total of 30 residential structures and 80 non-residential structures were used to determine the CSVRs for each of the residential and non-residential categories. The socio-economic characteristics of the areas were assumed to be similar enough to make the CSVR's from this study applicable

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to the Pearl River Study Area.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 03 2020
Current Comment Status: **Comment Closed**

8283969 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Benefits associated with the reduction of state and local government emergency costs.

Basis: Economic Appendix does not provide sufficient information to review this benefit category.

Significance: High.

Recommended Action to Resolve: Please provide backup data/information and a more thorough discussion of the methodology used to estimate these benefits. This includes, but is not limited to, a discussion of the without-project damages and with-project residual damages. For example, how were without-project damages and the reduction in damages associated with flood fighting estimated?

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

Revised Nov 26 2019.

1-0 Evaluation **For Information Only**
The backup data and information has been provided to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Open Comment**
The costs of increased police/fire operations and flood fighting were provided as well as the frequency-damage curve under the without-project condition.

Please include in the economic report both the without-project and with-project frequency-damage curves and the assumptions used for the zero damage point under both scenarios. Including these curves and assumptions will allow for a better understanding of the derivation of benefits.

Please also include the sources of the cost data. Were the cost data obtained from the non-federal partners? How did they get this data? Is this cost data based on actual historical expenditures or professional estimates?

Please be aware that flood fighting benefits have not been allowed in other USACE studies. Future reviews by the vertical team may require the removal of these benefits.

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The benefits associated with this category comprises less than 1% of total benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

2-0 Evaluation **For Information Only**

The cost data was based on previous studies and historical emergency cost data collected from the Rankin-Hinds Pearl River Flood and Drainage Control District. The reviewer has made the PDT aware that the vertical team may require the removal of these benefits. However, in the absence of written guidance directing their removal, the PDT believes it most appropriate to maintain the same benefit calculation method used in the Draft ATR and IEPR reviews.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020

2-2 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020

Current Comment Status: **Comment Closed**

8283970 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Inclusion of benefits associated with the reduction in subsistence costs.

Basis: HQUSACE guidance in other recent (2018) FRM studies.

Significance: High.

Recommended Action to Resolve: Please confirm with your MSC and with HQUSACE regarding the acceptability of these benefit categories as NED. Since the 2017 ATR of the Draft Report, there have been other USACE studies that have not been allowed to include displacement/emergency costs-related categories in the NED analysis, as HQUSACE has determined that these should rather be part of the Other Social Effects (OSE) account.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**

Categories of damages and benefits were discussed with the Vicksburg District at the beginning of the study. Subsequently, subsistence cost were included in the submittal to both the ATR team for the Draft FS/EIS review and in the draft sent to the IEPR team without comment. The PDT believes that the NED account is the most appropriate benefit category for subsistence costs and is not aware of any guidance advising otherwise.

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Submitted By: Blake Mendrop [redacted] Submitted On: Jan 24 2020

1-1 Backcheck Recommendation **Open Comment**
Response noted.

Please be aware that future reviews by the vertical team may require the removal of displacement-type categories from the NED analysis. This could impact the net benefit/BCR analyses for the Pearl River FRM feasibility study.

Recent guidance by HQUSACE directed FRM studies in other districts to remove displacement-type categories from the NED analysis.

Also, please be aware that this benefit category makes up approximately 16% of total benefits, so all or part of these benefits could potentially affect the net benefit/BCR analyses.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

2-0 Evaluation **For Information Only**
The reviewer has made the PDT aware that the vertical team may require the removal of these benefits. However, in the absence of written guidance directing their removal, the PDT believes it most appropriate to maintain the same benefit calculation method used in the Draft ATR and IEPR reviews.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020
Current Comment Status: **Comment Closed**

8283971 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Incorrect calculation of benefits associated with the savings in flood insurance administration costs.

Basis: HQUSACE guidance is that savings in FIA operating costs may be included in the economic analysis but is restricted to the value published in the last EGM (2006). I.e., the 2006 value must be used and cannot be updated to current price levels.

Significance: Medium.

Recommended Action to Resolve: Recalculate the benefits associated with the savings in FIA operating costs by using the value published in the last EGM (2006) on this subject.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

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1-0 Evaluation **For Information Only**
The benefits associated with FIA operating costs have been updated using the last published value (EGM 2006).

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
Response noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020
Current Comment Status: **Comment Closed**

8283973 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Benefits associated with reduction in road and bridge damages.

Basis: Insufficient information in the Economic Appendix.

Significance: Medium.

Recommended Action to Resolve: Please provide additional information related to the methodology, data, and assumptions used to estimate road/bridge damages. This includes, but is not limited to, a discussion of the without-project and with-project damages and the assumptions used to estimate both.

Recommend including as an attachment to this appendix a detailed description and explanation of the methodology, data, assumptions, and analysis related to road/bridge damages and the savings in time/money related to travel delay/detour costs.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
The backup data and information has been provided to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Please include frequency-damage curves and assumptions (e.g., zero damage points) for the without-project and with-project conditions in the economic report (either in the main section or as an attachment). This will allow for a better understanding of how benefits were estimated.

Please also cite the source(s) of repair costs per mile for the various types of roadways (local streets, state Highways, and Interstates).

Benefits of this category make up approximately 1.8% of total benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

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1-2 Backcheck Recommendation **Close Comment**

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020
Current Comment Status: **Comment Closed**

8283974 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Benefits associated with the prevention of traffic rerouting due to flooding.

Basis: Insufficient information in the Economic Appendix.

Significance: Medium.

Recommended Action to Resolve: Please provide additional information related to the methodology, data, and assumptions used to estimate benefits associated with the prevention of traffic rerouting due to flooding. This includes, but is not limited to, a discussion of the without-project and with-project damages and the assumptions used to estimate both.

Recommend including as an attachment to this appendix a detailed description and explanation of the methodology, data, assumptions, and analysis related to the savings in time/money related to travel delay/detour costs.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
The backup data and information has been provided to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Open Comment**
Please include in the econ report (either in the main report or as an attachment) the without-project and with-project frequency-damage curves and data/assumptions used in the analysis.

Please also cite the source for the assumptions regarding the duration of road closures.

How were the percent reduction in damages derived for the alternatives? Recommend calculating with-project residual damages using a frequency-damage curve. For example, in Alternative C, the frequency-damage curve would include only damages associated with re-routing of traffic from HWY 49, since according to the notes in the Excel spreadsheet this is the only roadway that would require re-routing under this alternative.

Benefits for reduction in traffic re-routing account for about 2.6% of total benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

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2-0 Evaluation **For Information Only**
Appendix B has been updated to further describe assumptions used to estimate the cost of rerouting. With respect to data on the length and time of detour, the source for that information is the Mississippi Department of Transportation.
If Alternative B was in place, traffic rerouting costs would be reduced by roughly 70%, with Highway 25/Lakeland Drive, I-20, Hwy 49, and various local roads still inundated. With installation of the SP (Alternative C), traffic rerouting costs are reduced 95%, with only Hwy 49 and some smaller local roads still impacted.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020
Current Comment Status: **Comment Closed**

8283976 Economics n/a n/a n/a
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Outdated input values (e.g., mileage rates) used in the traffic rerouting assessment.

Basis: Analysis uses 2013 mileage rates.

Significance: Medium.

Recommended Action to Resolve: Please recalculate benefits using current (October 2019) values.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
Appendix B has been updated to use October 2019 values for mileage rates.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
Response noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020
Current Comment Status: **Comment Closed**

8283978 Economics n/a n/a n/a
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Documentation of incremental analysis is not included in the Economic Appendix.

Basis: Inclusion of the incremental analysis will support the conclusion that the alternative selected as the Recommended Plan is the one that maximizes net benefits in terms of the economics.

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Significance: Medium to High.

Recommended Action to Resolve: Include in the Economic Appendix background information on the incremental analysis that was performed. This will help support the decision to select the Recommended Plan.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
Appendix B has been updated to include information on the incremental analysis.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Open Comment**
Please provide the updated Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

1-2 Backcheck Recommendation **Open Comment**
Please provide a table showing the incremental analysis, which compares costs to benefits (I.e., net benefits and BCRs) for each added increment. This would support the determination to recommend Alternative 5 as the NED Plan, or the one that maximizes net benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 16 2020

2-0 Evaluation **For Information Only**
Table 1-6 in Appendix B, Attachment 1: Incremental Analysis has been updated to include the BCR for each increment.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020
Current Comment Status: **Comment Closed**

8283979 Risk Assessment n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Incomplete presentation of risk assessment results in order to ensure uncertainty information is conveyed in various ways to help in decision making by local sponsors, stakeholders, and federal officials.

Basis: Per ER 1105-2-101: Risk Assessment for Flood Risk Management Studies (July 2019/October 2019), please follow the guidance with regard to the presentation of risk assessment results.

Significance: High.

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Recommended Action to Resolve: Recommend including information shown in Tables A1 (probability distribution of benefits), A2 (probability distribution of costs), A3 (AEP and LTEP), A5 (probability comparison), and A6 (life loss); additionally please provide information about expected/probabilistic values for net benefits and benefit-to-cost ratios (BCRs) as described in Figures A1 and A2 of ER 1105-2-101.

Submitted By: Timi Shimabukuro [redacted]. Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
Additional performance information has been sent to the reviewer and added to Appendix B.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Open Comment**
Please provide updated Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

1-2 Backcheck Recommendation **Open Comment**
Please cite the location in the Economic Appendix where the additional information, per the original comment/recommended action to resolve, can be found.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 16 2020

2-0 Evaluation **For Information Only**
The Performance Statistics for Alternative C are on the first page of Attachment 2 (page 40) and for Alternative B on the following page.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020
Current Comment Status: **Comment Closed**

8283980 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Insufficient information in the Economic Appendix regarding the WWTP.

Basis: Economic Appendix does not include a complete discussion of the data used to estimate benefits associated with preventing damages to the WWTP.

Significance: High.

Recommended Action to Resolve: Please include the geotechnical levee fragility curve used in the HEC-FDA analysis for the existing (without-project condition) levee surrounding the WWTP and

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the levee fragility curve assumed under the with-project condition (Alternative C).

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

Revised Nov 26 2019.

1-0 Evaluation **For Information Only**
A fragility curve describing impacts associated with a WWTP equivalent to the Savanna St WWTP is not available in HEC-FDA. Therefore, data used to estimate the level of benefits provided to the Savanna St WWTP has already been provided to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Open Comment**
The report indicates that with the project in place damages to the WWTP would be reduced by 95%. How was this percentage determined?

Recommend using a frequency-damage curve to estimate with-project residual damages. One possible method would be to truncate the without-project frequency-damage curve based on which event would first cause damages under the with-project condition.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 16 2020

2-0 Evaluation **For Information Only**
The WWTP is currently receiving some level of benefits from a small, local levee which can easily and affordably be upgraded to elevations reducing the flood risk up to the 0.02% ACE event. While some risk would still be anticipated, building the levee to the 0.02% event was assumed to provide flood risk management benefits of 95% of the WWTP's value.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020
Current Comment Status: **Comment Closed**

8283982 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Increase in water/sewage treatment costs.

Basis: Insufficient information in the Economic Appendix regarding the increase in treatment costs.

Significance: Medium.

Recommended Action to Resolve: Please provide additional information regarding methodology, data and sources, and assumptions used to estimate savings in water and sewer costs under both without- and with-project conditions.

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Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
The backup data and information has been provided to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Open Comment**
Please check the benefit values associated with the Water and Treatment category as reported in the Economic Appendix (page 24). They are inconsistent with the benefit values reported in Table B-16.

Also, how were the with-project residual damages estimated? Recommend using a with-project frequency-damage curve to estimate with-project residual damages.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 16 2020

2-0 Evaluation **For Information Only**
The WWTP category was checked with the Benefits reported in Table B-16 and they are consistent. The benefits data in Table B-13 is shown with respect to individual events and the data in Table B-16 is annualized. The PDT did note while checking Table B-16 that the data for Water and Sewer damages had not been updated to reflect 2019 price levels but that has now been corrected.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020
Current Comment Status: **Comment Closed**

8283984 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Intensification/location benefits.

Basis: Insufficient information regarding the data, assumptions, and methodologies used to estimate intensification and location benefits.

Significance: High.

Recommended Action to Resolve: Please provide the Economic and Research Associates (ERA) analysis/report per response to 2017 ATR comment and other documentation that describes the data, assumptions, and methodologies used to estimate intensification/location benefits.

Location benefits comprise more than 25% of total benefits so it is critical that the derivation of these benefits are presented fully. The ERA report and other documentation would help to support the inclusion of the location/intensification benefits in the economic analysis.

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Submitted By: Timi Shimabukuro ([redacted] Submitted On: Nov 25 2019

Revised Nov 26 2019.

1-0 Evaluation **For Information Only**
The backup data and information has been provided to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Open Comment**
Please explain and include in the Economic Appendix how land values (both without-project and with-project) were derived, and what the basis is for the increase in land values with the project in place. (How were increases in land values estimated?) These inputs/assumptions are critical to the analysis and should be explained more thoroughly, especially since intensification/location benefits make up about 25% of total benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 16 2020

2-0 Evaluation **For Information Only**
Land values were derived from the Gross Real Estate Appraisal procured during the Draft ATR review. The intensification benefits were made considering the market for sales in the vicinity unencumbered by floodplain restrictions, flood insurance requirements, etc. Further, only a portion (50%) of the estimated benefits were used to calculate location benefits. As only a percentage of the benefits were considered and they were assumed to occur over the entire 50-year period and not occur immediately, the location benefits estimation is believed to be quite conservative.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020
Current Comment Status: **Comment Closed**

8283985 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Analysis of intensification/location benefits and its completeness.

Basis: The Economic Appendix indicates, "....intensification and location benefits will be revised as more data becomes available."

Significance: High.

Recommended Action to Resolve: In light of the fact that intensification/location benefits comprise more than 25% of total benefits, it is recommended that a more complete and a more thorough analysis and documentation of the estimation of intensification and location benefits be included in

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the Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
The backup data and information has been provided to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Open Comment**
Please explain and include in the Economic Appendix how land values (both without-project and with-project) were derived, and what the basis is for the increase in land values with the project in place. (How were increases in land values estimated?) These inputs/assumptions are critical to the analysis and should be explained more thoroughly, especially since intensification/location benefit make up about 25% of total benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 16 2020

2-0 Evaluation **For Information Only**
Land values were derived from the Gross Real Estate Appraisal procured during the Draft ATR review. The intensification benefits were made considering the market for sales in the vicinity unencumbered by floodplain restrictions, flood insurance requirements, etc. Further, only a portion (50%) of the estimated benefits were used to calculate location benefits. As only a percentage of the benefits were considered and they were assumed to occur over the entire 50-year period and not occur immediately, the location benefits estimation is believed to be quite conservative.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020
Current Comment Status: **Comment Closed**

8283988 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The rationale for including intensification/location benefits.

Basis: Claiming benefits associated with future development of the floodplain may be contrary to the intent of EO 11988 or Section 308 of WRDA 1990.

Significance: Medium.

Recommended Action to Resolve: Please add discussion to the Economics Appendix that clearly states the rationale for including intensification/location benefits and how including these benefits does not conflict with the intent of EO 11988.

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Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**

EO 11988 prohibits/discourages development in floodplains. The proposed project will include a complete redrawing of the floodplain map once constructed. Consultation and coordination with FEMA on this issue has and will continue throughout the project development process. Accordingly, the future economic development referenced in the FS/EIS and in the Economics Appendix is not in the floodplain. Alternative C includes placing fill in the project area such that the said economic development would be taking place at elevations removed from the floodplain.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 03 2020

Current Comment Status: **Comment Closed**

8283990 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Outdated inputs used to estimate recreation benefits.

Basis: Economic Appendix (Amendment 3) indicates that recreation benefits were estimated using information in EGM 17-03.

Significance: Medium.

Recommended Action to Resolve: Please update recreation benefits assessment using the most current EGM 19-03 (FY 2019).

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**

The recreation benefits have been updated to the most current EGM 19-03.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

Current Comment Status: **Comment Closed**

8283991 Economics n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Clarification of Alternative C first costs presented in the Economic Appendix.

Basis: Tables B-18 and B-20 of the Economic Appendix display different first costs for Alternative C.

Significance: Medium.

Recommended Action to Resolve: Please check total first costs for Alternative C listed in Tables B-18 and B-20 and correct net benefit analysis as appropriate.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
Tables B-18 and B-20 have been reviewed.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
Response noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020
Current Comment Status: **Comment Closed**

8283997 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Downstream impacts/induced flooding/induced damages.

Basis: "Mitigation" listed in Table B-20. Please explain what these mitigation costs include. Is this environmental mitigation or mitigation for downstream impacts such as induced flooding?

Significance: Medium.

Recommended Action to Resolve: Please clarify. Does Alt C induce flooding downstream of the project area? What kind of assessment has been completed in order to ensure that downstream impacts are avoided?

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
The mitigation costs included in Table B-20 are for environmental mitigation. As outlined in the FS/EIS (Section 4.5), Appendix C, and seen clearly in Table 1 of Appendix D, Water Quality, Attachment A, the proposed project has no negative impacts on downstream water quantity. In other words, the hydraulic modeling efforts support the conclusion that Alternative C will neither reduce downstream water flow nor will it induce downstream flooding; therefore, downstream mitigation is not required of this

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project.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 03 2020
Current Comment Status: **Comment Closed**

8283998 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Use of terminology consistent with current guidance.

Basis: Economics Appendix uses the term annual chance exceedance (ACE) to describe exceedance probability-stage curves.

Significance: Medium.

Recommended Action to Resolve: Please use terminology consistent with current guidance. Instead of ACE, use annual exceedance probability (AEP), even when describing single events.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
The Economics Appendix has been updated to use the terminology annual exceedance probability.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Response noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020
Current Comment Status: **Comment Closed**

8284000 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Damages associated with specific annual exceedance probabilities (single events); zero damage point.

Basis: The Economic Appendix does not include information about damages associated with specific annual exceedance probabilities for either the without-project and with-project condition.

Significance: Medium.

Recommended Action to Resolve: Please include a table in the Economic Appendix that presents

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damages associated with specific annual exceedance probabilities for both the without-project and with-project condition.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
Tables presenting the damages associated with specific flood events for both without- and with-project conditions have been added to Appendix B.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
Response noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 03 2020

1-2 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020
Current Comment Status: **Comment Closed**

8284002 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Without-project and with-project floodplains.

Basis: The Economic Appendix does not include without-project or with-project floodplains.

Significance: Medium.

Recommended Action to Resolve: Please include without-project and with-project floodplains for all annual exceedance probability events where flooding is possible, either through overtopping of the levee or breach prior to overtopping.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
Due to the scale of the floodplain, maps are not the most effective way to communicate benefits information. Information detailing flood risk management benefits for specific EAP flood events has been added to Appendix B in the incremental analysis discussion.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Open Comment**
Please provide the updated Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

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1-2 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 16 2020
Current Comment Status: **Comment Closed**

8284010 Economics n/a n/a n/a
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Recreation benefits are typically incidental to other benefits associated with the primary purpose (FRM) of the project. What type of recreation facilities are included in Alternative C?

Basis: Table B-20 indicates costs associated with recreation.

Significance: Medium.

Recommended Action to Resolve: Please describe in the Economic Appendix which recreation facilities/features are covered by the costs listed in Table B-20.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
All of the recreational features described in both Appendix C: Engineering and in Appendix B, Amendment 3 Recreation Benefits are covered by the costs listed in Table B-20. The recreational features are also listed as line items in Table 4.1 of the Cost Engineering Section of Appendix C: Engineering.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 03 2020
Current Comment Status: **Comment Closed**

8284188 Hydraulics n/a n/a n/a
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Downstream levee may be unnecessary to the project.
Basis: Figure 5-3 App C shows an "additional levee" from RM 281-283 downstream of the weir. This is the Savanna St wastewater plant. This plant is downstream of the proposed Alt C weir and flood flows should be similar to what is existing.
Significance: moderate
Action: If something must be done with this plant, I would consider reconfiguring the pond using an available triangular portion of land upstream of the existing pond along the western bank (see attached image "Savanna..."). This configuration would help reduce constriction of flood flow conveyance and future levee repairs due to future floods.

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(Attachment: Savanna_Street_Wastewater_Plant_-_possible_reconfiguration.png)

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

Revised Nov 25 2019.

1-0 Evaluation **For Information Only**
Currently, the Savanna St. WWTP has an existing local levee. The Selected Plan proposes to bring the levee up to meet federal regulations for flood risk benefits. As this entails only upgrades of an existing levee, the proposal is cost efficient and negligibly impacts the existing conditions. Inclusion of the downstream levee has been discussed with the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Concur. I would like to see the riprap design and RAS velocities off the levee toe for the final submittal.

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284191 Hydraulics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Fish passage channel may be unnecessary for this project.
Basis: The weir submerges during flood flows at which time fish can pass. Also Ross Barnett dam upstream does not have fish passage, so the extent of fish passage benefits is already limited.
Significance: moderate
Action: If something must be done with fish passage, I would consider relocating the weir to minimize construction of tie back levee (see attached image "Weir TieBack").

(Attachment: Weir_Tie_Back.png)

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
As discussed with the reviewer, the fish passage feature has been developed in conjunction with the U.S. Fish and Wildlife Service.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Details of the effectiveness vs cost of the fish ladder should be discussed in the report. It may be possible for a future VE Study to save significant cost on this proposed project feature.

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284192 Hydraulics n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Conceptual Plan on Page 334 has labyrinth weir positioned towards the right bank of the channel section. This weir would be better aligned to flood discharges if it was placed on the left bank side of the channel. Also the low flow culvert would be more effective in the channel thalweg not in the overbank's higher terrain.
Basis: Effects of channel sinuosity are lessened during out of bank, flood flows. If flood flows hit the weir as shown, the plunging flow will be asymmetric because more flow will come from the southeast side. Asymetric flow increases potential for structural damage and decreases potential increase as more flow would occur on only one side of the basin. Low flow culvert can only discharge to the lowest elevation it is built upon.
Significance: moderate to high
Action: recommend switching the position of the weir and low flow culvert to improve efficiency of both features. Recommend using velocity vectors from a 2D hydraulic model to position the weir in a symmetric flow position.
Action2: A gated culvert at the low point of the thalweg of the channel on the right side descending portion of the cross section would be optimum. The length of the culvert here would be shorter and cheaper than in the existing design (approx 200 ft length versus approx 700 ft length).

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
The final configuration of the weir and low flow gate and VE studies will be done during the Pre-construction, Engineering, and Design Phase. However, initial analysis indicates the currently considered configuration may be most suitable for post-construction access purposes. This has been discussed with the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284193 Hydraulics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Conceptual Plan on Page 333 shows a fish passage channel that is very sinuous and various slopes. Simple channel construction may lead to damage and degradation.
Basis: Clean channels will accumulate debris and sharp meanders shown will be circumvented during flood flows. Scour requiring will likely follow these issues.
Significance: Low
Action: Recommend using riprap to make pool and riffle system that will resist head cuts and that fish prefer to open channels.

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

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1-0 Evaluation **For Information Only**
As discussed with the reviewer, the current design has been developed in consultation with U.S. Fish and Wildlife Services. The design will be finalized during the Pre-construction, Engineering, and Design Phase of the project.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Recommend the current ATR comments be passed along to the reviewers for consideration during the PED phase.

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284194 Hydraulics n/a n/a n/a
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The location of the weir is shown in different places in the report & appendix.
Basis: Alt C weir location on Fig 5.3 and Fig 3-3 in App C is downstream of the meander shown in conceptual plan App C page 334. See attached file "Weir Location". In this file, I saw a potential "smaller footprint" location for this weir, and wondered if this location (slightly upstream) was considered.
Significance: low to moderate
Action: look at the attached file and update plates as necessary throughout the report & appendices.

(Attachment: Weir_Location.png)

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

Revised Nov 25 2019.

1-0 Evaluation **For Information Only**
First, as discussed with the reviewer, both larger and smaller project footprints were evaluated to maximize the flood risk management benefits of this project. The current project footprint was determined to maximize the potential benefits.
Secondly, Figures 5.2 and 3-3 are conceptual maps and the location of the weir noted on the map does locate the downstream limits of the fish passage, as proposed, and roughly the lower limits of the project footprint. The Conceptual Plans in Attachment B to the Construction Methods and Geotechnical Analysis Section of Appendix C: Engineering show more detailed drawings of the downstream limits of the Selected Project.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Concur. Some figures show conceptual drawings of smaller footprints that were examined throughout the study.

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284197 Hydraulics n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Weir submergence may not be taken into account in the RAS models. If coeficient of discharge doesn't change, discharge over the weir may be erroneously high in which case the flood profile reductions shown in Table 3.3 would be too high.
Basis: Sufficient details on the weir design and RAS modeling coefficients are missing to understand if this concern is valid.
Significance: High
Action: Add text explainations to appendix C to address the following questions
Q1) At what point does the labyrinth weir submerge in the model?
Q2) How does the coefficient of discharge change with discharge and stage?
Q3) Have the various H&H models been reviewed by ERDC, MVK or others?

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
The hydraulic model has been provided to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284198 Hydraulics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Alt C's addition of a weir and repositioning a levee upstream resulting in a 5-8 ft REDUCTION in 100-year flow profiles is not typical and requires thorough discussion/examination.
Basis: water control structures such as the weir in Alt C are typically submerged during large flood flows at which time flood profiles return to normal or higher levels upstream.
Significance: High. RAS model profile changes could produce large changes in estimated project costs and BC ratio.
Action: Add text explainations to appendix C to address the following questions and/or items
Q1) Provide stage-discharge curves for XS RM284.3 with and without the weir.
Q2) How much effect in lowering profiles 5-8 ft is due to weir design, levee relocation, and channel excavation?
Q3) If the project's results are firm, the case of the 100-year flood being lowered 5-8 ft is remarkable and should be written up in the executive summary and similar paragraphs of the report.

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

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1-0 Evaluation **For Information Only**
The data has been provided to the reviewer. The executive summary will be updated to more clearly describe the model's results.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
concur

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284201 Hydraulics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The proposed Alt C weir may be considered a dam which could require more permitting or other regulatory work.
Basis: App C p.19 (pdf page 29) says "The Selected Plan does not include a dam. Rather, the project proposes to relocate a weir, constructed as such an elevation that it is submerged even during the 100% and 50% annual chance exceedance flood events."
ER 1110-2-1156 (Safety of Dams) section 1.6 (2) lists an impounding volume criteria of 50 Acre Feet above which a water control structure is considered a dam.
Significance: possibly high
Action: look into the ER specified and if valid determine what requirements would be needed for a dam to be built as part of this project.

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
As stated in Section 6 of the FS/EIS report, ""Miss. Code Ann. § 51-1-4, delineating certain waters as "public waterways," specifies that it is not intended to prohibit 'the construction of dams and reservoirs by the State of Mississippi or 14 any of its agencies or political subdivisions.' The construction, enlargement, repair, or alteration 15 of dams or reservoirs requires prior written authorization from the Permit Board. Miss. Code Ann. 16 §51-3-39.""
Coordination with the Mississippi Department of Environmental Quality, the state agency responsible for issuing the permits the proposed project will require, has been ongoing throughout this project.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Coordination thru MDEQ was ongoing. Concur.

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284203 Hydraulics n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Tributary profiles may exceed the State floodplain maximum of 1.0 ft.
Basis: Section 4.2.2.1 App C says "the increased tailwater ranges 2.5 ft for 10% and 0.85 ft for 2%". These do not match the values from RM 287 on Table 3.3 probably because the frequencies listed here are for tributaries not mainstem (please verify and add text to App C).
Significance: moderate to high
Action: Make sure RAS models for tributaries are performed for the 100-year tributary flow given a starting elevation of Alt C pond at the 10% coincident mainstem profile at each tributary junction.

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
Floodplain regulations have been reviewed and any changes due to the project do not exceed the 1% annual chance event limits.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Concur. There is increase to the existing 1% profile; Appendix C shows a decrease. Therefore the tributary would also not experience an increase to flood profiles. You have coordinated with MDEQ on this about regulations.

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284205 Hydraulics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: A standing pool at elev 258 on Lynch Creek will lead to sediment accumulation over time in the downstream portion of the tributary leading to long-term sedimentation issues.
Basis: Figure 4-3 App C shows flood profiles on this tributary where a flat pool of 258 would slow incoming velocities and cause sediment to drop out from STA 0+00 to approx STA 40+00.
Significance: Low
Action: The Frontage Road Bridge and HWY 51 box culvert look like the most susceptable to increased sedimentation over time. Are there plans in this project for how to handle this location (bridge modification, maintenance schedule, etc)? If it is easier to address modification to the bridge now rather than later, include it in the project plan.

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 25 2019

1-0 Evaluation **For Information Only**
As most of the Lynch Creek basin is developed, large quantities of sediment runoff are not anticipated. In the event it is necessary, the cost of future maintenance is accounted for in Appendix B: Economics, Table B-18.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

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1-1 Backcheck Recommendation **Close Comment**
Concur

Submitted By: Thomas Gambucci [redacted] Submitted On: Feb 12 2020
Current Comment Status: **Comment Closed**

8284279 Cultural Resources 2.5.9.1 94 2
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Make sure that all correspondence with the SHPO (MDAH) and Tribes and any responses received is included in the Cultural Resources Appendix.

Submitted By: Eric Williams [redacted] Submitted On: Nov 25 2019

Revised Nov 26 2019.

1-0 Evaluation **For Information Only**
All correspondence to date has been included in the Cultural Resources Appendix (Appendix F).

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
concur

Submitted By: Eric Williams [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8284280 Cultural Resources 4.5.9 234 (Direct Impacts) 10
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Recommend adding language "Steps would be taken to avoid or minimize impacts to the cultural resource. If the site can't be avoided during final design, measures would be developed to address any adverse effects."

Submitted By: Eric Williams [redacted] Submitted On: Nov 25 2019

Revised Nov 26 2019.

1-0 Evaluation **For Information Only**
The suggested language was added.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 24 2020

1-1 Backcheck Recommendation **Close Comment**
concur

Submitted By: Eric Williams [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

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8284295 Cultural Resources 4.5.9 234 (Cumulative Impacts) 34

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

"In addition, potential indirect, adverse impacts associated with future development activities associated with the improved flood protection could be anticipated." Since coordination is on-going and a complete effects determination has not been made, recommend revising this statement to read something like "Future development projects resulting from the improved flood protection provided by the proposed action could have the potential to indirectly impact cultural resources."

Submitted By: Eric Williams [redacted] Submitted On: Nov 25 2019

Revised Nov 26 2019.

1-0 Evaluation **For Information Only**

Sentence revised to read "In addition, potential indirect, adverse impacts associated with future development activities from the improved flood protection could be anticipated."

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 24 2020

1-1 Backcheck Recommendation **Close Comment**

ok

Submitted By: Eric Williams [redacted] Submitted On: Feb 19 2020

Current Comment Status: **Comment Closed**

8284824 Environmental n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: It's not completely clear who the Lead federal agency is for this NEPA document. While USACE and Vicksburg District are mentioned within the document, the lead is not fully clear.

Reason for Concern: NEPA is directed for federal agencies for disclosure during the decision making process. The lead agency responsible for the NEPA document must be clear.

Significance: Minor

Recommendation: Please revise the document so that it's clear USACE is the federal agency responsible for this EIS, including which USACE office is responsible. This should be noted on the cover and described somewhere early in the EIS.

Submitted By: Elliott Stefanik [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**

The Executive Summary has been edited to clarify the roles of Rankin Hinds Pearl River Flood and Drainage Control District and USACE (lead federal agency), including identifying Vicksburg as the responsible USACE office. Regarding the ATR comment that the USACE is the party responsible for the FS/EIS, we refer the commenter to Section 3014 of WRDA 2007, which provides that the local sponsor (under a Section 211

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Agreement) is the responsible party for preparing the FS/EIS documents.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
The revision has been incorporated. USACE OC can verify that the description is legally sufficient.

Submitted By: Elliott Stefanik [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8284825 Environmental n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The Final EIS does not include a summary of public comments received or a description for how the Corps has considered and addressed these comments within the decision-making process.

Reason for Concern: Within a Final EIS, USACE must summarize the comments received and discuss how the comments were considered for the Final EIS. As outlined in ER 200-2-2. "District commanders will pay particular attention to the display in the final EIS of comments received on the draft EIS. In the case of abbreviated final EISs, follow 40 CFR 1503.4(c). For all other final EISs, comments and agency responses thereto will be placed in an appendix in a format most efficient for users of the final EIS to understand the nature of public input and the district commander's consideration thereof. District commanders will avoid lengthy or repetitive verbatim reporting of comments and will keep responses clear and concise."

Significance: Critical

Recommendation: Please include a summary of comments received, including the number of comments received and the content of those comments. Please include a description of how comments were considered as a part of preparing the Final EIS. Be sure to include discussion of comments received from EPA, USFWS, NMFS and similar environmental agencies. That input is important in evaluating whether or not the recommended plan is environmentally acceptable.

Submitted By: Elliott Stefanik [redacted] Submitted On: Nov 26 2019

Revised Dec 01 2019.

1-0 Evaluation **For Information Only**
Appendix H Responses to Comments provides a coded, catalogued and organized lists of all received comments. This raw data was made available to the ATR review team at the beginning of the ATR close out process. It is now complete and will be included in the Final FS/EIS document. Regarding the request for a summary of comments, the Executive Summary section has been edited to include a broad overview of the comments along with consideration of the comments. To further improve the ability of the reader to understand the comments, the coding in Appendix H allows the reader to see of list of each group of comments using summary statements correlated to each comment.

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Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
The revision has been incorporated. USACE OC can verify that comments were considered to the extent that is legally sufficient.

Submitted By: Elliott Stefanik [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8284826 Environmental n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: A USFWS Coordination Act report has not been included, and it's unclear what input USFWS has provided on the proposed action. We should not issue a Final EIS, which should represent our project, if USFWS has not provided input.

Reason for Concern: The Fish and Wildlife Coordination Act requires participation and input from the USFWS for evaluating impacts to natural resources from proposed water resource development projects

Significance: Major

Recommendation: The EIS references the CAR is underway. Please complete the CAR, include it as an appendix, and summarize somewhere in the EIS what the USFWS input was and how it's been considered in the decision-making process.

Submitted By: Elliott Stefanik [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
The final USFWS CAR will be included in Appendix D of the final EIS. Summary of the CAR will be included in Section 2.5.7 of the final EIS.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**
The CAR has been included.

Submitted By: Elliott Stefanik [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8284827 Environmental n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The EIS does not include a section discussing controversy or conflict identified during the public review process.

Reason for Concern: CFR 1502.12 requires that the EIS include a discussion of areas of controversy within the summary. While the EIS summary has a sections for Public Involvement;

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and Areas of Continuing Discussion, it does not outline specific areas of controversy or conflict that have been identified during the NEPA process.

Significance: Moderate

Recommendation: Please include a summary of areas of controversy within the EIS, particularly with resource concerns identified during the public review process.

Submitted By: Elliott Stefanik [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**

Although the FS/EIS addresses all issues raised during the public review process throughout the document, additional information on those specific issues raised by agencies and the public will be included within the Public Involvement section of the Executive Summary. This will include comments that expressed concerns about the project's effects on certain species, which is addressed at 2.5.6, 2.5.7, 4.5.6, 4.5.7, and Appendices A and D. Some were concerned about water quality and/or quantity issues downstream of the project area, which is addressed at 2.2, 4.2, and in detail at Appendix D. Wetlands are addressed at 2.5.8, 4.5.8, and Appendix D. Real estate issues are addressed at 2.4, 4.4, and Appendix B. The effectiveness of Alternative C in providing flood-risk benefit is addressed throughout. These are the recurring issues that arose during public comment that will be addressed in the Executive Summary.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 24 2020

1-1 Backcheck Recommendation **Close Comment**

This comment has been closed. USACE OC can determine whether the text provided is legally sufficient to address CFR 1502.12.

Submitted By: Elliott Stefanik [redacted] Submitted On: Feb 19 2020

Current Comment Status: **Comment Closed**

8284828 Environmental n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The Executive Summary states that public review period spanned 76 days (June 23, 2018, to September 6, 2018). However, Section 7.4 noted that updated documents were posted on July 23. Although it's unclear which updated documents were posted (or re-posted), we would be better off to characterize the public review period as July 23 to Sept 6 which is 46 days.

Reason for Concern: Accurate portrayal of the public review period.

Significance: Minor

Recommendation: Please edit the text, particularly the Executive Summary, to better reflect the public review period where complete documents were available. Also, at least some public comments appeared to request or State that the public review period should be longer, or extended. Please not if we received any formal requests for extension of the public review period, and

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whether or not these were considered.

Submitted By: Elliott Stefanik [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**

Public comments were accepted beginning on June 23, 2018. Documents resolving grammatical mistakes and formatting issues were reposted on July 23, 2018. The PDT felt it was important to consider all of the comments between June 23 and July 23, instead of throwing them out and re-starting the public review period. As changes to the updated documents were not material changes and the substance of the data and the documents was the same, a full understanding of the proposed project could be made with the initial documents posted and any comments submitted between June 23 and July 23 should arguably be included for consideration. Therefore, considering the public review period to be 76 days is not only appropriate, it is most accurate time frame. Furthermore, the PDT again exceeded requirements and held not just one (1) public meeting but three (3) public meetings throughout the Pearl River Basin, providing ample opportunity for the public to learn about the project and question the entire team. During this time frame, the PDT also testified in front of and met with the State of Louisiana's Pearl River Basin Task Force.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 24 2020

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Elliott Stefanik [redacted] Submitted On: Feb 19 2020

Current Comment Status: **Comment Closed**

8284984	Geotechnical	Appendix A – Plan Formulation	46, lines 14-16	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: Alternative C plan includes removal of existing weir at RM 290.7.
2. The basis for the concern: Appendix C: Construction Methods and Geotechnical Analysis, Page 7 indicates that the existing weir will remain undisturbed.
3. The significance of the concern: Low
4. The probable specific action needed to resolve the concern: These statements conflict and should be made consistent.

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**

The statement in Appendix C has been updated for accuracy and consistency.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

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1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8284986	Geotechnical	Appendix C – Construction Methods and Geotechnical Analysis	4	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: Paragraph 2.5 references EM 1110-2-1903.
2. The basis for the concern: No such reference could be found. Is this supposed to be EM 1110-2-1913?
3. The significance of the concern: Low
4. The probable specific action needed to resolve the concern: Review referenced manuals.

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
The reference has been corrected to appropriately reflect Engineering Manual 1110-2-1913, Design and Construction of Levees.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8284988	Geotechnical	Appendix C	Construction Methods and Geotechnical Analysis – Paragraphs 3.2 and 3.3.	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: Stationing for specific features is not found.
2. The basis for the concern: It can be difficult to follow exactly where the items being discussed are located within the project area. It could lead to misinterpretation of recommendations.
3. The significance of the concern: Medium
4. The probable specific action needed to resolve the concern: Recommend placing stationing for specifically referenced features or reaches. This way the features can be located easily on the plan sheets.

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

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1-0 Evaluation **For Information Only**
Sections 3.2 and 3.3 have been updated to locate specific features with stationing.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8284992 Geotechnical Appendix C Conceptual Plans Sheet 1.6 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: Water Works Weir is not labeled.
2. The basis for the concern: Specific feature is referenced in the write-up.
3. The significance of the concern: Low
4. The probable specific action needed to resolve the concern: Suggest labeling the existing weir and indicate whether it will remain or be removed (appendices A and C differ with how this will be handled).

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
The existing weir to be relocated downstream has been identified on Conceptual Plans Sheet 1.6.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8285036 Geotechnical Appendix C Conceptual Plans – Typical Sections Weir n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: Typical Section Weir Basin – Cutoff wall is shown on the section.
2. The basis for the concern: No specific write-up was found in the Geotechnical Appendix for this feature.
3. The significance of the concern: Medium
4. The probable specific action needed to resolve the concern: Provide a basis for the need for the cutoff wall, depth of the cutoff wall, and locations. It is anticipated that this feature will be required along the entire weir, tie-in embankments, and levee reaches. The Cost Appendix was reviewed and the costs for cutoff wall was captured, the quantities in the Cost Appendix and estimates in the Geotechnical Appendix should be consistent.

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Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**

The cutoff wall has been included on the preliminary plans and is included in the cost estimate. The proposed weir has an assumed length of 1,500 ft and an assumed average depth of 20 ft. While a significant amount of geotechnical data has been gathered from throughout the project reach, further investigations specifically detailing this location will be required in the Preconstruction and Engineering Design Phase. To be conservative in these plans and in the economic assumptions, a cutoff wall was included, with the assumption that a VE study on the weir design would be performed as a part of the next phase of the project.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Open Comment**

In the DDR there is no mention of what was assumed for cutoffs. Please include some explanation as to the assumptions for using the cutoff in the DDR so that it is consistent with the cost appendix. Explain why it is assessed that it will not be needed on the earthen portion of the weir (this area too seems that it would require similar remedial features)

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020

2-0 Evaluation **For Information Only**

The Construction Methods and Geotechnical Analysis section of Appendix C has been updated in Section 2.5 to include a description of the current conceptual weir design and where cutoff walls were assumed to be required.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**

The evaluation is acceptable and reviewer will close based on response. Verification will be done once final documents provided.

Submitted By: Nicholas Aleman [redacted] Submitted On: Mar 17 2020

Current Comment Status: **Comment Closed**

8285038	Geotechnical	Appendix C	Conceptual Plans – Typical Sections Weir	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: Typical Section Weir Basin – Interior weir slope shown as vertical.
2. The basis for the concern: Profile shows a 1V:1H (100%) interior weir slope.
3. The significance of the concern: Low
4. The probable specific action needed to resolve the concern: Review plan section and verify that it is drawn correctly.

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

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1-0 Evaluation **For Information Only**
The interior wall slope is currently designed as 1V:1H. The Conceptual Plans: Weir Detail sheet has been updated to also reflect that slope.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Open Comment**
This was not reflected on the weir cross section.

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020

2-0 Evaluation **For Information Only**
The weir cross section has now also been updated to state the proposed slope is 1V:1H.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
The evaluation is acceptable and reviewer will close based on response. Verification will be done once final documents provided.

Submitted By: Nicholas Aleman [redacted] Submitted On: Mar 17 2020
Current Comment Status: **Comment Closed**

8285045 Geotechnical Appendix C Plan Section Sheet 05 and 06 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: Sections 200+00, 220+00, and 240+00. Top of new levee appears to be significantly lower than the rest of the levees.
2. The basis for the concern: Levee does not appear to be at appropriate elevation.
3. The significance of the concern: Medium
4. The probable specific action needed to resolve the concern: Review required elevation and adjust plan accordingly. A top of levee profile should be provided in conceptual plans for the west and east levees.

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
Section 200+00 and Section 220+00, on Sheet 05 and 06 respectively, have been updated to illustrate the levee location. Both cross sections are in the levee setback reach. A profile for the existing levees is included in the hydraulic HEC-RAS outputs found in the Hydrologic and Hydraulic Analysis Section of Appendix C.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

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8285049	Geotechnical	Appendix C	Conceptual Cross Sections Sheets 1-10	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: Several of the cross sections show the riverside toe of the levee being directly on the river bank.
2. The basis for the concern: If issues are present (i.e. stability or erosion) at the riverside toe of the levee they will be difficult to detect or repair with the current configuration.
3. The significance of the concern: Medium
4. The probable specific action needed to resolve the concern: Add a 40ft berm (minimum width) as described in EM 1110-2-1913. This will also help a little with lengthening the riverside seepage path entry.

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**

As discussed in the 2.4 of the Construction Methods and Geotechnical Analysis Section of Appendix C, a berm is planned. A section view for new and existing levees has been included.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020

Current Comment Status: **Comment Closed**

8285050	Geotechnical	Appendix C	Conceptual Plans - Sheets 1.1 and 1.5	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: It appears that 3 interior drainage structures (2 through the west levee and 1 through the east levee) will be impacted by the proposed alternative.
2. The basis for the concern: Without the project, the structures can drain by gravity means when the levees are not loaded. The proposed plan will create a scenario where it is unlikely that these features can perform as designed. The existing features will have to be modified to maintain the desired effect for interior drainage. The costs (lands, use and maintenance, relocations, etc.) for this does not appear to be included in the costs for Alternative C in Appendix C – Cost Engineering.
3. The significance of the concern: High
4. The probable specific action needed to resolve the concern: The design intent for the interior drainage features should be reviewed. A technically feasible alternative should be developed and costed with Alternative C.

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

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1-0 Evaluation **For Information Only**

Currently, two interior drainage structures are in place (one on the east and one on the west). The proposed plan will not impact the ability of those structures to operate as currently designed.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Open Comment**

Verify that this is correct. Based on the information that is presented and the proposed design, if the normal pool upstream of the weir is around El 258 then the interior drainage features will only be able to effectively gravity drain if the interior water level is above El 258. Based on the cross sections at 60+00 and 80+00 the land/ditch ground surface near the existing pump station/gravity pipe is around El 250 which means that the interior drainage channel will need to have 8 feet of water in it prior to flowing by gravity methods into the river. Similar upstream at the gravity culvert on the west bank.

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020

2-0 Evaluation **For Information Only**

There are two existing pump stations that would be impacted by the channel improvements concept evaluated. The West Bank pumping station (Fairgrounds) located at approximately RM 289.3 would have to be analyzed to determine if the pump sizes are adequate based on the available storage area. The pump station flows by gravity at elevation 249-ft. Based on anticipated grading surrounding the proposed project and the size of the existing pump station, it is possible that a portion of the interior drainage could be diverted away from the sump and allowed to sheet flow with a pool elevation of 258.0-ft. Furthermore, these smaller pumps are utilized often and any need for increased utilization would not be costly. Any cost due to increased pumping needs should be sufficiently covered by the proposed O&M cost within the cost estimate.

The East Bank pump station (Conway Slough) located at RM 286.6 would also be impacted by a channel improvement concept with a pool elevation of 258.0-ft. The Conway Slough pump station is larger than the Fairgrounds Pump Station and it also gravity flows up to elevation 249-ft. A preliminary solution to the impact would be to modify the sump to allow gravity flow through a land side channel that would discharge into the Pearl River downstream of the proposed weir location. Preliminary observations of flowline profiles were evaluated to confirm that a combination of a land side channel with a gated structure through the Richland levee could be a feasible solution to allow the pump station to gravity flow as currently designed. As an alternative to the landside ditch option, the large area available at this location as a sump provides significant storage which can alleviate some of the increased pumping needs.

The interior analysis discussion within Section 4.0 of Appendix C: Engineering, Hydrologic and Hydraulic Analysis has been expanded to include the above discussion.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

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2-1 Backcheck Recommendation **Close Comment**

The evaluation is acceptable and reviewer will close based on response. Verification will be done once final documents provided.

Submitted By: Nicholas Aleman [redacted] Submitted On: Mar 17 2020

Current Comment Status: **Comment Closed**

8285055	Geotechnical	Appendix C	Plan Section Sheets 01 through 06	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

1. The review concern: Several cross-sections show a landside elevation lower than El 258, which is shown to be the normal pool on the Weir Plan/Profile. Reference landside elevations at cross-sections from 20+00 to 220+00.
2. The basis for the concern: Based on the definitions for a dam contained in ER 1110-2-1156, the side levees and weir fit descriptions where they could be classified as dams.
3. The significance of the concern: High
4. The probable specific action needed to resolve the concern: If the PDT has not already done so, engage with appropriate agencies to determine what type (if any) dam permitting/regulations are required for the proposed alternative? Determine what other requirements may be required if these features are characterized as dams.

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

Revised Nov 26 2019.

1-0 Evaluation **For Information Only**

"This comment has been addressed in revisions dated November 2019 to Appendix C: Engineering in the Water Quantity Assessment Section in subsections 8 (Additional Analysis and Modeling Effects) and 9 (Summary).
Subsection 8 details additional analyses regarding the amount of flow coming from the Jackson metropolitan area that contributes to the total discharge of the Pearl River downstream of the Project.
This additional hydraulic modeling and water quality modeling further documents that the proposed project will not impact downstream flows and will not affect the water quality downstream.
Subsection 9 details the permit requirements for the relocated weir and the fact that those legal requirements address flow requirements, utilization of state waters, potential affects to beneficial users, flooding of upstream properties and assurance that the "established minimum flows" for the water body are "maintained." The Mississippi Environmental Quality Permit Board is the permitting agency, while the Mississippi Commission on Environmental Quality promulgates applicable regulations, including established minimum flows for streams.
"

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

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1-1 Backcheck Recommendation **Open Comment**
This evaluation appears to have addressed permitting for dams.
From a levee safety perspective, the reviewer is verifying with MVK that the proposed features are consistent with those on other levees that are permanently loaded.

Submitted By: Nicholas Aleman [redacted] Submitted On: Mar 17 2020

1-2 Backcheck Recommendation **Open Comment**
The reviewer had a discussion with the Levee Safety Center and MVK Geotechnical Branch to discuss how the design would be effected by the permanent hydraulic loading on the levees due to the new weir being constructed and holding a normal pool to El 258. The permanent pool upstream of the proposed weir will result in a permanent hydraulic head of up to 8 feet on the levees. The weir and levees upstream (where the landside elevation is lower than El 258) that will hold the permanent head will function as a dam. These features should be designed like dams to meet USACE design criteria (slope stability (EM 1110-2-1902), seepage (EM 1110-2-1901), and frequency of event (PMF)). Levees upstream shall be fully analyzed and designs shall meet criteria of EM 1110-2-1913. These items should be captured and conveyed in the Construction Methods and Geotechnical Analysis Portion of the Feasibility Report so that they are followed through with during PED.

Submitted By: Nicholas Aleman [redacted] Submitted On: Mar 20 2020

2-0 Evaluation **For Information Only**
A permanent hydraulic head of 8 feet on the toe of the levees is not expected. Most existing toe of levees are currently at elevation 260/+ feet in most areas. Excavation limits, to be finalized during PED, can be adjusted as needed to insure all aspects of seepage are accounted for, and excavation can be limited near levees where seepage is a concern. Cost estimates include allowances to address seepage concerns as necessary during PED. The final the levee and channel improvement reach design will adhere to all USACE guidelines, whether a dam or levee, as required. The design team will coordinate with the USACE to determine which guidance to utilize during each phase of design.

Submitted By: Blake Mendrop [redacted] Submitted On: Apr 07 2020

2-1 Backcheck Recommendation **Close Comment**
First and second sentences are not consistent with what is shown on the cross-sections provided in this study. Intent of designer is sufficient to close the comment.

Submitted By: Nicholas Aleman [redacted] Submitted On: Apr 08 2020
Current Comment Status: **Comment Closed**

8285057	Geotechnical	Appendix C	Conceptual Plans / Construction Methods and Geotechnical Analysis	n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

1. The review concern: The removal of the riverside blanket for alternative C will result in reduced entry losses and higher net heads calculated at the levee toes. This is of particular concern in the areas where little to no embankment widening will occur. Based on analysis/ data contained in the February 2007 feasibility report (draft), there are several reaches that appear to require remedial measures based on current conditions and hydraulic loading.
2. The basis for the concern: Based on the borings shown on the cross sections for the conceptual plans, sand layers will be exposed, or nearly exposed, on the riverside and any seepage issues could be made worse by removal of the riverside blanket.
3. The significance of the concern: High
4. The probable specific action needed to resolve the concern: Perform an evaluation to determine what seepage remedial measures will be needed along the existing/new levee alignments based on the data available now. Where data is lacking, conservative assumptions (i.e. cutoff, or berm) may be most appropriate.

Submitted By: Nicholas Aleman [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**

Although the existing levees have not experienced significant seepage, conservative assumptions have been made during the conceptual design of the Selected Plan based on previous geotechnical studies. As discussed 2.4 of the Construction Methods and Geotechnical Analysis Section of Appendix C, a berm has been added to the existing levees and the new relocated levee. Additionally, the necessity of including some slurry trench within the design has been accounted for in the cost estimates as the PDT recognizes some areas may experience more difficult soil conditions.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Open Comment**

Removing the riverside blanket will have a big impact on seepage. The landside berms will help where they can be added, however there appear to be several areas where landside berms are not going to be added. In the DDR state what assumptions/contingencies were made for cutoff wall in levee areas where the riverside blanket will be removed.

Submitted By: Nicholas Aleman [redacted] Submitted On: Feb 19 2020

2-0 Evaluation **For Information Only**

The following discussion has been added to Section 2.4 of the Construction Methods and Geotechnical Analysis:
Where water pooled against the riverside slope, these areas will require a 40-foot wide semi-compacted impervious riverside maintenance berm to limit seepage through the levee. The typical details include a detail of the berm assumed to extend the entire length of any levee section where water is pooled. The berm will have a crown elevation 3 feet above normal pool, a 1V on 40H top slope and a 1V on 3H toe slope. No removal of the riverside blanket near the existing levees is anticipated. The excavation limits near the existing or relocated levees will be determined during final design.
In addition, the levee setback will involve crossing the old river channel at various

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locations. Slurry trenches were assumed to be needed at those sites for cost estimates. The necessity and extent of any such measures will be determined during final design.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
The evaluation is acceptable and reviewer will close based on response. Verification will be done once final documents provided.

Submitted By: Nicholas Aleman [redacted] Submitted On: Mar 17 2020
Current Comment Status: **Comment Closed**

8285256 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Receipt of Documents)

1. This Cost ATR review is based upon MCACES MII files for the Pearl River Basin, Mississippi Hinds & Rankin Counties Project; dated 25 October 2019. The MII estimates totaled some $359.3M (LPP) including all project costs and contingency. The review comments are primarily based upon the following Corps regulations and Guidance that must be adhered to:

ER 1110-2-1150, Engineering and Design for Civil Works Projects
ER 1110-2-1302, Civil Works Cost Engineering
ETL 1110-2-573, Construction Cost Estimating Guide for Civil Works

Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
The PDT utilized the referenced regulations during preparation of the updated MII estimates.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
Comment for documentation only.

Submitted By: William Bolte [redacted] Submitted On: Feb 10 2020
Current Comment Status: **Comment Closed**

8285263 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Documents Received)

2. Schedule, Total Project Cost Summary and QC Comments. CONCERN: Documents received for review include the Main Report and Appendices, Cost Estimate, Quantities, and Risk Analysis (see Risk Analysis comments). SIGNIFICANCE: MEDIUM RESOLUTION: Cost ATR cannot provide QC level review, only QA oversight. Please provide internal QC comments with comment resolution as proof of review. In addition please provide Project Schedule and Total Project Cost Summary.

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Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
QC comments and assumptions with notes are now included in the Cost Engineering Section of Appendix C.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
A/E QC comments have been provided. As a Section 211 project, MVK support is not authorized. No further action necessary.

Submitted By: William Bolte [redacted] Submitted On: Mar 17 2020
Current Comment Status: **Comment Closed**

8285266 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: MII Estimate)

3. Contractor Markups. CONCERN: Estimate includes Prime/SubContractor Markups of 2% JOOH (small tools), 2.5% HOOH, 6.5% profit and 1.5% bond. SIGNIFICANCE: HIGH RESOLUTION: Once MII estimate has been updated with site specific equipment, labor and crews reconsider Contractor Markups. Reviewer would recommend 10% JOOH, 15% HOOH, 10% profit and 1.5% for budgetary purposes. Also consider subcontractor assignments.

Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
MII estimate has been updated with site specific equipment, labor and crews, and contractor markups.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
Contractor Markups have been adjusted to 10% JOOH, 10% HOOH and 10% profit and appear reasonable.

Submitted By: William Bolte [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8285268 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: MII Estimate)

4. Labor. CONCERN: Labor appears to be based on 2014 labor rates. SIGNIFICANCE: HIGH RESOLUTION: Update Labor database to reflect 2019 local labor rates, suggest using Jackson MS rates.

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Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
The updated 2019 labor database was used when preparing the updated MII estimate.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
Labor has been updated and appears reasonable.

Submitted By: William Bolte [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8285274 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: MII Estimate)

5. Estimate notes. CONCERN: MII estimate contains limited notes explaining critical assumptions, sequence of work etc. SIGNIFICANCE: HIGH RESOLUTION: For transparency and ease of understand please include notes in MII estimate. Attached are typical MII notes as a template to consider.

(Attachment: Example_Project_Notes.doc)

Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
The MII notes, as well as summary page of assumptions, have been included within the MII estimate.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
MII estimate notes have been updated.

Submitted By: William Bolte [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8285276 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: MII Estimate)

6. Contingency. Markup CONCERN. MII Estimate includes some 23% contingency markup. SIGNIFICANCE: MEDIUM RESOLUTION: Recommend removal of contingency from MII estimate and apply contingency only in TPCS. Applying contingency in the MII estimate can distort numbers and make evaluation of unit costs misleading.

Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

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1-0 Evaluation **For Information Only**
The contingency markup has been removed from the updated MII estimates and added to the TPCS.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
Contingency has been removed from the estimate and applied only to TPCS.

Submitted By: William Bolte [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8285277 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: MII Estimate)

7. Unit Prices. CONCERN. MII estimate consists almost exclusively of user defined unit costs for tasks based on ranges of quotes from various contractors. Per ER 1110-2-1302, budgetary estimates should Class 3 level of estimate with "site-specific crew based details." SIGNIFICANCE: HIGH RESOLUTION: Use site specific crews (equipment, labor, material, production rates, etc) with prime and subcontractor assignments and all other applicable markups (sales tax, etc) to develop the estimated costs. The range of unit pricing provided can then be a useful tool to confirm the crews are reasonable.

Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
The MII estimate has been updated with "site-specific crew based details."

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
Class 3 site specific crews have been developed.

Submitted By: William Bolte [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8285279 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost and Schedule Risk Analysis)

8. Monte Carlo Based Risk Analysis Model. CONCERN: The Abbreviated Risk Analysis is an acceptable tool for development of contingencies for alternatives and those projects less than $40M. Per ER 1110-2-1302, "The abbreviated method does not address schedule, generally because the smaller dollar amounts are less dependent on schedule impacts in the form of cost. For projects where the total project cost including inflation is $40 million or greater, or for complex smaller projects having numerous work elements with differing unknown conditions and uncertainties, a "Detailed" risk analysis will be performed in accordance with current USACE requirements. This "Detailed" method includes risk identification, quantitative and qualitative

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study, and sensitivity analysis using a Monte Carlo simulation method." SIGNIFICANCE: HIGH RESOLUTION: Develop "detailed" Monte Carlo Risk Analysis. Template attached.

(Attachment: CSRA_template_FY17_rev5_-_.xlsm)

Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
The Final Risk register and a detailed Monte Carlo Based Risk Analysis using the provided template and crystal ball software add-on, respectively, have been completed and added to Appendix C with the TPCS in the Cost Engineering Section.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
Monte Carol CSRA has been developed.

Submitted By: William Bolte [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8285282 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Total Project Cost Summary)

9. Total Project Cost Summary. CONCERN: Per ER 1110-2-1302, "The TPCS is the product that is certified by the Cost MCX, because it presents the total project costs developed by the PDT rolled up into a single summary page...The TPCS reflects all applicable project feature costs, contingencies, escalation and inflation to project completion." TPCS not provided. SIGNIFICANCE: HIGH RESOLUTION: Please provide TPCS (template attached).

(Attachment: Non-CAP_Example_TPCS_Mar_2019.xlsx)

Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
The TPCS has been completed and added to Appendix C.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
TPCS has been provided.

Submitted By: William Bolte [redacted] Submitted On: Mar 17 2020
Current Comment Status: **Comment Closed**

8285283 Cost Engineering n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Total Project Cost Summary)

10. WBS Account 30 – Planning, Engineering and Design. CONCERN: PED is some 9% of construction costs. This level of design support is on the lower bound of what would be anticipated for a project of this type. SIGNIFICANCE: HIGH RESOLUTION: Cost ATR Reviewer is unfamiliar with the Section 211 process, with USACE over design and implementation of this project? If so, has USACE had the opportunity to provide guidance for recommended Planning, Engineering and Design budget?

Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
Planning, Engineering and Design costs have been updated in the MII cost estimate.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
PED account has been updated to 19% of construction and appears more reasonable.

Submitted By: William Bolte [redacted] Submitted On: Mar 17 2020
Current Comment Status: **Comment Closed**

8285284 Cost Engineering n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Total Project Cost Summary)

11. WBS Account 31 – Construction Management. CONCERN: CM is some 2% of construction costs. This level of support is on the lower bound of what would be anticipated for a project of this type. SIGNIFICANCE: HIGH RESOLUTION: Cost ATR Reviewer is unfamiliar with the Section 211 process, with USACE over design and implementation of this project? If so, has USACE had the opportunity to provide guidance for recommended Construction Management budget?

Submitted By: William Bolte [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**
Construction Management costs have been updated in the MII cost estimate.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**
CM account has been updated to 6.5% of construction and appears more reasonable.

Submitted By: William Bolte [redacted] Submitted On: Mar 17 2020
Current Comment Status: **Comment Closed**

8285446 Economics n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Without-project and with-project damages in the Treatment Plant Levee reach.

Basis: The Economic Appendix indicates that there is no reduction in damages in the Treatment Plant Levee reach, per Tables B-4 and B-6.

Significance: Medium.

Recommended Action to Resolve: Please explain why without-project and with-project residual damages for the Treatment Plant Levee reach are the same (per Tables B-4 and B-6) in light of the fact that benefits are being claimed for the WWTP. Is the WWTP in the Treatment Plant Levee reach? Were the benefits for the WWTP estimated using HEC-FDA? Please include additional discussion in the Economic Appendix about estimating benefits associated with the WWTP.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 26 2019

1-0 Evaluation **For Information Only**

A fragility curve describing impacts associated with a WWTP equivalent to the Savanna St WWTP is not available in HEC-FDA. Therefore, HEC-RDA did not calculate any benefits to the WWTP and the estimate damages are the same. However, the data and calculations used to estimate the level of benefits provided to the Savanna St WWTP has already been provided to the reviewer.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

Current Comment Status: **Comment Closed**

8285667 Economics n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Economic justification for constructing the levee adjacent to the WWTP.

Basis: The Economic Appendix does not indicate whether or not the WWTP levee is economically justified on an incremental basis.

Significance: High.

Recommended Action to Resolve: Please add a discussion in the Economic Appendix regarding the total damages reduced (i.e., benefits) of constructing the levee (and any other necessary features) adjacent to the WWTP. Please also include a discussion about the cost to construct the levee (and any other necessary features) adjacent to/associated with the WWTP. Please add separate net benefit/BCR analyses regarding the WWTP levee and explicitly state whether or not it is economically justified on an incremental basis (i.e., as a stand-alone project).

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Submitted By: Timi Shimabukuro [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

1-0 Evaluation **For Information Only**
The report has been updated with incremental analysis.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Open Comment**
Please provide the updated Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 04 2020

1-2 Backcheck Recommendation **Open Comment**
Please provide a table showing the incremental analysis, which compares costs to benefits (I.e., net benefits and BCRs) for each added increment. This would support the determination to recommend Alternative 5 as the NED Plan, or the one that maximizes net benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Feb 16 2020

2-0 Evaluation **For Information Only**
Table 1-6 in Appendix B, Attachment 1: Incremental Analysis has been updated to include the BCR for each increment.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Mar 12 2020
Current Comment Status: **Comment Closed**

8285702	Planning - Plan Formulation	n/a	Plan Formulation Appendix and EIS Chapter 3	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Formulation of a Non-structural Alternative

Basis: Guidance on inclusion of a non-structural alternatives in ER1105-2-100, Appendix G, states that the alternative should be PRIMARILY non-structural, i.e. does not need to be entirely non-structural. The non-structural plan retained for the final array is the largest non-structural plan based on the assumption that the plan needs to remove all of the structures within the 1% ACE floodplain to achieve the objectives of the study. By formulating the plan in this manner, it makes the non-structural plan not compete well against the structural alternatives because of its size and expense. A more modest plan which targets the structures within the frequent floodplain (such as the 2% and 10% ACE) would produce a more viable option. These measures could then be incrementally combined with other non-structural and structural measures to develop plans which show where the level of non-structural features is optimized. Residual risk (the risk remaining with

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the project in place) should then be disclosed.

Significance: High

Recommended Action: Revisit non-structural alternatives and determine where the level of non-structural measures is optimized. Determine if alternative in Final Array should be revised. Use attached documents as reference (Non-structural Matrix and Guide and Field Guide).

(Attachment: NonStructural_Matrix_User_Guide.pdf)

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

1-0 Evaluation **For Information Only**

The PDT received guidance from the USACE-MVK on August 14, 2014 via email that a stand alone non-structural alternative had to be included in the final array. Additionally, to compare efficiency between the plans by the definition suggested in Comment #8285747, the plans need to provide the same level of benefit.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**

Yes, a non-structural plan should be included however the output of that plan should not be developed in a deterministic manner so that it would provide the same level of benefits as other plans. The concern here is that a viable smaller non-structural alternative may have been overlooked. Going forward, the project proponent should seek to incorporate non-structural measures in to the Recommended Plan.

Submitted By: Sara Schultz [redacted] Submitted On: Mar 03 2020

Current Comment Status: **Comment Closed**

8285719	Planning - Plan Formulation	n/a	Plan Form Appendix, page 1 and EIS page 7	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Include information on the Population at Risk

Basis: ER 1105-2-101 "Risk Assessment for FRM Studies" directs that discussion focus on Life Safety in order to communicate flood risk to the public and decision makers.

Significance: High

Recommended Action: Include statistics on the number of people in the floodplain (page 7 of the EIS and page 1 of the PF Appendix).

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

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Revised Dec 03 2019.

1-0 Evaluation **For Information Only**
Approximately 44,000 people live within the existing 100year flood plain. The FS/EIS and Appendix A have been updated to include this.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8285721	Planning - Plan Formulation	n/a	Plan Form Appendix, page 1	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Revise Problem statement to include Risk to Life Safety (page 1 of PF Appendix)

Basis: ER 1105-2-101 "Risk Assessment for FRM Studies" directs that discussion focus on Life Safety in order to communicate flood risk and prioritize risk reduction.

Significance: High

Recommended Action: Modify the problem statement to state: "Severe rainfall in the Upper Pearl River Watershed causes a high risk of downstream flooding the in the Study Area, threatening "the lives of xxx people" and approximately 5,000 structures."

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

1-0 Evaluation **For Information Only**
Approximately 44,000 people live within the existing 100year flood plain. The FS/EIS and Appendix A have been updated to include this.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Please ensure the problem statement has been updated as recommended.

Submitted By: Sara Schultz [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8285727	Planning - Plan Formulation	n/a	Plan Form Appendix, Final Array of Alternatives, page 44	n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: Incremental Analysis of the Final Array of Alternatives.

Basis: ER 1105-2-100 specifies that the proposed project features must be shown to incrementally reduce the problem (i.e. the flood risk). It is unclear how the construction of the weir and impoundment of water reduces the flood risk to the adjacent communities. The existence of the 1,500 acre lake does not create any additional flood storage capacity or conveyance capacity. It could provide recreation benefits however these benefits could also be provided without the impoundment of water by improving access to the river. The new widened and taller levees would seem to be an impediment to recreational access and the trapezoidal channel would lose aesthetic quality compared to the current riparian corridor.

ER 1105-2-100 Definition of Incremental Analysis. Incremental analysis is a process used in plan formulation to help identify plans that deserve further consideration in an efficient manner. The analysis consists of examining increments of plans or project features to determine their incremental costs and incremental benefits. Increments of plans continue to be added and evaluated as long as the incremental benefits exceed the incremental costs. When the incremental costs exceed the incremental benefits no further increments are added.

Significance: Critical

Recommended Action: Conduct incremental analysis for final array of plans. Identify the first increment, namely the feature which provides the most benefits for the costs. Determine the amount of risk reduction for each increment. This could be shown as a reduction in water surface elevation. The setback levee most likely will be the feature with the greatest risk reduction so suggest starting with that. Add additional features and document the incremental benefits. Provide a description and explanation of the risk reduction associated with the weir relocation and subsequent impoundment of water behind the weir.

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

1-0 Evaluation **For Information Only**

An incremental analysis of the combination of measures included within Alternative C has been added to Appendix B. This includes a table showing the impacts the relocated weir has on the water surface elevation during flood events as calculated by the hydraulic model.

Within the proposed project footprint, an existing weir is already in place to ensure water supply to the water treatment plant located near River Mile 291. Moving the weir and upgrading it with features such as the low-flow gate allow the project to ensure the water supply is still maintained while simultaneously reducing the water surface elevation during both flood events anticipated to occur with higher frequency and larger annual chance exceedance flood events. The model data clearly showing the anticipated reduction in water surface elevation due to the implementation of the Selected Plan from

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the 50% chance event to the 0.2% chance event can be found in Table 3.3 of the Hydrologic and Hydraulic Analysis Section in Appendix C. The flood risk management benefits are derived from these reduced water surface elevations (WSEs) for flooding events. Several factors contribute to the WSE reductions, including the channel roughness factors (Manning's ""n"") due to the decreased vegetation in the overbanks and the increased available flow cross section achieved by both the excavation of the overbank and the levee setbacks.

As to potential impediments to recreational access, the current levee system impedes all recreational access to the Pearl River. Recreational access via boat launches is just one way the Selected Plan will make it possible for the public to utilize the natural resources in their collective backyard. Additionally, the channel will not be just trapezoidal; the channel improvements natural variations of width and elevation for natural resource benefits.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Close Comment**

The stated purpose of the weir is for water supply delivery to the waste water treatment plant. It is unclear why the existing weir location is not adequate. Additionally, the new weir would be used to impound water upstream in order to keep vegetation from growing in the floodway. The impounded water upstream would also provide recreational benefits in the form of a new reservoir. For future cost allocation purposes, it should be determined if the Weir is a LERRD (relocation) and if it's purpose is to keep the floodway clear, this is an O&M function - both of which are sponsor costs rather than Federal costs.

Submitted By: Sara Schultz [redacted] Submitted On: Mar 03 2020

Current Comment Status: **Comment Closed**

8285735	Planning - Plan Formulation	n/a	EIS, Executive Summary, Table 2, page xvii	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Update price levels

Basis: ER 1105-2-100 requires that price levels be updated to reflect year that report is completed.

Significance: Medium

Recommended Action: Update price levels to October 2019.

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

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1-0 Evaluation **For Information Only**
The price levels have been updated to reflect October 2019 values.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8285740	Planning - Plan Formulation	n/a	EIS, Executive Summary, Historical Authorizations, pages viii and ix	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Level of performance of the Recommended Plan

Basis: ER 1105-2-100 requires a description of the level of performance for the Selected Plan and a description of the associated risk reduction afforded by the plan. Section 3104 of WRDA 2007 states that a comparison must be made between the NED plan and the LPP and that the LPP must provide a level of flood damage reduction that is equal to or greater than the level of flood damage reduction provided by the NED plan. The "flood damage reduction" should be shown in term of performance, not just benefits as shown on page xii of the Executive Summary.

ER 1105-2-100 - Page E-87 describes performance:

"Projects are analyzed and described in terms of their expected performance, not in terms of levels of protection. Contingencies are acknowledged and residual risk is not routinely reduced by overbuilding or by inclusions of freeboard. A levee, for instance, is described as having a probability of overtopping of x percent in any given year, without implication for level of protection. If there are particular floods of reference or interest, the levee is described as having a probability y of containing the z percent flood, and so on. For example, a levee of a given height is described as having a (say) two percent chance of being overtopped in any year. If the one percent flood flow is of interest, the levee is said to have a (say) twenty-five percent chance of containing the one percent flow event, should it occur.

Significance: High

Recommended Action: Display level of performance for the Selected Plan and compare to performance of the NED plan (Comprehensive Levee Plan, updated to Alternative B, as described on page ix of the Executive Summary).

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

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1-0 Evaluation **For Information Only**

Performance statistics describing the selected plan have been added to Appendix B. However, there appears to be some confusion about which plan is the NED plan. Congress authorized a project generally in accordance with the plan described in the 2007 Preliminary Draft so long as the final design provided equal or greater flood risk management benefits than the plan designated as the NED. However, the Executive Summary states "the 2007 plan did not actually designate a NED." When the study was renewed in 2013, the Comprehensive Levee Plan was updated to a more technically sound plan, Alternative B. While the plan is fundamentally similar, it includes the necessary improvements required to account for all flood factors impacting the Pearl River and surrounding area. As stated in Section 3.8.3, the appropriately updated Alternative B does provide some NED benefits, it does not maximize them. Alternative B is not the NED plan. On the other hand, the Selected Plan, Alternative C, does maximize the NED benefits and is determined to be the NED plan by the evaluation criteria.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**

Performance statistics included in Attachment 2 of Appendix B appear to include the Without Project Condition and the Levee Plan but not the Channel Improvement Plan. Suggest comparing the FWOP and the with Project (Channel Improvements)in a table in the main report (EIS) for the reach with the lowest with project performance.

Submitted By: Sara Schultz [redacted] Submitted On: Mar 03 2020

Current Comment Status: **Comment Closed**

8285744	Planning - Plan Formulation	n/a	EIS, page 15, section 1.4	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Study Opportunities

Basis: The Study Opportunity "Provide education to local officials and residents of risk of living in flood prone areas" is not reflected in the Objectives. The objectives should reflect the problems and opportunities in order to determine if the recommended plan is addressing them. Flood Risk notification and educational measures can be added to the non-structural elements that are part of the selected plan.

Significance: Medium

Recommended Action: Develop a new objective which states something like: "Provide flood risk educational information to local officials and residents living in flood prone areas."

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

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1-0 Evaluation **For Information Only**
An educational objective has been added to the study goals.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8285747	Planning - Plan Formulation	n/a	Plan Formulation Appendix, page 11 and EIS, page 116	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Definition of the Efficiency Planning Criteria

Basis: ER 1105-2-100 provides the definition of Efficiency

Significance: Low

Recommended Action: The 2nd column defining Efficiency should be modified to state: "For a given level of benefits, no other plan costs less and no other plan yields more benefits for less money". Listing what goes in to the cost is not needed at this point.

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

1-0 Evaluation **For Information Only**
The suggested description of Efficency has been added to the table. Listing what goes into the cost has been moved to a bullet point below as a reminder to the public reader what goes into cost considerations.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8285748	Planning - Plan Formulation	n/a	Plan Formulation Appendix, Table 5-2 and EIS, page 116	n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Additional Screening Considerations

Basis: Provided for clarity.

Significance: Low

Recommended Action: Consider rewriting Environmental Effects description to state: "Direct and indirect effects on natural and cultural resources including:..."

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

1-0 Evaluation **For Information Only**
The description has been updated.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8285749	Planning - Plan Formulation	n/a	Plan Formulation Appendix, Table 5-2 and EIS, page 116	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Additional Screening Considerations

Basis: Social Effects Consideration – the bullet under the description states that benefits of reduced flood risk must be shared by all socio-economic classes. This may be difficult to ensure. The effects should be displayed and all costs should be accounted for but this could be an unintended constraint that could be difficult to measure.

Significance: Low

Recommended Action: Suggest deleting the bulleted statement.

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

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1-0 Evaluation **For Information Only**
The bulleted statement has been rewritten to read: "Benefits of reduced flood risk meet or exceed environmental justice standards."

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8285751	Planning - Plan Formulation	n/a	Plan Formulation Appendix, Table 8-1	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Screening Criteria Evaluation –

Basis: The screening criteria used should be Completeness, Effectiveness, Efficiency, Acceptability and the Environmental and Social Effects criteria defined earlier in the report. This table seems to introduce some new criteria that has not been previously defined.

Significance: Medium

Recommended Action: Rephrase 2nd criteria "Does Alt have unavoidable Environmental impacts?" Since the higher scores are desirable, the criteria should be rewritten to promote plans with fewer environmental effects. Suggested re-write "Does Alt avoid Env Impacts?" 1= no - high impacts. 5 = yes - avoids impacts

Delete column for "Could this ALT be implemented?" this is covered by acceptability.

Rephrase the 6th criteria. Change from "is this Alt cost accepted?" to "Is this Alt efficient?"

Rephrase 7th criteria. Change from "Are risk of the Alt accepted?" to "Is this Alt complete?"

Submitted By: Sara Schultz [redacted] Submitted On: Nov 26 2019

Revised Dec 03 2019.

1-0 Evaluation **For Information Only**
Table 8-1 has been updated with respect to the reviewer's comments and reorganized to follow the criteria in the same order as described in Section 4 of Appendix A. However, there was one exception. While the PDT recognizes that community acceptability is a part of the acceptable criteria, it is a criteria that has proved to be a stumbling block for flood risk management projects in this area in the past. Therefore, the PDT felt it was important to consider community support and buy-in as a separate criteria and kept it as a part of the screening process.

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Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8290092 Environmental n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The 404b1 report is almost entirely completed by reference. This makes it difficult for the reader to follow and understand elements specific to CWA and the 404 analysis.

Reason for Concern: Lack of clarity with compliance to Section 404.

Significance: Low

Recommendation: Please bring relevant discussion forward to the 404b1 report so that the reader doesn't need to reference several sections of the EIS to draw conclusions with compliance.

Submitted By: Elliott Stefanik [redacted] Submitted On: Dec 01 2019

1-0 Evaluation **For Information Only**
We understand the comment and share the desire for the document to be complete, readable and accessible as possible. We decided that essentially copy-and-pasting entire sections of the main FS/EIS document into the 404(b)(1) analysis would be repetitive, confusing to the public and difficult to read in its own right, and so instead summarized each referenced section's conclusions as they relate to the relevant 404(b)(1) subsection. This way we do not simply refer the reader back the relevant section of the FS/EIS without context or comment, but we also do not recreate whole sections of the document. This approach is not unique and as 10th Circuit Court of Appeals has determined NEPA/EIS and 404(b)(1) analysis are similar but NEPA/EIS can often address a broader range of alternatives than those required to be considered under the Clean Water Act.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**
The comment is closed. USACE OC can verify if they deem the 404b1 report to be adequate.

Submitted By: Elliott Stefanik [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8293810 Real Estate n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The REP lacks specificity on lands owned by the NFS, Flood and Drainage District versus the individual members of the District. The REP states that 1,120 acres of land, presumably fee lands, are owned by the local sponsor or communities that are members of the sponsor organization. We need some explanation of how this project would be executed if the only the NFS intends to sign a partnership agreement with the Government for construction. The NFS who signs the agreement needs to own the required lands for both construction and O&M purposes.
Basis: ER 405-1-12 and NFS Responsibilities
Sign: Medium
Action: Revise report to explain how NFS expects to provide all required lands for construction and O&M without being the titled owner of those lands. If these lands are to be acquired by the NFS, this should be explained in the narrative and costed in a separate line item in the estimate.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

Revised Dec 03 2019.

1-0 Evaluation **For Information Only**
The nonfederal sponsor will control all of the project lands either through ownership or through permanent easements (similar to our existing levees). Note that the current budget accounts for the nonfederal sponsor acquiring a fee estate in all properties even though for selected parcels owned by District members (public entities), the nonfederal sponsor will acquire permanent easements only.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8293811 Real Estate n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Gross Appraisal should not be made a part of the public report and approval of a gross appraisal by a credentialed Government review appraiser is required.
Basis: ER 405-1-12, Chapter 12 and ER 405-1-04
Sign.: Medium
Action: Remove Gross Appraisal and summarize valuation information succinctly in the REP. I do not know, for this unusual project authority, how the district/division will resolve the policy requirement for a qualified Government reviewer of the Gross Appraisal.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

Revised Dec 03 2019.

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1-0 Evaluation **For Information Only**

The comment misapplies Section III. 4-17e. of ER 405-1-04 which provides that "[t]he non-Federal sponsor may provide a gross appraisal if it is prepared by a qualified real estate appraiser preapproved by the district." This section is not applicable to the District since the District is proceeding under Section 211 which authorizes non-Federal interests to undertake flood control projects. Pursuant to Section 211, the District is the primary responsible party for preparing the EIS and as such acts as the approving entity for this task.

With the District responsible for approving the appraiser, the qualifications of Tracy K. Wofford, MAI, AI-GRS, the appraiser who performed the gross appraisals for the Project, exceed the qualifications referenced in Section XII 4-88a "Qualifications of Review Appraisers": minimum of five years of experience in the field of real estate appraising, successfully completed the minimum appraisal courses required for and obtained a certification as a State Certified General Appraiser, experience record indicating that she has a thorough knowledge of real estate appraisal and has the knowledge and ability to analyze the market and all pertinent data that affect value, and attend continuing education courses. For the resume of Tracy K. Wofford, MAI, AI-GRS, see Attachment A to Appendix C: Engineering, Real Estate Plan.

Regarding the comment about removing the Gross Appraisal from the report, we have remove the Gross Appraisal from the REP and included a summary of the appraisal methods and valuation information.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 06 2020

Current Comment Status: **Comment Closed**

8293818 Real Estate n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: REP includes a conclusion that there are no induced flooding damages that require land acquisition, but includes no analysis of the project features. Ordinary high water elevations are irrelevant if the creek is not navigable. The report talks about the recommended alternative impounding more water - where will this occur and within whose property?
Basis: ER 405-1-12, Chapter 12
Sign. Medium
Action: Elaborate on Alternative C details for impounding water and any other possible flooding impacts and provide description of analyses completed, both legal reviews in accordance with taking laws and H&H reviews completed

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

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1-0 Evaluation **For Information Only**
With respect to the project footprint, all of the property to be submerged will be acquired by the District. With respect to impacts to tributaries draining to the Pearl River within the project area, backwater due to normal pool elevations will stay within the bank; therefore, no easements will be required.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8293828 Real Estate n/a n/a n/a
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: It is difficult to match all projects features with the listed estates. For example, what estate will be used for the haul roads? Does all of the shoreline protection occur within fee lands? If so, why not channel improvement easements? Are the disposal requirements of excavated materials adjacent to the levees only temporary requirements? What if the materials are not suitable for re-use in the levee? Are the relocation of levees and weirs occurring within the proposed fee lands?

Basis: ER 405-1-12, Chapter 12
Sign: Medium
Action: Please revise REP section on estates to explain each project feature and what the minimum estate required is.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

1-0 Evaluation **For Information Only**
Some haul roads will be held through permanent easements and some will be held through temporary easements. If the term shoreline protection area is referring to river front area, those lands will be held by fee estate title and/or permanent easement lands. The relocated weir will occur in fee estate lands. Channel improvements will occur in fee title estate lands and/or permanent easement lands. Relocated levees will occur in flood protection levee easement areas. Soils for the relocated levees will be tested to insure their acceptability in accordance with engineering design for levee construction. The suitability of fill material behind the constructed levees (in temporary easement areas) will be dictated by proposed land usage.
Appropriate revisions have been made to the Real Estate Plan in Appendix C to document these clarifications.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 19 2020

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Current Comment Status: **Comment Closed**

8293834 Real Estate n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Why are the bridge improvements not considered a facility relocation where in exchange for the real property interest needed for the project, we provide an adjusted bridge? Is this defined as a construction item by statute? This is not described in the REP and the costs do not seem to be included in the 02 account as part of LERRD.
Basis: ER 405-1-12, Chapter 12
Sign: Medium
Action: Add explanation of this work feature in the REP and account for costs as LERRD if appropriate.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

1-0 Evaluation **For Information Only**

No bridges are being relocated. The bridge improvements are scour countermeasures, such as revetment. Only these countermeasures, such as riprap will be utilized around bridges during excavation within reach, are accounted for within the cost estimate.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Open Comment**

Will placement of the revetment or riprap "around" bridges be physically attached to the bridge structure or otherwise affect the bridge owner's ability to O&M their bridge/piers? If so, then it sounds like a "relocation" which is a term of art that also includes facility adjustments and protection of facilities and for which you would have to acquire a real property interest from the bridge owner. Bottom line, the REP should include a discussion about the countermeasures to reduce scouring at the bridge sites, and analyze whether any real property interest need be acquired from the bridge owner in order to complete this work. If an acquisition is needed, even temporary in nature, then the REP should also analyze whether the acquisition should be accomplished as a part of a facility adjustment agreement (real property interest exchanged for cost of facility adjustment) or whether it will be a standard acquisition for market value.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Mar 02 2020

1-2 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Apr 03 2020

Current Comment Status: **Comment Closed**

8293837 Real Estate n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: How does the language of the fee estate already owned over the 1,120 acres match the model fee estate required for this project?
Basis: ER 405-1-12, Chapter 12
Sign: Medium
Action: Revise REP to include analysis of the estate language and identify any need for additional acquisition of third party or excluded interests for the recommended project.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

1-0 Evaluation **For Information Only**

Statutory authority of the non-federal sponsor authorizes the implementation of reasonable regulations and limitations governing the exploring, developing or producing of minerals and associated activities in order to adequately protect and reduce the impacts to the project. See Miss. Code Ann. §51-35-315(g)(2). In addition, to the extent that 33 U.S.C. 408 applies, the USACE, through its permission process, will have an opportunity to affect any proposed activity that would impact the project so as to prevent injury to the public interest or impairment to the usefulness of the project. See also response to Comment 8293810.
Appropriate revisions have been made to the Real Estate Plan in Appendix C to document these clarifications.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Open Comment**

The question goes to the specific wording in the NFS deeds. Federal projects require used of standard language and I was looking for an analysis in the REP of how the current rights owned by the NFS compare to the standard federal fee estate required for the project.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 06 2020

2-0 Evaluation **For Information Only**

Prior addressing the specific backcheck comment, a clarification on the Selected Plan property ownership is necessary. It is expected that all property ownership and easements will be held by the non-federal sponsor. The federal government is not expected to be grantee or holder of any property interests under the proposed project. Current non-federal property interests (for the existing levee and pump project) were acquired in the early 1960's pursuant to acceptable regulations and policies at that time. These property rights incorporate broad language that allow implementation of the proposed project without the need of additional rights. Future acquisitions will follow state statutory language on property acquisition (MS Code Ann. Section 29-1-1 State Purchase and Conveyance of Land, Section 43-37-1 Acquisition of Real Property Using Public Funds, and Section 51-35-315 Urban Flood Control – Powers of the District) and will allow the non-federal sponsor sufficient authority to satisfy both state requirements and those under federal law, including USACE Engineering Regulations, USACE Guidance Letters, Department of Justice Title Standards and Appendix forms, Uniform Relocation

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Assistance and Real Property Acquisition Policies Act of 1970 and other applicable real estate policies.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 23 2020

2-1 Backcheck Recommendation **Close Comment**

I understand the federal Government will not own any land for this project. However, as a condition of receiving the federal funds for the project, the non-federal sponsor must acquire or establish existing ownership of rights equivalent to the federal standard estates. It appears an analysis of the interests currently owned and those required by the federal Government has not occurred yet and is not expected to occur until some later stage of the project. So, there is a risk that the interests will not be sufficient from the federal perspective and this could delay construction, credits or reimbursements.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Apr 02 2020

Current Comment Status: **Comment Closed**

8293843 Real Estate n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: The fee estate listed does not include the language necessary to restrict the surface use as listed in its title. Nor does it make clear your intent to either acquire or except sand and gravel since they are not considered minerals under state law. I also do not see a recommended mineral estate to be used for acquiring third party mineral rights.
Basis: ER 405-1-12, Chapter 12, Standard Estates
Sign: Low
Action: Please correct REP and explain items outlined above.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

1-0 Evaluation **For Information Only**

The only natural resources that exist in this area are oil and gas and sand and gravel. As noted previously, sand and gravel are not considered minerals for the purposes of this project as it relates to the local sponsor, therefore, fee title in the nonfederal sponsor will include sand and gravel. With respect to oil and gas, statutory authority of the non-federal sponsor authorizes the implementation of reasonable regulations and limitations governing the exploring, developing or producing of minerals and associated activities in order to adequately protect and reduce the impacts to the project. See Miss. Code Ann. §51-35-315(g)(2). In any event, oil and gas activities in this area terminated decades ago due to the exhaustion of such resources. In addition, to the extent that 33 U.S.C. 408 applies, the USACE, through its permission process, will have an opportunity to affect any proposed mineral extraction that would impact the project so as to prevent injury to the public interest or impairment to the usefulness of the project.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 23 2020

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1-1 Backcheck Recommendation **Close Comment**
It is unclear from response if the intent is to revise the REP to address the additional information on the treatment of minerals for the project. The REP needs to thoroughly address the topic.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 19 2020
Current Comment Status: **Comment Closed**

8293846 Real Estate Para 6.3 4 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

COncern: Why does the REP use the term "upgrades" in reference to utilities? The project obligation is equivalent substitute facility and an upgrade sounds like a betterment.
Basis: EFARS Appendix Q
Sign: Low
Action: Please revise text.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

1-0 Evaluation **For Information Only**
The term "upgrade" was used because any relocated utility would be replaced to meet current requirements. The PDT recognizes that "upgrade" may sound like a betterment and therefore will be replaced with the term "relocated".

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8293848 Real Estate n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: There are no incidental NFS labor costs broken out in the RE cost estimate. There are no federal labor cost estimates broken out in the REP. The total cost plus contingencies should be adequate but there should be a break out of fed versus non-fed costs at a minimum.
Basis: ER 405-1-12, Chapter 12
Sign: Low
Action: Revise estimate with more detailed breakdown of costs.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

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1-0 Evaluation **For Information Only**
The real estate will be the responsibility of the local sponsor. Therefore, all of the labor cost estimates are NFS labor costs.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 31 2020

1-1 Backcheck Recommendation **Open Comment**
Are you saying then that there is no requirement in a project of this type for review and approval of the land acquisition documents by the federal government during construction?

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 06 2020

2-0 Evaluation **For Information Only**
Funding for both reviews and operations has been accounted for and included in the No. 30 account, shown in Attachment A to Appendix C: Engineering, Cost Engineering (Total Project Cost Summary).

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 10 2020

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Mar 19 2020
Current Comment Status: **Comment Closed**

8293857 Real Estate n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: HTRW - the REP needs to make clear the NFS understand its responsibility to provide LER for the project free and clear of known HTRW. If hazardous substances regulated under CERCLA are found to exist in, on, or under any required real property interests, typically the NFS is responsible for the costs of cleanup and response, including the costs of any studies and investigations necessary to determine an appropriate response to the contamination.
Basis: Model PPA and ER 405-1-12, Chapter 12
Sign: Medium
Action: Please revise REP text to elaborate on this responsibility rather than just refer to another part of Appendix C.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

1-0 Evaluation **For Information Only**
In Section 8.3 of the FS/EIS, the nonfederal sponsor acknowledges its responsibilities in accordance with ER 405-1-04, ER 405-1-12 and Memorandum of Agreement Between the Rankin-Hinds Pearl River Flood and Drainage Control District and The Department of the Army, Corps of Engineers dated July 19, 2012, to:

Assume as between the federal government and the NFS, complete financial responsibility for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under lands, or rights-of-way that the

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federal government determines to be required for construction, operation, and maintenance of the project.

The comment incorrectly states that all lands, easements, and rights of way (LER) provided by the local sponsor must be free and clear of known HTRW. The applicable regulations provide that "LER required for the project that is contaminated with CERCLA regulated materials shall be appraised with the assumption that the lands are no longer contaminated; that is, that an appropriate response action has occurred." See ER 405-1-12 12-37(g). As shown above, the local sponsor acknowledges its responsibility to accomplish appropriate response actions and bear the associated costs.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Open Comment**

The reviewer is merely asking that the REP include some explanation on this topic as required by Chapter 12. Include references with an excerpt of the text if you believe you have addressed this elsewhere. Also, I non-concur with a portion of the response, although it is not germane to the original comment. The appraisal assumptions are just that, assumptions made for market value determinations. They in no way are relevant to the responsibility of the NFS to provide lands for the project that are clear of contaminants. The appraisal guidelines are merely instructing the appraiser to assume the lands are clean, but they actually do have to be clean at the time of acquisition/construction.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 06 2020

2-0 Evaluation **For Information Only**

Further clarification on terms and/or definitions may assist in understanding the actual obligations regarding HTRW issues. The commenter uses the term "clean" and states the project must be "free and clear of known HTRW". If these terms are suggesting any HTRW's must be addressed to the satisfaction of the USEPA and appropriate state agencies (as stated in USACE Engineering Regulations), then the current confusion on the non-federal sponsor response is resolved. In support of this position we refer the commenter to ER 405-1-12, 12-37g., which states "the lands are no longer contaminated; that is, that an appropriate response action has occurred" If further support is necessary we refer the commenter to the Hazardous, Toxic and Radioactive Waste (HTRW) Guidance for Civil Works Projects, ER 1165-2-132, (See Section 6 Policy, Section 12.b. Construction Phase, Appendix B. 2.b.), which states response actions must be acceptable to the USEPA and applicable state regulatory agencies. No current federal or Mississippi state law requires any site that has been determined to be contaminated to be "cleaned" to a non-detect level. Instead both the USEPA and the Mississippi Department of Environmental Quality (MDEQ) utilizes target remediation goals for each specific contaminate. Depending upon the goal completed the MDEQ and USEPA have various institutional controls and other methods to accept sites for No Further Action, with contaminate residuals remaining.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 23 2020

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2-1 Backcheck Recommendation **Close Comment**
I can't tell from any of the responses if language is being added to the REP or not. Army policy requires the REP to discuss the current status of the lands in terms of CERCLA regulated materials and the NFS responsibilities associated with such.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Apr 02 2020

2-2 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Apr 06 2020
Current Comment Status: **Comment Closed**

8293864 Real Estate n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Missing NFS capability assessment. The report does include some statutory authorities to acquire and condemn lands, but we need the complete assessment.
Basis: ER 405-1-12, Chapter 12
Sign: Medium
Action: Add assessment form.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

1-0 Evaluation **For Information Only**
Pursuant to ER 405-1-12, the non-federal sponsor's Capability Assessment Checklist has been added as Attachment B to the Real Estate Plan in Appendix C.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 29 2020

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 06 2020
Current Comment Status: **Comment Closed**

8293868 Real Estate n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The REP needs to discuss where the proposed recreation features (RV pads, boat ramps, trails and fishing piers) will be located, i.e., fee lands that are required for flood damage reduction.
Basis: ER 405-1-12, Chapter 12
Sign: Low
Action: Clarify REP to match lands to project features.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

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1-0 Evaluation **For Information Only**

Appendix C states that the Alternative C footprint encompasses approximately 1740 acres of excavation area and 1009 acres of fill area for a total footprint of approximately 2750 acres. Approximately 1120 acres are owned by the local sponsor (Rankin-Hinds Pearl River Flood and Drainage Control District (RHPRFDCD or local sponsor)) or communities that are members of the local sponsor. The intent is for the local sponsor to own all lands within and adjacent to the channel improvement to the limits of the outside of the fill areas. All recreational features are proposed to be located on public property owned either by the local sponsor or by members of the local sponsor. During the design phase, final locations, sizes and purposes of recreational features will be determined.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

1-1 Backcheck Recommendation **Close Comment**

The REP needs to address this information.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 19 2020

1-2 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Apr 06 2020

Current Comment Status: **Comment Closed**

8293870 Real Estate n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: How many acres of land are required for mitigation? What do the mitigation features consist of? Where are these lands located? Are the cost in the REP for land needed to accomplish mitigation or for construction of mitigation features? Only the land costs should be include din the REP.
Basis: ER 405-1-12, Chapter 12
Sign: Medium
Action: Please clarify the mitigation requirements in the REP beyond just listing the costs.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Dec 03 2019

Revised Dec 03 2019.

1-0 Evaluation **For Information Only**

Mitigation will require approximately 6,000 acres for wetland impacts. The mitigation features of the lands will be wetlands, open water (ponds, lakes, sloughs, streams). These lands will be located within the Pearl River Basin. The cost included in the REP only reflects the land cost. The entire mitigation budget, to include land and the construction of mitigation features, can be found in Table 4.1 of the Cost Engineering Section in Appendix C.

Submitted By: Blake Mendrop [redacted] Submitted On: Jan 16 2020

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1-1 Backcheck Recommendation **Close Comment**
I am closing based on understanding that the comment response language will be added to the REP.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Feb 06 2020

1-2 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Apr 06 2020

Current Comment Status: **Comment Closed**

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Enclosure 5

DrChecks Draft Report Comments

(as of 13 June 2018)

NOTICE TO READER – This document contains deliberative discussions between Rankin Hinds Pearl River Flood and Drainage Control District ("FCD") and the US Army Corps of Engineers ("USACE"). Substantive edits and revisions to the referenced documents have been made after this report was produced. The remaining open comments are resolved in the Final FS/EIS and/or USACE Decision Document. The reader should not rely on this report as a final position of FCD or the USACE.

Comment Report: All Comments
Project: Pearl River Watershed-Integrated Draft Feasibility & EIS
Review: Agency Technical Review
Displaying 153 comments for the criteria specified in this report.

Id	Discipline	DocType	Section/Figure	Page Number	Line Number
7043467	Regulatory	N/a	n/a	123-125 (139-141 PDF)	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Integrated Draft Feasibility and Environmental Impact Statement)

Concern: laws regulating the free movement of navigation on this stretch of waterway.

Basis: Placement of a weir and gated structure across the river, as part of Alternative C, would impose such a restriction.

Significance: If a law exist, the structure would not be permitted or require a variance to the law.

Action: If not already researched, please verify that no restrictions exist, and state somewhere within the Alternative C narrative.

Submitted By: Cory De Long [redacted] Submitted On: Jun 29 2017

Revised Jun 29 2017.

1-0 Evaluation **For Information Only**

Under 33CFR§ 320.2, the project's moving and modifying of a weir needs only state and USACE approval, and not a permit under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403). No State laws exists that would restrict the weir placement. Accordingly, Section 10 is not a legal barrier to the project's plan to move and modify an existing weir.

Moreover, it is not clear that Section 10 would prohibit the project's plan for the weir even if it were applicable. Although the Pearl River has been designated "navigable" for Section 10 purposes, the statute prohibits "the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States."

This project does not create a new obstruction and does not affect the navigable capacity of the Pearl River. That is, obstructions to the Pearl's navigability already exist; this project will move and modify an existing weir but will create no new obstructions and will have no effect on the river's navigable capacity. The weir to be moved and modified as part of the project is already a complete obstruction to navigability on its section of the Pearl River. Additionally, as set forth in detail at page 84 of the report, two additional weirs in the lower segments of both the East and West Pearl River create further obstructions. Accordingly, Section 10 may not apply to the construction proposed for the project regardless of the river's location.

This uncertainty is reflected further in the regulatory scheme implementing Section 10. 33 CFR § 322.4(a) exempts "[a]ctivities that were commenced or completed shoreward of established Federal harbor lines before May 27, 1970" from the need to obtain Section 10 permits. The weir being moved and modified by the project was completed in the 1920s, well before the Regulation's cutoff date. The Regulation is unclear if work on such pre-existing structures is exempt or included.

Finally, the USACE is expected to build the project, and the Corps has traditionally not sought to obtain permits from itself on its own projects. To clarify the issue, language will be added to the report indicating the project does not need a Section 10 permit to move and modify the existing weir because 33 CFR § 320.2 does not require one, and that alternatively a Section 10 permit is unnecessary for the alternative reasons set forth above.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**

I think your excerpt from the Rivers and Harbors Act of 1899 (33 U.S.C. §403) "the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States" says it all. If we are not physically moving the existing, without raising its elevation, we should be getting authorization from Congress, in my opinion. Good luck with this endeavor.

Submitted By: Cory De Long [redacted] Submitted On: Nov 27 2017

Current Comment Status: **Comment Closed**

7043955	Structural	N/a	n/a	General	n/a

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(Document Reference: Integrated Draft Feasibility and Environmental Impact Statement)

Concern: An operable weir that can be raised and lowered could provide added benefits.

Basis: During periods of impending floods the weir could be dropped to lower the river level and provide more storage, as well as, reduce the restriction across the river during the flood.

Significance: Added flexibility in operations of the river level, and added levels of flood protection. Should be only minor increase in cost relative to the entire project cost.

Action: If this feature was not considered, I recommend investigating its addition to Alternative C. Wicket gates supported on a concrete weir is one such option. The gates can be fabricated with UHMWPE (plastic) timbers and stainless steel hardware, and operated with a barge mounted backhoe for low maintenance and operation economy.

Submitted By: Cory De Long [redacted] Submitted On: Jun 29 2017

Revised Jun 29 2017.

1-0 Evaluation **For Information Only**
During the planning process, it was determined that a fixed crest weir with a low flow gate is the most economical and still provides the needed benefits. However, a no weir alternative with the proposed excacation was modeled to appropriately simulate a lower weir alternative. The inline structure was removed from the model, effectively creating maximum possible storage along the reach. For the annual 1% chance exceedance flood event, the benefit gained from removing the weir ranges from 0.01' to 0.16'.

As referenced in Appendix A: Plan Formulation, planning constraints, including screening criteria, were used to analyze and develop a final array of alternatives. Multiple channel improvement alternatives were reviewed and analyzed hydraulically. Alternatives considered are discussed in Appendix A, and options studied include improvements around the existing weir and relocation of the weir. Extension of the channel improvements upstream of Highway 25 were found to be an important part of maximizing the flood reduction benefits by decreasing flood risk in the area between Highway 25 and the Ross Barnett Reservoir. Over excavating the floodplain increases the conveyance which reduces the flood elevations and reduces the flood risk for this plan. The preliminary weir elevation was selected to provide a cost effective balance between the amount of conveyance needed to provide flood risk management and the expense of excavation. Relocating the weir allows for the water supply to be continued while simultaneously creating a large body of water. The local sponsor is currently responsible for maintaining over 300 of the 1500 acres of the proposed body of water footprint. Vegetation control in this area is difficult and if the vegetation is not properly maintained, conveyance is restricted. This body of water not only provides recreational benefits, the depth of the water also limits the local sponsor's maintenance requirements by reducing the area where spraying, mowing, or other vegetation control is needed.

The final design will optimize the flood benefits with cost. However, it is not anticipated that the additional storage gained by implementing an operable weir will substantially increase the benefit.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
It appears the alternatives have been thoroughly vetted. I was wanting to assure that an operable dam with a wider range of pool variability was not a preferred option. It seems the desired combination of cost and benefits has been chosen.

Submitted By: Cory De Long [redacted] Submitted On: Nov 27 2017
Current Comment Status: **Comment Closed**

7053624 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Main report page 12 says $25M yards are to be excavated. This is more than six feet deep and 2000 ft wide for 9.5 miles. This area is likely to fill up with sediment again.
Basis: Substantial cost savings can occur by decreasing the dredging amount, and there isn't much justification given to this amount to defend the current excavation.
Significance: Could be a major difference in volume and cost, and could change the TSP.
Action: Compare alternatives with less excavation. Recommend that a VE study be done if one hasn't been already.

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
During the plan formulation, many different alternatives were reviewed, and hydraulic models developed to analyze how to best increase the benefits of various protection plans. Excavation of the overbanks (floodway) was determined to provide the most benefit in conjunction with the relocated levees at the constriction points. Based on the hydraulic models, the excavation is critical to providing the benefits upstream of the improvements. Nevertheless, it is believed that there will possibly be opportunity to adjust depths in some areas to create an assortment of depths for habitat and island areas while maintaining the same level of benefit. Because it was understood that the hydraulic dynamics would be altered in some areas, a geomorphic and sediment analysis was performed early during this study and is included in this report. Due to the upstream reservoir serving as sediment trap and tributaries not providing much of a sediment load, estimates were developed for sediment yield and reported in Appendix C: "some potential sediment issues

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will have to be addressed. However, these issues do not appear unmanageable and that a sediment management plan can be developed that is feasible from an engineering, economic, and environmental perspective." A Value Engineering study has not been preformed at this time. However, a VE study on large price iteams will be considered as the project moves to design stages, as mentioned in Appendix C: Engineering, Cost Engineering, Section 4.0, number 9.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Concur, the plan is detailed enough and will allow for changes in the future including a possible VE.

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017

Current Comment Status: **Comment Closed**

7053627 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: pdf page 51, report page 34, line 12 and 13, "40 foot by 21 foot tainter gates". No height or width dimensions are given.
Basis: Either Tainter Gate dimension is possible (21'H x 40'W, or 40'H x 21'W).
Significance: Low
Action: Specify height and width in these dimensions.

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
Existing tainter gates are confirmed as 40'(width) by 21'(height).

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
concur

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017

Current Comment Status: **Comment Closed**

7053629 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Fish Passage is not being considered in design alternatives.
Basis: Page 197 (pdf 213) says, "Relocation of the weir structure could restrict passage of the Gulf Sturgeon, however a weir already exists which restricts flows through the river channel".
Significance: Possibly high if species are endangered
Action: If fish passage is a concern, it seems that the future Alt C weir could be designed to allow fish passage. An impact basin could be used for the majority of the structure length, and a riffle slope fish passage placed in the best location to attract fish. Regionally there are other weirs that impede migration (page 201, pdf 217) and these should be considered for modification as well. Perhaps this will come up in a VE study. Was one performed yet?

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
The lower weirs restricting fish passage are located over 275 miles downstream and outside of the control of the local sponsor. These structures include the weir near Wilson Slough at Walkiah Bluff, two (2) sills (Bogue Chitto and Pools Bluff), as well as three (3) locks on the West Pearl River Navigation Channel. From preliminary discussion with the U.S. Department of Fish and Wildlife and the Engineering Research and Development Center (ERDC), adaptive management is believed to be the best practice for this location. As referred to on pages xiii, 192, 193, 196, 197, 202, and 241, adaptive management is the plan to accommodate fish passage at the weir structure if the need arises in the future. Due to the lower weirs and with no documentation of any sturgeon presence in the Pearl River this far upstream for over 30 years, it is believed that construction of a fish passage for the sturgeon at this time would be unnecessary as it appears their movement this far upstream is already restricted. However, if presence of a Gulf sturgeon is documented indicating they have migrated upstream to the vicinity of the weir, a fish passage structure would be added. See Appendix C for structure possibilities.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Concur, no sturgeon in over 30 years and project can be adaptively managed in the future.

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017

Current Comment Status: **Comment Closed**

7053631 Hydraulics N/a n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Cost information not located where it is referenced to be.
Basis: Appendix A page 11 says, "the cost of the alternative is listed below", but there are no costs listed in the summary. Later on page 29, costs are listed in A.6.1.2
Significance: low
Action: Add cost information where needed

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
Noted. A.6.1.2 has been reviewed and updated.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
I don't have the updated document, but make sure proper reference is given to costs if they are not "listed below".

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017
Current Comment Status: **Comment Closed**

7053633 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Figure A-20 is incomplete
Basis: Appendix A, Figure A-20 does not list the location of the existing weir.
Significance: low
Action: On Appendix A, Figure A-20, add "remove existing weir at RM 290.7" caption on the figure.

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
The existing weir will be removed in Alternative C and therefore, is not shown on the exhibit.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
concur

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017
Current Comment Status: **Comment Closed**

7053634 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Appendix A, page 38 says the new weir will be a higher elevation for reasons of recreation and reduced channel maintenance.
Basis: Preserving the capability of water intakes for the water treatment plant seems to be a primary reason for the new weir, but it is not in paragraph A.8.4.
Significance: medium
Action: Recommend adding purpose of water treatment plant and any other benefits that the higher weir provides. (same text & recommendation for Appendix C, pdf page 229, section 1.2.)

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
Noted. As referenced in Appendix A: Plan Formulation, planning constraints, including screening criteria, were used to analyze and develop a final array of alternatives. Multiple channel improvement alternatives were reviewed and analyzed hydraulically. Alternatives considered are discussed in Appendix A, and options studied include improvements around the existing weir and relocation of the weir. Extension of the channel improvements upstream of Highway 25 were found to be an important part of maximizing the flood reduction benefits by decreasing flood risk in the area between Highway 25 and the Ross Barnett Reservoir. Over excavating the floodplain increases the conveyance which reduces the flood elevations and reduces the flood risk for this plan. The preliminary weir elevation was selected to provide a cost effective balance between the amount of conveyance needed to provide flood risk management and the expense of excavation. Relocating the weir allows for the water supply to be continued while simultaneously creating a large body of water. The local sponsor is currently responsible for maintaining over 300 of the 1500 acres of the proposed body of water footprint. Vegetation control in this area is difficult and if the vegetation is not properly maintained, conveyance is restricted. This body of water not only provides recreational benefits, the depth of the water also limits the local sponsor's maintenance requirements by reducing the area where spraying, mowing, or other vegetation control is needed.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

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1-1 Backcheck Recommendation **Close Comment**
concur

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017

Current Comment Status: **Comment Closed**

7053637 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Appendix A, page 46 shows a diagram of channel improvements, where the existing levee is upgraded with fill from proposed excavation. Fill needs to be suitable for levee construction and the report is not clear about the quality of fill obtained through excavation.
Basis: Silt should not be used or random fill with debris. Appendix C, section 7.3.3 says that boring data shows 6-15 feet layers of silt in the area.
Significance: potentially high
Action: make sure to clarify in report that only suitable materials will be used in the modifications of the levee systems.

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
Only suitable material will be used for levee construction. The intent of Alternative C is to maintain and upgrade the existing levees, while relocating some. A "levee section" will be maintained in front of all fill areas that functions as the "levee." The excess excavation or dredge material will be placed behind these areas. Appendix C: Engineering has been updated to clarify where suitable and unsuitable materials will be located as indicated by the figures added after Appendix C, Hydrologic and Hydraulic Analysis, Section 7.1.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
concur

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017

Current Comment Status: **Comment Closed**

7053638 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Recurrence Interval terminology is used throughout the report and in Appendices. One example is Appendix C, section 2.0 listing recurrence interval values.
Basis: ER 1110-2-1450 section 5a says the "Use of the terms "[x]-year flood,", "recurrence interval," "exceedance interval," and "return period" are not acceptable in Corps reports.
Significance: low-med
Action: Be consistent about risk nomenclature: 1% Annual Chance Exceedance Flood Event (100-year flood), is a possible way to list it.

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
Noted. This has been clarified, and the nomenclature of percent annual chance exceedance has been added to the tables in Appendix C.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Concur

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017

Current Comment Status: **Comment Closed**

7053639 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Unclear sentence in Appendix C
Basis: Appendix C, section 2.0, paragraph 2, pdf page 229, says that USGS report on stages and discharges "was used to confirm the values at this location". What values are referred to? It seems to refer to the gaging stations earlier in the paragraph, but the text only refers to rainfall amounts.
Significance: low
Action: Clarification is needed.

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

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1-0 Evaluation **For Information Only**
The verbiage has been updated to clarify that the values confirmed were "discharge" values and that the FEMA FIS discharges were confirmed using the USGS publication.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
concur, this is a good explanation

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017
Current Comment Status: **Comment Closed**

7053640 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Unclear exceedance events
Basis: Appendix C, section 4.2.1.1, "The 10-, 50-, and 100- year events for Town Creek..."
Significance: low
Action: Recommend saying "Flood Events" instead of events (unless these refer to precipitation or storm events).

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
Noted. This has been clarified, and the annual chance exceedance verbiage has been added in section 4.2.1.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
concur

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017
Current Comment Status: **Comment Closed**

7053641 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Incorrect sentence in Appendix C
Basis: Appendix C, section 5.0, says "The proposed weir elevation of 258.0-ft at approximate RM 284.0 will create a standing pool underneath all of the bridge locations.", but Figure 4-3 shows only the downstream 3 of 8 bridges actually have backwater ponding from the 10-year flood.
Significance: low
Action: Clarify how many or which bridges the ponding will be under.

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 06 2017

1-0 Evaluation **For Information Only**
Noted. Figure 4-3 refers to the Town Creek Water Surface Profiles, a tributary part of the preliminary interior analyses.

Section 5.0 pertains to the existing bridges along the Pearl River within the study area. These bridges (2 Railroad Bridges and 5 MDOT bridges) will have pooled water under them.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
concur, wrong tributary. Lynch Creek

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017
Current Comment Status: **Comment Closed**

7056800 Cultural Resources N/a n/a 209 - 212 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

The 2006 Phase 1 Archaeological Survey Report by contractor Archaeology Mississippi, Inc. is an excellent piece of work in my opinion. My review of the original 2007 MS SHPO's review letter corroborates this assessment. However, the reduced footprint of the current TSP in relation to that larger survey is not clear in this report. Recommend that this discussion be expanded, along with the better use of maps and other graphics. In addition, the discussion in section 4.5.9 needs much greater specificity. For example, what is the site number for the significant site (historic property) that the TSP now claims to avoid. Where is the SHPO's letter of concurrence that there will be no adverse effect to the site due to the project's redesign?
My concern is that there is no way to tell that the project is in compliance with 36CFR800. Non compliance with Section 106 (NHPA) could slow down or halt project approval at HQUSACE. Coordination with SHPO and tribes must be documented in an appendix and their concerns must be addressed in the feasibility report.

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Submitted By: Robert Dunn [redacted] Submitted On: Jul 10 2017

Revised Jul 11 2017.

1-0 Evaluation **For Information Only**

The Mississippi Department of Archives and History (MDAH), as noted, completed a review and provided comments on the 2006 Phase I Archaeological Survey Report. Their concerns and recommendations from their previous review were incorporated into the project redesign for both Alternatives B and C. To clarify the MDAH recommendations, we have met with the MDAH staff, providing them with the redesign footprints and discussing avoidance measures and further evaluations. MDAH agreed to review the redesign specific to Alternatives B and C and to provide their comments and recommendations based upon the findings of the 2006 report. They are currently completing their review and will be providing their comments and recommendations for both alternatives. Those comments and recommendations will then be included in the draft report and the discussion in section 4.5.9 as an update. The details relative to specific significant sites will be provided to the level allowable by MDAH for public dissemination. The MDAH response will also include their concurrence with the avoidance measures and/or will include their recommendations for any further action regarding those sites.

Efforts to coordinate with the tribes were also undertaken during the feasibility study and those efforts can be documented and included in the appendices. The tribes did not elect to comment and/or review the project information as a result of those coordination efforts. We understand that the tribes do not typically comment unless there is a formal Section 106 coordination action by the USACE. However, the Section 211 process does allow some level of Section 106 coordination. To further these efforts, the Vicksburg District has agreed to assist with the Section 106 coordination with the tribes and that coordination effort will be forthcoming once the MDAH review has been completed and their comments and recommendations provided. All the coordination documentation will be included in the draft report appendices when these coordination efforts are completed.

Section 2.5.9 has been updated to give the current status of the coordination efforts. The MS SHPO has reviewed their database relative to any potential identified sites within close proximity to the project area. Coordination with both the MS SHPO and the Vicksburg District archaeologists is ongoing while the review is completed. The site was nominated in 1988 and subsequent added to the NRHP as shown in section 4.5.9.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 21 2017

1-1 Backcheck Recommendation **Open Comment**

I am still concerned that the draft document may not clearly indicate that impacts to cultural resources and compliance with Section 106 has been considered at this stage of the study. Section 4.5.9 Alternative B Direct Impacts of the report states that there is a site (historic property) nominated for inclusion into the "National Registry of Historical Places" (should be National Register of Historic Places) has been identified within the footprint of one of the levee sections, and that "adverse impacts would be moderate in intensity and long-term in duration." In accordance with 36 CFR 800.4(d)(2) if there is an identified historic property that could be affected by a proposed undertaking, the agency shall notify all consulting parties (SHPO and Tribes) and assess identified adverse effects in accordance with procedures found at 36 CFR 800.5. The draft document needs to provide more information regarding consultation with the SHPO and Tribes regarding the identification of historic properties and potential effects to those properties.

It is stated in the response that Vicksburg District Archeologist is assisting with consultation and that Sections of the draft report and appendix will be updated to reflect current status. Ensure that compliance with Section 106 of the NHPA is clearly documented in the appropriate Sections and appendices of the draft report to include current correspondence with the SHPO and Tribes. It is recommended that all correspondence for coordination with the SHPO and Tribes be included in the appropriate appendix, as this is standard practice to detail the Section 106 process and compliance. As previously stated, if it is unclear in the report that Section 106 compliance has been met, it could slow down or halt the project at HQUSACE review and require additional work to achieve compliance.

Submitted By: Eric Williams [redacted] Submitted On: Jan 09 2018

2-0 Evaluation **For Information Only**

The backcheck recommendation has several parts. First, it expresses concern that the draft document does not at present "clearly indicate that impacts to cultural resources and compliance with Section 106 has been considered at this stage of the study." The USACE- Vicksburg District has previously recommended that we complete the ATR process before addressing cultural resources and Section 106. Nevertheless, we have begun the Section 106 process simultaneous to completing the ATR. The Mississippi SHPO is already reviewing the project in light of Section 106 and USACE will soon be receiving comments on the draft EIS from the relevant Native American Tribes. Section 106 compliance will be completed before the document is submitted for ASA (CW)/OWPR review, and compliance will be reflected in the final document.

Second, the recommendation focuses on the draft document's lack of cultural-resources analysis when it comes to Alternative B, particularly any discussion of coordination with the SHPO and Tribes regarding one site that would be affected by that plan. Alternative B, however, is not the TSP and is not practicable for reasons explained in the draft document at Sections 3.5.3, 3.7.3, and 3.7.5. That is, Section 106 compliance analysis for Alternative B would be an inefficient use of time and resources because there are no plans to execute Alternative B at any point in the future.

Third, the recommendation suggests including all correspondence regarding coordination with the SHPO and Tribes in the appropriate index. We will incorporate this recommendation once the referenced correspondence is complete.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 25 2018

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2-1 Backcheck Recommendation **Close Comment**
Concur with response regarding Alternative B. Make sure to include all relevant documentation for Section 106.

Submitted By: Eric Williams [redacted] Submitted On: May 18 2018
Current Comment Status: **Comment Closed**

7056829 Cultural Resources N/a n/a General n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

The greatest weakness of this feasibility/EIS report for Cultural Resources is the absence of a coordination appendix. The views of the MS SHPO, and the affiliated tribes are critical to achieving Section 106 (NHPA) compliance for the overall project. Informal contacts with MIke Goff have revealed that their plan now is to complete coordination with MDAH and the tribes following the ATR review. This is backwards and problematic for the ATR reviewer because it will require a second, follow-up review of those review comments. My concern is that there is no way to tell that the project is in compliance with 36CFR800. Non compliance with Section 106 (NHPA) could slow down or halt project approval at HQUSACE. Coordination with SHPO and tribes must be documented in an appendix and their concerns must be addressed in the feasibility report.

Submitted By: Robert Dunn [redacted] Submitted On: Jul 10 2017

Revised Jul 11 2017.

1-0 Evaluation **For Information Only**
As noted in the previous comment, coordination with the MS SHPO is ongoing and will be completed shortly. In addition, the Vicksburg District has agreed to move forward with the Section 106 coordination with the tribes, and all the documentation will be provided in the draft report for further review and concurrence. The feasibility report will also be updated following completion of the coordination efforts. At this time, Section 2.5.9 of the report has been updated to reflect the current status of the coordination efforts. The MS SHPO has reviewed their database relative to any potential identified sites within close proximity to the project area. Coordination with both the MS SHPO and the Vicksburg District archaeologists will continue relative to the completion of the review.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Open Comment**
It is stated in the response that Vicksburg District Archeologist is assisting with consultation and that Sections of the draft report and appendix will be updated to reflect current status. Ensure that compliance with Section 106 of the NHPA is clearly documented in the appropriate Sections and appendices of the draft report to include current correspondence with the SHPO and Tribes. It is recommended that all correspondence for coordination with the SHPO and Tribes be included in the appropriate appendix, as this is standard practice to detail the Section 106 process and compliance. As previously stated, if it is unclear in the report that Section 106 compliance has been met, it could slow down or halt the project at HQUSACE review and require additional work to achieve compliance.

Submitted By: Eric Williams [redacted] Submitted On: Jan 09 2018

2-0 Evaluation **For Information Only**
This recommendation repeats the first and third comments of the backcheck recommendation for ID #7056800: that the document should reflect compliance with Section 106, and that correspondence for coordination with the SHPO and Tribes should be included in an appendix. As stated in response to backcheck recommendation No. 7056800, the SHPO is already reviewing the project in light of Section 106 and the USACE will soon receive comments from the relevant Tribes. The Section 106 process will be completed in time for this concern to be addressed in the final document – despite the fact that the USACE Vicksburg District has recommended that the non-federal sponsor complete the ATR process before undertaking Section 106 consultations.

As further stated in response to ID #7056800, we will include the correspondence as recommended once the correspondence is completed.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 25 2018

2-1 Backcheck Recommendation **Close Comment**
Concur with response.

Submitted By: Eric Williams [redacted] Submitted On: May 18 2018
Current Comment Status: **Comment Closed**

7056845 Cultural Resources N/a 4.5.9 210 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Alternative B)

In line with my previous comments this discussion of Alternative B requires much greater specificity. What is the site number for the nominated site in the footprint of one of the proposed levee segments? What makes the site NR eligible? What are the SHPO's (and tribes') views on the site and the potential adverse impacts to the site from this alternative. These details must be included and the coordination letters to and from SHPO and tribes must be included in an appendix, My concern is that there is no way to tell that the project is in compliance with 36CFR800. Non compliance with Section 106 (NHPA) could slow down or halt project approval at HQUSACE. Coordination with SHPO and tribes must be documented in an appendix and their concerns must be addressed in the feasibility report.

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Submitted By: Robert Dunn [redacted] Submitted On: Jul 10 2017

Revised Jul 11 2017.

1-0 Evaluation **For Information Only**
As noted, the MS SHPO additional review and comments will be provided shortly and specifics relative to the Alternative B impacts will be incorporated into the discussion in the feasibility report and included in the appendices. In addition and as noted, the Vicksburg District is currently progressing with assistance for the coordination with the tribes. Previous efforts to complete the Section 106 coordination with the tribes will also be added to the appendices. Section 2.5.9 has been updated to give the current status of the coordination efforts. The MS SHPO has reviewed their database relative to any potential identified sites within close proximity to the project area. Coordination with both the MS SHPO and the Vicksburg District archaeologists relative to the completion of the review. The site was nominated in 1988 and subsequent added to the NRHP as shown in section 4.5.9.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 21 2017

1-1 Backcheck Recommendation **Open Comment**
As with my previous comment, I am still concerned that the draft document may not clearly indicate that impacts to the historic property identified in Alternative B, and compliance with Section 106 has been considered at this stage of the study. Section 4.5.9 Alternative B Direct Impacts of the report states that there is a site (historic property) nominated for inclusion into the "National Registry of Historical Places" (should be National Register of Historic Places) has been identified within the footprint of one of the levee sections, and that "adverse impacts would be moderate in intensity and long-term in duration." In accordance with 36 CFR 800.4(d)(2) if there is an identified historic property that could be affected by a proposed undertaking, the agency shall notify all consulting parties (SHPO and Tribes) and assess identified adverse effects in accordance with procedures found at 36 CFR 800.5. The draft document needs to provide more information regarding consultation with the SHPO and Tribes regarding the identification of historic properties and potential effects to those properties.

Submitted By: Eric Williams [redacted] Submitted On: Jan 09 2018

2-0 Evaluation **For Information Only**
This recommendation repeats the second comment of the backcheck recommendation for ID #7056800: that the document does not contain sufficient information on the cultural-resources impacts of Alternative B. As stated in response to backcheck recommendation ID #7056800, Alternative B is not the TSP, it is not a feasible alternative, and there are no plans to execute Alternative B. Therefore, engaging in a full Section 106 compliance process with regard to Alternative B would not be a justifiable use of resources at this time.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 25 2018

2-1 Backcheck Recommendation **Close Comment**
Concur with response.

Submitted By: Eric Williams [redacted] Submitted On: May 18 2018
Current Comment Status: **Comment Closed**

7058527 Geotechnical N/a 6.0 Environmental Laws & Compliance Pg 246 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: Compliant with EO 11988.

Basis: How do you justify that you are compliant with EO11988 when your TSP destroys or modifies, both long and short term, about 3.5 times more wetlands than Alternative B (which is a practical alternative)?

Significance: High

Action: Please explain how you are compliant with EO11988 with the TSP for this project.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
The intent of EO 11988 is to require agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid the direct or indirect support of floodplain development whenever there is a practicable alternative. Since the intent of the proposed project is to reduce flood impacts to the affected areas, the project must be located within the existing floodplain. In the event that a proposed action must be located within a floodplain, the Executive Order requires that agencies minimize potential harm to people and property and to natural and beneficial floodplain values.
From further discussion with this reviewer, it is understood this comment was meant for EO11990, dealing with minimizing wetland impacts. Though Alternative B provides some flood risk reduction benefits, Alternative C, the TSP, maximizes flood risk reduction benefits while also minimizing impacts where practical. Additionally, Alternative B does not meet the USACE required cost benefit ratio of greater than 1, which was also considered in the TSP determination. In addition, Alternative C will not impede the existing floodplain area but will conversely provide the needed additional conveyance improvements that the existing floodplain area does not currently provide. Though the TSP, Alternative C includes greater jurisdictional wetland impacts than that of Alternative B, the level of flood risk reduction provided by the TSP better meets the projects goals and objectives.
Alternative B is not a "practicable alternative" in that it provides less flood reduction benefits than Alternative C, which benefits have

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been calculated to be the NED Plan. Moreover, as required by EO 11990, Alternative C "includes all practicable measures to minimize harm to wetlands which may result" from the project, as set forth in section 4.5.8.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
The CBR being less than 1 for Alt B seams to make it a non-practical alternative.

Submitted By: Jamie Evans [redacted] Submitted On: Dec 12 2017

Current Comment Status: **Comment Closed**

7058573 Geotechnical N/a Figure A-14 pg 26 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix A)

Concern: Additional alternative consisting of slight modification to Plan 13 (Alt. B).

Basis: Suggest you consider a Plan 13-B which would include widening the existing Flowood levee segment (same as for Plan 14-16) and widening the eastern new levee at Hwy 25 such that it is more parallel with western side levee and construct levee sections parallel to the roadway both on up and down stream to tie into bridge abutment).

Significance: Would increase storage potential for this alternative, reducing levee heights, making more competitive with Alt C.

Action: Evaluate new Plan.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
It is agreed that Plan 13-B would somewhat lower water surface profiles through the study reach as compared to Alternative #13. However, this alternative would not alleviate the significant pumping cost required with Alternative 13. Furthermore, additional real estaste cost relating to the existing businesses along Highway 25 would be required for Plan 13-B.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Thanks for considering.

Submitted By: Jamie Evans [redacted] Submitted On: Dec 12 2017

Current Comment Status: **Comment Closed**

7058738 Geotechnical N/a Figures A-14 - A-16 pg 26 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix A)

Concern: The need for pump capacity upgrade and gate replacement associated with Plans 14-16 for existing levees.

Basis: Figure A-14 indicates the need to upgrade existing gates and pumps (cost included in Alt B/Plan 13) but these same locations in Plans 14-16 are indicated not to require gates or pumps upgrade. At higher (extreme events as described in Alt B, extreme flood event not defined in text) flood levels it would seem that these upgrades would be required for both alternatives. A few feet of difference in the plans flood level should not change the need to close gravity flow and switch to pumping. Therefore, seems these upgrades would apply to both Alt B and Alt C.

Significance: High. Large cost increase.

Action: Explain why the same upgrades to gates and pumps are not required for both Alt B and Alt C for the same design flood event (or extreme event as described in Alt B discussion).

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
At first glance, it would seem pumps are needed for Alternative C. However, pumps are not needed since the tributaries are not being closed off as with a typical levee project. The widening of the floodplain by excavation and the relocation of the levees provides flood risk management in this reach. Because this question came up prior to the rescoping of this project, the Vicksburg District Corps of Engineers (USACE-MVK) was asked to review the hydraulics of a similar alternative to see if they would agree that such a channel improvement was a viable alternative for the continued study. While the Vicksburg District could not endorse a future plan based solely on a hydraulic and hydrologic review, in a letter dated March 23, 2012, the Department of the Army stated "we note that the results of the these analyses indicate that a single lake concept, as presented in the supplied numerical models and draft report, would lower flood stages along some reaches of the Pearl River in Jackson Metropolitan area." They went on to add: "Your hydraulic and hydrologic investigations suggest that the proposed single lake concept could be developed as an alternative to be included in an array

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of alternatives for further detailed flood risk study." As part of the hydraulic study, the tributaries were studied with respect to how the dynamics would work with tributary flow and higher elevations on the Pearl River. This analysis is presented in Appendix C. Initial levee grades were set in the 2006 study for 0.5 percent chance exceedance. Alternatives B and C were revised for the 1 percent chance exceedance. As can be seen by profiles for Alternative C, the 0.2 percent chance exceedance is contained within the existing levees with only minor upgrades on lower reach. See Appendix C, Hydrology and Hydraulics, Section 6.0

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Acceptable response. The report has better information in it now.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7058837 Geotechnical N/a A.6.5.2 pg 33 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix A)

Concern: Justification for removing the Richland and South Jackson Levees.

Basis: No justification is provided to backup the contention that these levees are not economically effective. Based on data in the hydraulic section for the 100-yr flood, there is no change in flood levels for Alt B or C in this area, which also means that for the 1979 flood event (~200-yr flood event) there would be no change and many structures would be impacted in Richland and South Jackson. In addition, I-55 would be flooded as well. Neither of these are consistent with the overall project objectives.

Significance: High

Action: Provide information to justify elimination of the Richland and South Jackson Levees.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
Multiple levee plans for this area have been developed and discussed over the past 35 years. Review of these previous completed reports indicated the economically effective option was to remove the levees in question. The major damages occur for events of 0.5 percent exceedance events on the Pearl River and headwater flooding from Richland Creek. The levee plan still would not solve the headwater problem. In addition, the levee plan would cost in excess of $50 Million when pumps are added for Richland Creek; therefore, the plan would have a cost of over $2 Million annually for benefits that are approximately $0.5 million per year.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Open Comment**
Suggest you provide these few sentences of details from your evaluation in the report text.

Submitted By: Jamie Evans [redacted] Submitted On: Dec 12 2017

2-0 Evaluation **For Information Only**
This discussion has been expounded upon in Appendix A: Plan Formulation, Section A.7.6.2 (pages 34-35).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Details were provided to justify case. (also the section is A.7.5.2)

Submitted By: Jamie Evans [redacted] Submitted On: May 11 2018

Current Comment Status: **Comment Closed**

7058855 Geotechnical N/a A.8.4 pg 38 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix A)

Concern: The location of the small levee segment on the west bank appears to be listed in error.

Basis: The small levee segment is listed as being approximately from RM 297-298. This appears to be in error, as the drawings don't indicated any new levee at this location.

Significance: Low

Action: Correct as required. Also note that this sentence appears in numerous locations throughout the documents.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

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1-0 Evaluation **For Information Only**
This is a small tributary also included in previous studies. The location can be seen in Appendix C, Hydrologic and Hydraulic Analysis, Section 7.5.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Open Comment**
There is no Sect 7.5 in the H&H Analysis write-up. Also, Fig 3-3 in the H&H Analysis does not show a levee section in this stretch of the river.

Submitted By: Jamie Evans [redacted] Submitted On: Dec 12 2017

2-0 Evaluation **For Information Only**
It appears the updated documents were not reviewed when checking this comment. There is an Appendix C: Engineering, Hydrologic and Hydraulic Analysis, Section 7.5. Additionally, the reference to a small levee at RM 297-298 was from an old plan and left in error. As it is not a part of Alternative C, a levee at those river miles is not shown on the figure.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Section 7.5 does exist; however, it has nothing to do with the comment. The shorter answer would have been that this levee segment was left in place by mistake and has now been taken out.

Submitted By: Jamie Evans [redacted] Submitted On: May 11 2018

Current Comment Status: **Comment Closed**

7058975 Geotechnical N/a Figure A-17 pg 39 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix A)

Concern: The flood event producing the extent of structures impacted is not provided.

Basis: The 1979 flood event was about 200-yr event but did not flood the Flowood/Pearl area. Why are all the structures in Flowood/Pearl labeled as being impacted in the No Action?

Significance: Moderate

Action: Provide flood event used to produce figure.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
While the 1979 flood did significantly impact the Flowood area, flood fighting prevented the east levee from being overtopped during that event. The existing levees have previously only been certified for the 1% chance exceedance flood event. Although the risk is not of the same magnitude as that of unprotected structures, this area is still under flood risk due to larger flood events. Also, the area of Flowood at risk under the No Action plan has seen an increase in value and possible damages during a flood event.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Open Comment**
Figure A-17 was not updated to indicate the flood level(s) associated with the various impacts shown on the figure.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
Figure A-17 (Appendix A: Plan Formulation, page 41) has been updated to indicate the flood level associated with the impacts shown. As the levees are only certified to the annual 1% chance exceedance flood event, structures behind the levee in Flowood/Pearl not affected by the 1979 Flood Event are still at risk.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Legend updated to indicate the Structural Impacts are related to 500-yr flood event and not the 1979 flood event.

Submitted By: Jamie Evans [redacted] Submitted On: May 11 2018

Current Comment Status: **Comment Closed**

7059001 Geotechnical N/a Figure A-18 pg 40 n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix A)

Concern: The structures impacted on this figure appear to be based on 500-yr flood event; however, this flood level event is not discussed for Alt B or Alt C evaluations.

Basis: Appears a consistent flood event (design flow) has not been used when discussing the relative merits of the various alternatives.

Significance: High

Action: Ensure all comparisons between the various alternatives are done for the same design flow event(s).

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
Noted. Comparisons between the alternatives have been reviewed. Hydraulic profiles flood event comparisons between the alternatives and existing conditions have been added to Appendix C: Engineering, Hydrologic and Hydraulic Analysis, Section 3.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Comparisons are acceptable and improved.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7059048 Geotechnical N/a Cost Engineering n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C)

Concern: Various contingency percentages were used in cost estimates for Alt B & C.

Basis: Comparing the Engineering cost line item between Alt B & C, you used different contingency percentages. I would suggest that at the Draft Feasibility level the contingency would be a constant value across the board, or at least for items of the same work.

Significance: Moderate

Action: Suggest you pick a constant contingency value and use it for all items in both Alt B & C.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

1-0 Evaluation **For Information Only**
Discussions with the Cost Center were utilized to review and adjust the cost and contingency estimations with respect to risk analysis. See Appendix C: Engineering, Cost Engineering for updates.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Open Comment**
In Table 3.1, the last line should be 'Total Alt B' (or something like that) instead of 'Total Construction Management'. On Pg 3 (Sect 3.0) the total cost for Alt B is listed as $729M but in Table 3.1 it is listed as $466M. These should be the same value.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
Table 3.1 (Appendix C: Engineering, Cost Engineering, page 5-6; pdf page 357-358) breaks down the cost of different elements comprising Alternative B. This table is presented without the risk/contingency analysis, and is therefore not included in this table. The risk and contingency costs account for the difference in those values. To further clarify this issue, additional tables have been added as Table 2.1 (Appendix C: Engineering, Cost Engineering, page 2; pdf page 354), 3.2 (Appendix C: Engineering, Cost Engineering, page 7; pdf page 359), and 4.2 (Appendix C: Engineering, Cost Engineering, page 13; pdf page 365) to more fully illustrate the total cost for each alternative.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Data provided to explain choices.

Submitted By: Jamie Evans [redacted] Submitted On: May 11 2018

Current Comment Status: **Comment Closed**

7059060 Geotechnical N/a Cost Engineering - Table 4-1 Pg 4 n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C)

Concern: The cost of levees in Alt C is not zero.

Basis: The plan describes raising the levee at the WWTP and relocating large portion of the Flowood levee.

Significance: Low

Action: Break out the levee costs for Alt C.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

1-0 Evaluation **For Information Only**
The cost of WWTP levees for Alternative C was not assumed to be zero; there is a line item in the cost estimate for this levee. Comment noted and Appendix C has been updated to present this cost more clearly for Alternative C.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Looks good.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7059072 Geotechnical N/a Cost Engineering - Table 4-1 Pg 4 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C)

Concern: What is included in the work item "Floodway control and diversions" listed in Alt B?

Basis: The work required is not described, and may be applicable to Alt C.

Significance: Moderate

Action: Provide description of this work item and all other work items in both Alternatives.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
Floodway control is included as a work item for Alternative B to account for the costs associated with clearing within the floodway. The cost is not applicable to Alternative C.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7059083 Geotechnical N/a Cost Engineering - Table 4-1 Pg 4 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C)

Concern: The mitigation cost listed for Alt C seems quite low compared to Alt B. In the itemized lists for both Alternatives, the mitigation is listed as conceptual.

Basis: The wetland area disturbed by Alt C is approximately 3.5 times the area disturbed by Alt B.

Significance: High

Action: Review the conceptual cost assigned to the mitigation for Alt C. This could be a significant cost increase.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

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1-0 Evaluation **For Information Only**
Noted. Mitigation cost from previous 2006 study for the levee plan was used. However, updated data has been used to revise cost estimates for levee plan to include areas within the floodway that would be impacted that were not initially included in the 2006 preliminary study. In addition, the mitigation section in 4.5 has been updated to clarify assumptions for Alternative C.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Mitigation costs appear more reasonable in the revised document.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7059096 Geotechnical N/a Figure Pg 21 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: The figure on pg. 21 needs a title and figure#. Label the upstream ground level of 248'.

Basis: review

Significance: low

Action: Update figure.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

1-0 Evaluation **For Information Only**
Figure has been updated.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Open Comment**
Could not find this figure in the latest document version.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
The figure was removed and replaced with all of the typical figures in Section 7.5 (Appendix C: Engineering, Hydrologic and Hydraulic Analysis, page 42; pdf page 272-349).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: May 11 2018

Current Comment Status: **Comment Closed**

7059101 Geotechnical N/a Figure Pg 22 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: Figure on this page has no title or figure #.

Basis: review

Significance: low

Action: update figure.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

1-0 Evaluation **For Information Only**
Figure has been updated.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Open Comment**
Could not find this figure in the current document version.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

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2-0 Evaluation **For Information Only**
The figure was removed and replaced with all of the typical figures in Section 7.5 (Appendix C: Engineering, Hydrologic and Hydraulic Analysis, page 42; pdf page 272-349).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: May 11 2018

Current Comment Status: **Comment Closed**

7059217 Geotechnical N/a Cross sections Pg 24-26 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: What is the purpose of building the lake banks in a levee-like configuration up to elevation 275'.

Basis: The existing river TOB is generally about 260'. The new lake TOB will be about 15' higher than existing. Do you intend for the new lake TOB to function as sub-levees during lower level flood events?

Significance: Moderate

Action: Provide rational for building such high, levee-like lake TOB. Note that these will obscure the view of the lake as well.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
The local sponsor wants to utilize time moving this study forward to improve flood risk management in the study area as quickly as feasibly possible, as opposed to spending time obtaining approvals from the USACE to reduce the height of the existing levees they previously funded. During the planning process, the local sponsor and the design team determined not to degrade the existing levee elevations although the flowlines will be reduced dramatically in some areas where the levees currently exist. The existing elevation will act as a top of levee in the sections where there are already levees. See the updated Appendix C: Engineering for updated profiles and typical sections (Hydrologic and Hydraulic Analysis, Section 7).

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Open Comment**
My comment was not about degrading the existing levees. My comment concerns the building of what appears to be new levee sections to elevation 275', apparently out of dredged soils. If these are intended to function as levees they will have to be designed and constructed per USACE levee guidance.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
The soil to be used for any levee or any levee relocation will conform to USACE levee guidance. Based on geotechnical data, there is an abundance of material that can be used for the levee section as needed. Boring Data can be found in Appendix C: Engineering, Hydrologic and Hydraulic Analysis, Section 7.5 (Plates 4-III-1 through 4-III-8; pdf pages 303-310).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
The cross sections in question have been removed from the latest document. Sheet 1.0 in the latest document now shows all the excess fill material being placed behind the existing levees, which differs from the original drawings. This new section is acceptable.

Submitted By: Jamie Evans [redacted] Submitted On: May 11 2018

Current Comment Status: **Comment Closed**

7059229 Geotechnical N/a Tables 3-2 & 3-3 Pg 10 & 12 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: You only provide comparisons of existing levee condition to Alt B & C at the 100-yr flood flow event.

Basis: In Sect 2.0 you state that you look at flow levels up to the 500-yr event. I would assume the differences shown might be closer together for Alt B & C at flood flows associated with the 200-yr and 500-yr events.

Significance: Moderate

Action: Update tables to include comparison between existing and 200-yr and 500-yr flood flow events. Also compare Alt B & C at these higher flood flows.

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Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

1-0 Evaluation **For Information Only**
Noted. Comparisons between the alternatives have been included between the alternatives and existing conditions and have been added to Appendix C: Engineering, Hydrologic and Hydraulic Analysis, Section 3.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Comparison provided in report.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7059235 Geotechnical N/a Tables 3-2 & 3-3 Pg 10 & 12 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: The design flood flow event determined in this Feasibility Study is not provided. The design flood flow event for the existing levee system is also not provided.

Basis: review

Significance: Moderate

Action: Indicate what the final design flood flow event is for the current Feasibility study and also what the existing levee system design flood level is.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
The report has been updated to more clearly present the design frequency and to reflect that the existing levees are certified to the annual 1% chance exceedance flood event. See Appendix C: Engineering, Hydrologic and Hydraulic Analysis, Section 3.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7059259 Geotechnical N/a 3.4.2.2 Pg 10 & 12 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: Did the H&H analyses for Alt C consider the lake level to be at 258'?

Basis: If the lake is at 258' then much of the volume created by the excavation of the lake will not be available for flood water storage.

Significance: Moderate

Action: Provide description of analysis assumptions for the H&H runs provided and also for those updated for >100-yr flood flows.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
The hydraulic analysis did include 258' elevations and the excavation. The hydraulic section of Appendix C: Engineering has been updated with hydraulic profiles for additional flood events.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

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7059271 Geotechnical N/a cross sections pg 24-26 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: Do you provide openings in the lake TOB (ele 275') at the various creeks for water to flow to river during non-flood periods? You also show digging to 248' up some portions of most of the creeks.

Basis: Sections appear to show continuous lake TOB to ele 275'. Are you also extending the lake TOB up these creeks where you are digging them?

Significance: Moderate

Action: Please explain how the lake system functions hydraulically and your assumptions on how the lake TOB affects the flood flow events (including higher events up to 500-yr).

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
The tributaries are not blocked or dammed. The water (pool) is shown extending upstream into some tributaries as it is open for free flow. As presented in the hydraulics section of Appendix C, the tail water from high events on the Pearl River do not impeded high tributaries flows from getting to the channel. In addition, the two existing pump stations and the existing levees will remain for further protection.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7059420 Geotechnical N/a 4.2 pg 15 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: Need for pump stations on creeks outside flood protection.

Basis: Your analyses only consider headwater events on these creeks with normal pool in the new lake. What would be of greater concern is how backwater flooding by the Pearl River combined with a headwater flood event on the creeks would combine to cause flooding along these creeks outside any flood protection, particularly in regards to less frequent flood events of 200-yr and 500-yr. (I'm not even sure we are authorized to build a pump station not located in flood protection as you analyzed.)

Significance: High

Action: What are the flooding effects for Pearl River backwater and a headwater event on these creeks.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
As presented in Appendix C, headwater flooding with a pool elevation was analyzed. The reduction in flood damage is the result of lowering of the Pearl River flood profiles due to flooding risk associated with the Pearl River, not from the tributaries. This is a major factor in why pumps and gates are not included as a part of this alternative. See section 4.2 in the hydraulics section of Appendix C. The flowlines for extreme events are lowered in most reaches; therefore, the tributaries are lowered on the extreme events.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Open Comment**
The write ups for Town and Lynch Creeks in the revised report indicate that water levels from flooding on the Pearl (50-yr event indicated) and headwater flows on the creeks 'appear not to exceed the existing creek TOB' and that other measures could be taken for any flooding on creeks. Seems there is some doubt about flooding associated with backwater on Pearl plus headwater on Creeks. The figures shown in the report are only for normal pool in the lake plus headwater on creeks. It is not clear that no additional costs are associated with this concept for the creeks.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

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2-0 Evaluation **For Information Only**
Figure 4.2 (Appendix C: Engineering, Hydrologic and Hydraulic Analysis, page 35; pdf page 265) is presented to show how the headwaters of Lynch and Town Creek peak prior to the backwater of the Pearl overtaking control of the flood elevations. This data was actual gage data that was modeled. Flooding is caused by the Pearl backwater and not the tributaries. The channel improvement alternative lowers the flowlines throughout the reach therefore, decreasing the elevation of the associated backwater.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Open Comment**
Figure 4-2 appears to be related to one storm event. My concern would be if the Pearl River was at a Stage around 8-11 Sept (on the graph) and then another local storm event occurred similar or slightly less than the original (high backwater from the Pearl plus an additional storm causing new headwater event on the creeks). Is that a situation that you modeled?

Submitted By: Jamie Evans [redacted] Submitted On: May 11 2018

3-0 Evaluation **For Information Only**
The flooding for the areas along the tributaries is primarily influenced by the Pearl River stages, not the tributaries. Therefore, the tributaries and its timing were modeled to ensure to ensure that relocating the weir would not impact the headwater storms for the tributaries.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

3-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jun 07 2018
Current Comment Status: **Comment Closed**

7059427 Geotechnical N/a 6.1.5 pg 20 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: Does Alt B induce residual flooding even with properly designed pump stations?

Basis: review

Significance: Moderate

Action: Updated statement if not consistent with properly designed pump stations.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

1-0 Evaluation **For Information Only**
Correct pump design could possibly reduce any induced flooding of Alternative B; however, with the number of pumps and lack of large sump areas, the risk for induced flooding is still prevalent. Final design of this alternative could possibly reduce the induced flooding of at-risk structures while still possibly not reducing the risk for other properties.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Induced residual flooding associated with Alt B would indicate improperly designed pump stations. Alt C could also induce residual flooding as discussed in your section on creek backwater/headwater flooding (see previous comment).

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
It is agreed that induced flooding could be limited with properly designed pump stations. Due to the limited design at this stage and possible other areas (i.e. drainage ditches) behind the Alternative B levees, we are only stating that it is still possible. Pump cost is a contributing factor to this alternative being seen as not practical. Therefore, more detailed design was not performed. In addition, the existing two pump stations have not had any problem with induced flooding to date. However, the western pump station has a small pump and careful design considerations will need to be used if any upgrades are necessary.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Open Comment**
The sentences in 6.1.5 are still the same as originally presented. These do not appear to be accurate statements, as you agree proper design (even though you did not follow thru and would not be required to at this point) of the pump stations would not induce residual flooding. Suggest you change both sentences to state that some residual flooding is possible for both alternatives.

Submitted By: Jamie Evans [redacted] Submitted On: May 11 2018

3-0 Evaluation **For Information Only**
Clarification on induced flooding will be made prior to final ATR review.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

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3-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jun 07 2018
Current Comment Status: **Comment Closed**

7059446 Geotechnical N/a 7.1 pg 27 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: Preliminary designs of structures, floodwalls, levees, and weirs were not provided

Basis: review

Significance: low

Action: Please provide any preliminary designs for review.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

1-0 Evaluation **For Information Only**
Preliminary designs of levees, from previous studies and new alternatives, are available and have been included in Appendix C: Engineering, Hydrologic and Hydraulic Analysis, Section 7 for review.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7059449 Geotechnical N/a 7.2 pg 27 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: No boring logs or geologic profiles provided.

Basis: review

Significance: low

Action: At least provide some typical boring logs and a geologic profile with report.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
Boring logs from previously conducted studies have been included in Appendix C: Engineering.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7059464 Geotechnical N/a 7.3.3 pg 28 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: The existing soils in the depths anticipated to be dredged for Alt C will be difficult to process if intended to be used as any type of engineered fill.

Basis: The soils in the upper 15' or so are silts, clays, or fine sands. These soils are not good hydraulic fill soils as they will require excessive processing to dry to levels where they can be utilized to construct any type of engineered fill. Use of these dredged soils for construction of the lake TOB sub-levee will be very difficult, then add on trying to process them in a wetland/river bottom area.

Significance: High

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Action: The ability to dredge and process the existing upper soils as hydraulic fill will be very difficult and expensive. Does the cost estimate consider these higher costs? May require a dragline to excavate, and possible multiple handling of the soils.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

Revised Jul 12 2017.

1-0 Evaluation **For Information Only**
As noted, some existing soils within the proposed dredge depth are not suitable for use as engineered fill during levee construction. As previously stated, the existing levees sections will remain except where being relocated. Where relocated sections will be constructed and the existing WWTP levees upgraded, only proper material will be used. All other excess excavation is not intended for levee construction.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
The cost estimate was reviewed by USACE Cost Engineering DX.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7059475 Geotechnical N/a 7.4 pg 29 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Appendix C - H&H)

Concern: Sketches of the typical levee sections for Alt B & C were not provided.

Basis: review

Significance: low

Action: Provide sketches of proposed levee sections and maintenance berms for Alt B & C.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 11 2017

1-0 Evaluation **For Information Only**
Typical sections have been included in Appendix C: Engineering.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7060636 Geotechnical N/a Major Conclusions and Findings pg ix 24

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: The location of the 6,100 feet of floodwall is not indicated in any report figure.

Basis: review

Significance: low

Action: Please indicate where the floodwall is required on the figure.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
The proposed floodwall is located on the west side of the Pearl River, south of Highway 25. Previous study plans included in Section 7.5 present the area for these floodwalls.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Which figure is it?

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

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2-0 Evaluation **Check and Resolve**
It is the Northeast Jackson Levee segment south of Highway 25. The sections are shown on Plate 4-V-22 and Plate 4-V-23 of the Appendix C: Engineering, Hydrologic and Hydraulic Analysis, Section 7.5 (pdf pages 334-335).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Open Comment**
Please indicate wall location on Fig 3-5 on pg 117 of the FEIS report.

Submitted By: Jamie Evans [redacted] Submitted On: May 14 2018

3-0 Evaluation **For Information Only**
The figure will be updated to indicate location of Northeast Jackson levee segment for Alternative B.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

3-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jun 07 2018
Current Comment Status: **Comment Closed**

7060810 Geotechnical N/a Figure 2-18 pg 57 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: Why is this figure based on the 500-yr flow event? Is this inundation based on the No Action condition or on Alt A, B, or C?

Basis: The figure does not indicate what levee configuration the inundation is based on. The figure is also not referenced in the text.

Significance: Low

Action: Indicate levee configuration related to this figure and reference in text sections. Also, please utilize a consistent flood flow level or levels throughout the report when comparing Alternatives and presenting results. Some results are based on 500-yr and some on 100-yr.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
Figure 2-18 presents the existing conditions for road inundation with no action.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Figure 2-18 is still not labeled as 'No Action', and the figure is not referenced in the text. Also, Figures 2-19 and 2-20 are not referenced in the text. All figures and tables must be referenced in the text of the report.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
The caption for Figure 2-18 (Integrated Draft FS/EIS, Section 2.4.7.2, page 53; pdf page 71) has been amended to indicate that the figure shows transportation impacts under the No Action Plan. Also, references to all three figures have been added to the text on Integrated Draft FS/EIS, Section 2.4.7.2, pages 52-53 (pdf pages 70-71).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
actions completed.

Submitted By: Jamie Evans [redacted] Submitted On: May 14 2018
Current Comment Status: **Comment Closed**

7060828 Geotechnical N/a Table 3-3 pg 99 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: What is the basis for selecting construction cost less than $400 million as a screening criteria?

Basis: This value seems somewhat random.

Significance: low

Action: Provide rationale in report for selection of the maximum initial project cost.

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Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
The local sponsor has a reasonable assessment of its bonding capacity, based on of the multiple previous studies in the past and known existing damages and benefits. Therefore, an "approximate" threshold was chosen with that evaluation in mind and used when comparing the alternatives. However, Alternative A was moved forward due to the guidance requiring a nonstructural alternative be evaluated.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Why was the $400M construction cost max was removed from Table 3-3.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
The $400 million construction cost was removed from Table 3-3 (Integrated Draft FS/EIS, Section 3.3, page 96; pdf page 114) because of Comment #7068903 where it was stated that efficiency is not based on the total cost.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: May 14 2018

Current Comment Status: **Comment Closed**

7060839 Geotechnical N/a Figure 3-3 pg 113 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: The flood flow associated with the structure impacts is not indicated on the figure.

Basis: review

Significance: low

Action: Indicate the flood flow event associated with the data points on figure. A consistent flood flow event should be used for all alternatives compared.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
Figure 3-3 has been updated to describe flow event illustrated.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Figure not updated as indicated in evaluation.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
Figure 3-3 (Integrated Draft FS/EIS, Section 3.6.1, page 109; pdf page 127) has been updated in the report.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
action completed.

Submitted By: Jamie Evans [redacted] Submitted On: May 14 2018

Current Comment Status: **Comment Closed**

7060875 Geotechnical N/a Figure 3-4 pg 117 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: Figure shows structures impacted by both 100-yr and 500-yr flood flow events.

Basis: Use consistent flood flow events for all alternatives discussed in report. What is the final design flow event all alternatives are designed to?

Significance: Moderate

Action: Provide consistent comparisons between all alternatives discussed.

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Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
Flood flow events have been clarified and made consistent between comparisons.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
No change to figure. No change to show all alternatives with consistent flood event.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
The legend for Figure 3-4 (Integrated Draft FS/EIS, Section 3.6.2, page 113; pdf page 131) clearly correlates the different structural impacts and events (1% chance, 0.2% chance, and flood of record (1979)) and is intended to show the breadth of impacts from a broad perspective.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Open Comment**
Agreed that the legend for Fig 3-4 is clear and shows impacts for different events.

The original comment discussed the need to show impacts associated with the same 100-yr and 500-yr event on Figures 3-5 and 3-6 as you show on Fig 3-4. According to the latest version of Sect 3.6.3, it appears Alt B would have no structures impacted at the 100-yr event but similar impacts shown on Fig 3-4 for the 500-yr (extreme) event. According to Sect 3.6.4, you state for Alt C there would not be any structures impacted at either the 100-yr or 500-yr event due to the lower flowlines. Also, based on H&H results, it appears neither Alt B or C would change the flooding effects in the Richland and South Jackson areas. Since Alt A (Fig 3-4) shows the effected structures in these areas, you should also show those areas as being effected in Figs. 3-5 and 3-6 similar to Fig 3-4.

Submitted By: Jamie Evans [redacted] Submitted On: May 14 2018

3-0 Evaluation **For Information Only**
Figure 3-4 shows the "layout" for the non-structural plan put forth by Alternative A. The figure highlights structures impacted by various flood events because the plan proposes to relocate structures within the floodplain. To indicate the geographical layout of such a plan, it would be important to see the current area with a known risk for flooding and where the structures are currently located. They are not shown to indicate any level of flood risk management due to the implementation of such a plan.

Figures 3-5 and 3-6 also show the layout for the plans set forth by Alternatives B and C, respectively. As these are structural plans, the figures indicate where the proposed features would be positioned.

None of the three figures indicate level of flood risk management afforded by implementation of the alternative. They simply show where, geographically, the features of these projects would be located.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

3-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jun 07 2018

Current Comment Status: **Comment Closed**

7060926 Geotechnical N/a Sect 3.5.3 pg 119 11-12

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: You state here and in most areas discussing Alt B that there is still risk of overtopping or failure during extreme events.

Basis: This risk exists equally for both Alt B & C in "extreme" events (extreme event not defined anywhere, but assume you mean flood flows in excess of design + freeboard capacity); however, you never mention it in Alt C write-ups.

Significance: Moderate

Action: The Feasibility Study is supposed to provide an objective assessment of all potential solutions (give them all equal effort for success) and then let the various criteria, costs, and regulation/legal requirements flush out the best option. In general, this report seem to be written to justify the preferred alternative (Alt C) instead of objectively assessing all the alternatives.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

NOTICE TO READER – This document contains deliberative discussions between Rankin Hinds Pearl River Flood and Drainage Control District ("FCD") and the US Army Corps of Engineers ("USACE"). Substantive edits and revisions to the referenced documents have been made after this report was produced. The remaining open comments are resolved in the Final FS/EIS and/or USACE Decision Document. The reader should not rely on this report as a final position of FCD or the USACE.

1-0 Evaluation **For Information Only**
The plan proposed in Alternative B has limited freeboard for the extreme events due to constructing the levee section. As previously noted by the reviewers, Alternative C will have significantly more freeboard because the plan proposes lowering the flowline while not degrading the existing levees.
As discussed in the report and Appendix A, numerous feasibility studies have been conducted by the USACE since the 1979 flood event. Within these studies, many plans have been reviewed and dissected based on local sponsor input, upstream and downstream impacts, and public input. As stated, the 2007 draft study in conjunction with the more recent USACE review of a similar variation, the plan proposed as Alternative C is the result of input by and cooperation with the local sponsor, public, and previous studies. This study included a re-scoping effort of the 2007 study to objectively insure that all alternatives were assessed based on the screening criteria. Due to lowering of the flowlines, risk levels for Alternative C are very low with the annual 1%, 0.2%, and 0.5% chance exceedance flood events being below the proposed top bank. See the profiles in Appendix C: Engineering.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Agree that the risk of Alt C overtopping is less than Alt B, but the generalities of your statements in the report make it sound like there is no risk of Alt C being overtopped. It would be helpful if you quantified extreme events.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
Noted. Text was added to Section 3.6.3 (page 115; pdf page 133; lines 11-14) and to quantify "extreme events." Also, verbiage was added to state that Alternative B does not provide protection for these events but that substantial flood risk management is provided by Alternative C (Integrated Draft FS/EIS, Section 3.6.4, page 119; pdf page 137; lines 5-7).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Open Comment**
In 3.6.4 you state the flood events up to 500-yr event would be below the 'top bank'. Do you mean the flowline would be below the 'top of flood protection'? Top Bank would generally be related to the river channel top.

Submitted By: Jamie Evans [redacted] Submitted On: May 14 2018

3-0 Evaluation **For Information Only**
The 500-year event (flowline) would be below the top of flood protection. This clarification will be made in the document.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

3-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jun 07 2018
Current Comment Status: **Comment Closed**

7060944 Geotechnical N/a Table 3-4 pg 119 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: 1.6M sqft of slurry trench is indicated to be required for Alt B.

Basis: The location for this slurry trench is not indicated on any figures. Preliminary designs showing requirement not provided. No cost is included in cost section for slurry trench.

Significance: Moderate

Action: Provide preliminary design indicating need for this slurry trench. Indicate location of trench on Figure 3-5 and others as appropriate. Include cost if this is required based on preliminary design.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
Slurry trench quantity was used from the previous 2007 study. The proposed locations have been included in Hydrologic and Hydraulic Analysis, Section 7.4 of Appendix C: Engineering.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7060948 Geotechnical N/a Table 3-4 pg 119 n/a

NOTICE TO READER – This document contains deliberative discussions between Rankin Hinds Pearl River Flood and Drainage Control District ("FCD") and the US Army Corps of Engineers ("USACE"). Substantive edits and revisions to the referenced documents have been made after this report was produced. The remaining open comments are resolved in the Final FS/EIS and/or USACE Decision Document. The reader should not rely on this report as a final position of FCD or the USACE.

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: The required length of new or improved levees is not listed in the table.

Basis: review

Significance: low

Action: Provide line item for quantity of levee construction.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
Levee and excavation has been revised in the Appendix C: Engineering, Cost Engineering, Section 4.0.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7060951 Geotechnical N/a Table 3-5 pg 123 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: Condemnation/Relocations are listed as zero. This is not consistent with data shown in the cost engineering section of Appendix C.

Basis: review

Significance: low

Action: Make report consistent throughout.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
Noted. The data has been updated in Appendix C: Engineering, Cost Engineering, Section 4.0.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7061036 Geotechnical N/a Table 3-5 pg 123 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: The quantity (miles) of levee work should be listed as a separate item.

Basis: review

Significance: low

Action: Separate the levee and excavation work as individual items.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
Levee and excavation has been revised in Appendix C: Engineering, Cost Engineering, Section 4.0.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

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Current Comment Status: **Comment Closed**

7061042 Geotechnical N/a Table 3-5 pg 123 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: Is a slurry trench required for Alt C?

Basis: Slurry trench is indicated as required for Alt B, but the location is not provided. For less frequent flood flows (200 or 500-yr) the slurry trench may be required.

Significance: moderate

Action: Assess the need for slurry trench for Alt C at design flood flow event up to 500-yr event.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
A slurry trench was included to insure cost was incorporated in the estimates for areas that are levees only (WWTP). This feature will be furthered reviewed during design stages.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7061074 Geotechnical N/a Sect 3.7.3 pg 129 2-3

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: The sentence states Alt B has 'uncertainties' for landside areas with little storage during extreme events (extreme not defined). What is the basis of this statement?

Basis: This potential issue also equally applies to Alt C, as pump stations exist in that alternative that could potentially be overwhelmed during extreme events. In either alternative, proper design of all pump stations should minimize the risk and any uncertainties to acceptable levels such that this is a wash (or at least equivalent risk of failure) for both Alt B & C.

Significance: Moderate

Action: Suggest rewording to state something like all pump station required (for Alt B or C) will be design as required by USACE standards to minimize potential interior flooding associated with the existing gravity flow creeks or channels.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
No new pump stations will be required with Alternative C. A typical pump station layout meeting USACE standards is included in Section 7 of Appendix C: Engineering, Hydrologic and Hydraulic Analysis.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
Suggest you add statement in 3.6.4 that risk of interior flooding exists at existing pump stations with little storage areas during extreme events.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
Section 3.6.4 has been revised to address this on page 119 (pdf page 137), lines 21-22.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: May 14 2018

Current Comment Status: **Comment Closed**

7061147 Geotechnical N/a Sect 4.4.7 pg 159 18-19

NOTICE TO READER – This document contains deliberative discussions between Rankin Hinds Pearl River Flood and Drainage Control District ("FCD") and the US Army Corps of Engineers ("USACE"). Substantive edits and revisions to the referenced documents have been made after this report was produced. The remaining open comments are resolved in the Final FS/EIS and/or USACE Decision Document. The reader should not rely on this report as a final position of FCD or the USACE.

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: In Alt C you state that traffic routes will remain operational during flood events. Is this true for flood events greater than 100-yr? As there is no change in flood levels in the South Jackson area, it appears likely that flooding of I-55 would occur for flood events of 200-yr or greater.

Basis: Review of H&H data which is only provided for 100-yr flood flow event.

Significance: High

Action: Impacts should be described relative to the design flood flow (200-yr 500-yr?).

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
It is correct that the improvements to flood risk management in the South Jackson area are not as great. Appendix B: Economics has been updated in Section 3 to more thoroughly describe transportation impacts and improvements regarding Alternative C.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Suggest you also update Section 4.4.7 to reflect this fact.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
Language has been added to Section 4.4.7 (page 154; pdf page 172; lines 10-11, 25-27; and, page 155; pdf page 173; lines 5-7) to clarify the impact to transportation under existing conditions and the level of benefit provided by each alternative. While dramatically reduced, there could still some transportation impacts with Alternative C.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Open Comment**
If I-55 is potentially flooded [1979 flood event (~200-yr) or 500-yr event] at Cany Creek area for Alt B and C, this risk should be clearly stated in 4.4.7. That would be a major disruption. In lines 10-11 and in Summary Bubble you state that traffic routes will remain operational during flood events for Alt C. Define flood events, and update that potentially not all traffic routes would be operational as stated in last response above.

Submitted By: Jamie Evans [redacted] Submitted On: May 14 2018

3-0 Evaluation **For Information Only**
Clarification of which traffic routes will be impacted for the studied storm events under the various alternatives.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

3-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jun 07 2018
Current Comment Status: **Comment Closed**

7061173 Geotechnical N/a Sect 4.5.8 pg 208 23

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: The acres impacted on line 23 appear to be in error.

Basis: Based on impacted wetlands listed in preceding paragraphs, the acreage impacted would be about 2402 acres.

Significance: low

Action: Check the acreage listed on Line 23 and correct as required.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
Noted. Page 208 of the main report is being reviewed for accuracy.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Open Comment**
No change in report to correct this error.

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
There are many locations that either "wetland" impacts or "vegetation" impacts are discussed. The 2402 acres refers to "vegetation" impacts and these impacts are covered in the HEP analysis. These area descriptions will clarified in the version prior to public release.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 27 2018

2-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: May 14 2018
Current Comment Status: **Comment Closed**

7061193 Geotechnical N/a Sect 5.0 pg 227 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Main Report)

Concern: No information is provided as to how the TSP will perform relative to the 1979 flood event (~200-yr event) or to the 500-yr flood flow event. It is not clear what the design flood flow event is for this Feasibility Study relative to all Alternatives.

Basis: Review of documents

Significance: High

Action: Please provide more information related to how the TSP performs at less frequent flood flow events.

Submitted By: Jamie Evans [redacted] Submitted On: Jul 12 2017

1-0 Evaluation **For Information Only**
Noted. The explanation describing how the TSP performs during less frequent flood events has been expanded. All studied flood event comparisons between the alternatives and existing conditions have been added to Appendix C: Hydrologic and Hydraulic Analysis. As can be seen in Section 3 of that appendix , the annual 0.5% and 0.2% (except lower reach) chance exceedance flood event are within expected top bank of Alternative C due to flowline reductions from expanded floodplain. It is expected the lower reach will also be filled to the annual 0.2% chance exceedance flood event level.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
ok

Submitted By: Jamie Evans [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7066363 Environmental Feasibility Study n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review Concern: Extent of Hazardous, Toxic and Radioactive Waste (HTRW). – Report identifies at least three HTRW sites that impact proposed project alternatives. Extent of contamination from leaching into the surrounding floodplain soils has not been quantified (one example - see paragraph 5 on page 34 of 278 within Engineering Appendix that discusses Gulf States Creosoting Company.)

Basis for Concern: Unknown extent of HTRW presence for the proposed alternatives creates huge risks to the local sponsor on potential cleanup and remediation of HTRW contaminates for any of the alternatives but especially for the TSP, Alternative C, that has significant channel excavation.

Significance of Concern: High

Probable Action Needed to Resolve: Concur with AE's recommendation to conduct further testing to quantify the extent of HTRW contamination. Clean up of all HTRW contaminates within the project real estate interest by the local sponsor is required on USACE projects(imported from PDF Comment Form)

Submitted By: Kirk Sunderman [redacted] Submitted On: Jul 17 2017

Revised Jul 17 2017.

1-0 Evaluation **For Information Only**
The discussion of this concern was too long to fit in this comment box. Please see the attached pdf for the full response.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017 (Attachment: 7066363.pdf)

NOTICE TO READER – This document contains deliberative discussions between Rankin Hinds Pearl River Flood and Drainage Control District ("FCD") and the US Army Corps of Engineers ("USACE"). Substantive edits and revisions to the referenced documents have been made after this report was produced. The remaining open comments are resolved in the Final FS/EIS and/or USACE Decision Document. The reader should not rely on this report as a final position of FCD or the USACE.

1-1 Backcheck Recommendation **Close Comment**
A signed letter from the regulating state agency that gives clearance for the defined project footprint and proposed construction activities, for both permanent and temporary ROW, is normally sufficient. This is subject to HQ review and approval of LERRDS.

Submitted By: Kirk Sunderman [redacted] Submitted On: Dec 21 2017

Current Comment Status: **Comment Closed**

7066364 Environmental Feasibility Study n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review Comment: Main report, 8.1.2. Non-Federal Responsibilities. No statement is present that acknowledges the local sponsor's responsibilities for providing real estate interest that is "clean" of all HTRW contamination.

Basis for Comment: ER 1165-2-132. For cost-shared projects, the local sponsor shall be responsible for ensuring that all LERRDS provided are "clean" of HTRW contaminates. "Clean" is defined by meeting or exceeding all required Federal, state,and/or local HTRW response actions and thresholds. The actions are to be accomplished at 100 percent non-project cost with no cost sharing credits given. This applies to all real estate interest required for the project, both temporary and permanent, and any unknown HTRW issues discovered during construction.

Significance of Comment: High

Probable Action to Resolve Comment: Report needs to have statements defining local sponsors responsibilities for HTRW in accordance with ER 1165-2-132. (imported from PDF Comment Form)

Submitted By: Kirk Sunderman [redacted] Submitted On: Jul 17 2017

Revised Jul 17 2017.

1-0 Evaluation **For Information Only**
This project is still in the feasibility stage, during which ER 1165-2-132 requires evaluation of alternatives with HTRW issues in mind. Under ER 1165-2-132, "response actions must be acceptable to EPA and applicable state regulatory agencies." And as set forth in our response to Comment 7066363, communication with MDEQ regarding the three potential HTRW sites has begun, and a comprehensive plan will be developed to ensure compliance with all applicable laws and regulations.
The Flood Control District intends to comply with the responsibilities placed on local sponsors under the ER, including the cost-sharing responsibilities reflected in Table 1. In Section 4.5.14 of the report, language will be added to the effect that "Rankin-Hinds Flood Control District is fully responsible for the development of a response plan for dealing with HTRW and for any necessary response measures to relocate HTRW or treat HTRW in place, as set forth in USACE ER 1165-2-132."

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Verified acknowledgement text of responsibility was added to Section 8.1.2 "Non-Federal Responsibilities", Paragraph 17 of the main report.

Submitted By: Kirk Sunderman [redacted] Submitted On: Dec 20 2017

Current Comment Status: **Comment Closed**

7066365 Civil Feasibility Study n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Review Comment: Report needs more presentation and definition on the various flood risks levels ran for the final array of alternatives. It is not readily apparent right now the level of protection for the final array of alternatives.

Basis for Comment: ER 1105-2-101

Significance of Comment: High

Probable Action to Resolve Comment: Recommend adding in hydraulic profiles that cover the entire length for each of the final alternatives. Profiles should run the length of project impact area. Label each flood frequency event profile that was run in order to arrive at a recommended design event frequency for each alternative. Show normal impounded water elevations for each alternative, especially for the new proposed weir contained within the TSP.(imported from PDF Comment Form)

Submitted By: Kirk Sunderman [redacted] Submitted On: Jul 17 2017

Revised Jul 17 2017.

1-0 Evaluation **For Information Only**
The profiles have been updated to Appendix C: Engineering, Hydrlogic and Hydraulic Analysis, Section 3 to clarify the flood events.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

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1-1 Backcheck Recommendation **Open Comment**
Main report still lacks presentation of the flood event frequencies that the Tentative Selected Plan (TSP) and the Final Array of Alternatives that they were developed against. The Engineering Appendix now better defines the flood event profiles but application to the alternatives very much lacking within the main report. Executive summary makes no mention that the TSP is designed for the annual 1% chance exceedence flood event. The flood protection level for each plan formulation alternative needs to be a prominent part of the story throughout the report when each alternative is discussed.

The final array of alternatives all appear to have only been analyzed against the 1% exceedence flood event. A story of why an incremental flood event analysis for each alternative was not developed needs to be told within the report narrative. Normally incremental elevation protection levels or incremental flood events are run on each of the final array of alternatives. A typical incremental range for flood exceedence analysis might be the 2%, 1%, 0.5%, and 0.2% annual chance flood events. (50-year, 100-year, 200-year, and 500-year events) The incremental analysis, to include costs verses benefits, for each alternative is used to determine the optimized NED plan

Submitted By: Kirk Sunderman [redacted] Submitted On: Dec 21 2017

2-0 Evaluation **For Information Only**
Information detailing the flood frequencies considered and the design event have been added to the Executive Summary (page ix; pdf page 11; line 7-8)and to Section 3.6 (page 107; pdf page 125; line 6-9) of the report.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

3-0 Evaluation **For Information Only**
As discussed in the Main Report and appendices, many flood risk reduction studies have been looked at this reach of the Pearl River in the past. A detailed Draft Feasibility Study for the Jackson Metropolitan Area dated January 1996 performed a sensitivity analysis and determined events less than the annual 1% chance exceedance event would not provide enough risk reduction for Federal participation. Data from this plan and the other previous studies was used when this study began with the re-scoping of the 2007 Pearl River Watershed Feasibility study, which considered many alternatives similar to those considered in this study. Appendix A: Plan Formulation presents the large number of plans considered during the re-scoping process. As documented therein, the initial plans provided little flood risk reduction and were therefore eliminated. Additional discussion will be added to Appendix B: Economics to clarify the source of the data and how it was used in the alternatives analysis.

Submitted By: Blake Mendrop [redacted] Submitted On: Jun 07 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

7066366 Civil Feasibility Study n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review Comment: No backup documentation of assumptions or quantities used for the development of alternative cost estimates was found. No discussion or quantification of required utility relocations found within the main report. Only found within Real Estate and Cost Appendices.

Basis for Comment: Definition should be provided as to how the quantities were arrived at so the level of risks as to the accuracy of the estimates is understood and accounted for.

Significance of Comment:medium

Probable Action to Resolve Comment:Provide discussion and backup of quantities used in the development of alternative costs, most importantly the TSP alternative. (imported from PDF Comment Form)

Submitted By: Kirk Sunderman [redacted] Submitted On: Jul 17 2017

Revised Jul 17 2017.

1-0 Evaluation **For Information Only**
The cost and risk analysis sections of Appendix C: Engineering have been updated to include more documentation supporting the assumptions and quantities used. In addition, Appendix C: Engineering, Hydrologic and Hydraulic Analysis provides typical sections and profiles for Alternative B and Alternative C.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Kirk Sunderman [redacted] Submitted On: Dec 21 2017

Current Comment Status: **Comment Closed**

7066367 Civil Feasibility Study n/a Main Report - 139 9 & 10

NOTICE TO READER – This document contains deliberative discussions between Rankin Hinds Pearl River Flood and Drainage Control District ("FCD") and the US Army Corps of Engineers ("USACE"). Substantive edits and revisions to the referenced documents have been made after this report was produced. The remaining open comments are resolved in the Final FS/EIS and/or USACE Decision Document. The reader should not rely on this report as a final position of FCD or the USACE.

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review Comment: Proposed weir for the TSP is stated as "providing a larger body of water for flood damage reduction".

Basis for Comment: This is a counter intuitive statement that needs further explanation.

Significance of Comment: medium

Probable Action to Resolve Comment: This needs more elaboration on how an impoundment pool helps with flood damage reduction. Explanation needs to to include that the improved channel will be wider than impoundment pool width to include the new wider weir.(imported from PDF Comment Form)

Submitted By: Kirk Sunderman [redacted] Submitted On: Jul 17 2017

Revised Jul 17 2017.

1-0 Evaluation **For Information Only**
The wider, improved channel provides additional conveyance which lowers the flowline due to the additional area available in the hydraulic backwater calculations. It should be noted that even with a weir in the channel, the channel still flows with velocities 2-5 ft. per second or more, depending on the flow event. Even at the minimum flow, velocities in the reach are 2 feet per second in some areas. It is true that the full depth does not give the conveyance improvements that lowers the flowlines, but more of the width and top bank excavations. This channel improvement does not provide for much storage. It is a run of the river improvement more than it is an impoundment and only velocity reduction has been approximately 20%.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Concur with text as now presented within the main report, page 13 of 283, lines 17 through 19.

Submitted By: Kirk Sunderman [redacted] Submitted On: Dec 21 2017

Current Comment Status: **Comment Closed**

7066368 Civil Feasibility Study n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review Comment: TSP calls for 25 million CY of material to be removed for channel conveyance improvement. The new weir creates 10 miles of impounded water over the channel improvements.

Basis for Comment: Purpose of higher weir and water impounded depths needs to be very clearly laid out as to why it is critical for flood risk damage reduction function. Improvements made to channel bottom serve no conveyance improvement if submerged underwater. Channel excavation below the normal pooled water surface has the appearance of being done primarily for recreation and environmental purposes.

Significance of Comment: High

Probable Action to Resolve Comment: Further elaborate on how a higher fixed weir to impound water and channel excavation is pertinent for flood risk management investment. Excavation to create pool depth may be considered as a secondary cost tied to recreational features. If new weir was collapsible during floods, then comment goes away. (imported from PDF Comment Form)

Submitted By: Kirk Sunderman [redacted] Submitted On: Jul 17 2017

Revised Jul 17 2017.

1-0 Evaluation **For Information Only**
A collapsible weir structure does not provide addition flood risk management benefits, while the cost of such a structure would be prohibitive.

As referenced in Appendix A: Plan Formulation, planning constraints, including screening criteria, were used to analyze and develop a final array of alternatives. Multiple channel improvement alternatives were reviewed and analyzed hydraulically. Alternatives considered are discussed in Appendix A, and options studied include improvements around the existing weir and relocation of the weir. Extension of the channel improvements upstream of Highway 25 were found to be an important part of maximizing the flood reduction benefits by decreasing flood risk in the area between Highway 25 and the Ross Barnett Reservoir. Over excavating the floodplain increases the conveyance which reduces the flood elevations and reduces the flood risk for this plan. The preliminary weir elevation was selected to provide a cost effective balance between the amount of conveyance needed to provide flood risk management and the expense of excavation. Relocating the weir allows for the water supply to be continued while simultaneously creating a large body of water. The local sponsor is currently responsible for maintaining over 300 of the 1500 acres of the proposed footprint. Vegetation control in this area is difficult and if the vegetation is not properly maintained, conveyance is restricted. This expanded channel not only provides recreational benefits, the depth of the water also limits the local sponsor's maintenance requirements by reducing the area where spraying, mowing, or other vegetation control is needed.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Close Comment**
Evaluation response would be good to include within the main report to help clarify why a high weir was selected.

Submitted By: Kirk Sunderman [redacted] Submitted On: Dec 21 2017

Current Comment Status: **Comment Closed**

7066369 Civil Feasibility Study n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review Comment: O&MRRR for Alternative C, the TSP, appears to contain no cost for sedimentation maintenance through its life.

Basis for Comment: Alternative B has significant O&MRRR costs for sedimentation management. Alternative C should also account for sedimentation management. Largest sediment fall out will occur during larger floods impacting the entire channel improvement width.

Significance of Comment: medium

Probable Action to Resolve Comment: Account for sedimentation management for Alternative C. At a minimum, periodic surveys of the channel cross sections will be needed to verify conveyance capacity is being maintained.(imported from PDF Comment Form)

Submitted By: Kirk Sunderman [redacted] Submitted On: Jul 17 2017

Revised Jul 17 2017.

1-0 Evaluation **For Information Only**
Sedimentation has been estimated in the Geomorphic Report, with assessments of the amount attributable to tributaries and of the amount passing through the Ross Barnett Reservoir. Although some sediment deposition will occur, the estimated amount is less than 100,000 yds., much of which is fines that would most likely pass through the impoundment. Some cost estimates were made for O&M including minimal dredging. The O&M cost associated with the Alternative B is not due to sedimentation but maintenance and care of all the pump stations.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Kirk Sunderman [redacted] Submitted On: Dec 21 2017

Current Comment Status: **Comment Closed**

7066370 Civil Feasibility Study n/a 259 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review Comment: Clean Water Act, Section 402 permit to manage storm water discharge during construction is not listed.Basis for

Comment: Required when more than 1 acre of land is disturbed during construction.

Significance of Comment: low

Probable Action to Resolve Comment: Add to list under Environmental Laws & Compliance.(imported from PDF Comment Form)

Submitted By: Kirk Sunderman [redacted] Submitted On: Jul 17 2017

Revised Jul 17 2017.

1-0 Evaluation **For Information Only**
"We are aware of the necessity of obtaining a CWA Section 402 permit. However, MDEQ regulations and practice require a full, detailed and specific design to be in place before a CWA Section 402 permit may be issued.
Before a construction project may be covered by the state's large-construction general storm water permit, the applicant "must submit a LCNOI [Large Construction Notice of Intent] form with the required submittals." MDEQ Large Construction Storm Water General Permit, issued Jan. 13, 2017, expires Dec. 31, 2021, p. 9 § S-1. Such "required submittals" include "a site-specific SWPPP associated with the construction activities, a United States Geological Survey quad map, or color photography of the quad map, extending at least ½ mile beyond the facility property boundaries with the site location outlined or highlighted." Id., § S-2. Additional submittal requirements often apply as well. Id., § S-3. None of these items can be accurately submitted to MDEQ without finalized design specifics.
The LCNOI itself is a detailed application requiring a detailed description of the project parameters and other prerequisites. Final design specifics are prerequisite to this part of the process as well.
Accordingly, while the project will certainly be subject to the need for a Section 402 storm water permit, we must wait until the appropriate stage of the project to send an application for such a permit.
"

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Kirk Sunderman [redacted] Submitted On: Dec 21 2017

Current Comment Status: **Comment Closed**

7067743 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The future without-project condition with regard to the study area location may need to be described more completely.
Basis of concern: Study area and floodplain maps (e.g., the 0.2% annual chance exceedance floodplain) are not included in the Economic Appendix.
Significance of concern: Medium.
Recommendation to resolve concern: Include in the Economic Appendix a study area map and without-project floodplain map(s).

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
The additional maps requested have been added to Appendix B, Section 2.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7067746 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Review concern: The future without-project condition with regard to flood risk (chance of flooding) may need to be described more completely. (Risk Analysis)
Basis of concern: The without-project engineering performance statistics are not documented.
Significance of concern: Medium.
Recommendation to resolve concern: Include in the Economic Appendix without-project HEC-FDA engineering performance results (annual exceedance probability, long-term risk, and assurance) for each economic impact area and/or hydraulic reach.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
The without-project performance statistics are included in Appendix B: Economics, Tables B-3, B-4, and B-7 through B-9.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
The without-project and with-project performance statistics could not be found in Appendix B.

Recommend including the FDA performance statistics (expected AEP, long-term risk, and assurance) as an attachment to Appendix B; this might make it easier to include it in the Appendix but not have to incorporate it into the main sections of the Appendix. The engineering performance statistics can be found in the "Results" tab of the FDA models.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
The with- and without- project performance statistics have been added as Amendment 2 to Appendix B: Economics, page 35 (pdf 39).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 04 2018

Current Comment Status: **Comment Closed**

7067747 Economics N/a n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The future without-project condition with regard to flood risk (consequences of flooding) may need to be described more completely.
Basis of concern: An inventory of the structures that could be at risk from flooding is not provided.
Significance of concern: Medium.
Recommendation to resolve concern: Include in the Economic Appendix a breakdown of the number of structures and the value of damageable property by structure type (i.e., residential, commercial, industrial, public, etc.) and economic impact area; also provide a summary (i.e., study area as a whole) of annual chance exceedance (single-event) damages for a range of events (e.g., 10%, 4%, 2%, 1%, 0.5%, 0.2%).

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
A map of damageable property is included in Appendix B: Economics, Section 2 and performance data can be found in the tables in Section 3.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7067750 Risk Assessment N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The with-project condition with regard to residual flood risk may need to be described more completely. (Risk Analysis.)
Basis of concern: The with-project engineering performance statistics and with-project floodplains are not included in the documentation.
Significance of concern: Medium.
Recommendation to resolve concern: Include in the Economic Appendix with-project HEC-FDA engineering project performance results (annual exceedance probability, long-term risk, and assurance) and residual (with-project) floodplain maps.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
A map of damageable property is included in Appendix B: Economics, Section 2 and performance data can be found in the tables in Section 3.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
The with-project engineering performance results for each plan is not presented in Appendix B.

Recommend including the engineering performance (expected AEP, long-term risk, and assurance) as an attachment to Appendix B as a simple way to incorporate it into the appendix. The engineering performance results can be found under the "Results" tab of the FDA models.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
The with- and without- project performance statistics have been added as Amendment 2 to Appendix B: Economics, page 35 (pdf 39).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Open Comment**
Please verify. In Amendment 2 (engineering performance statistics), the plan called "Levee Plan" is Alternative B? The plan called "One Lake" is Alternative C?

Under the "One Lake" plan's Treatment Plant reach, why do the assurance (conditional non-exceedance probabilities) results indicate zero percent assurance for all ACE events? Does this plan provide flood risk reduction to the WWTP? In which reach is the WWTP located?

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 04 2018

3-0 Evaluation **For Information Only**
It is correct that the One Lake is Alternative C and the Levee Plan is Alternative B. The WWTP is in the reach referred to as Treatment Plant Reach. These reaches were identified in prior studies and used for this rescoping and continued study effort.
The WWTP is a very complicated structure. Therefore, the cost and damage estimates were based upon replacement cost evaluations from the City of Jackson. These damage values were converted into annual damages based on cost, existing levee performance, and past performance of the existing non-federal levee. This is the reason the WWTP risk reduction is a separate item in the risk reduction discussion.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

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3-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jun 05 2018
Current Comment Status: **Comment Closed**

7067753 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The with-project condition with regard to project alternatives should be included in the documentation.
Basis of concern: A description of the project alternatives and the major FRM features of each alternative are not provided in the documentation.
Significance of concern: Medium.
Recommendation to resolve concern: Include descriptions of the alternatives (B and C) in the Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
Descriptions for Alternative B and Alternative C have been included in Appendix B: Economics, Section 3.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018
Current Comment Status: **Comment Closed**

7067758 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The economic impact areas/reach delineations may need to be described more completely.
Basis of concern: Maps displaying the economic impact areas/hydraulic reaches are not included in the documentation; these maps would help to inform other areas of the economic analysis, such as whether or not an incremental analysis would be appropriate.
Significance of concern: Medium.
Recommendation to resolve concern: Include in the Economic Appendix maps that show the delineation of the economic impact areas/hydraulic reaches.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
Economic reaches are similar to those used in the past studies referenced for this project. An updated map is available and has been included in the updates to Appendix B: Economics.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018
Current Comment Status: **Comment Closed**

7067759 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: An incremental analysis may need to be performed to ensure optimization of net benefits.
Basis of concern: The project, in terms of implementation costs, are significant, suggesting that the scale of the project may also be large. Could a smaller-scale project provide greater net benefits?
Significance of concern: Medium-High.
Recommendation to resolve concern: Verify that optimization of net benefits (in terms of scale and extent – reach/impact area/bank) for each alternative was performed.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

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1-0 Evaluation **For Information Only**
Alternative B is very similar to previous levee plans with past analysis; therefore, a good estimate of reach benefits was already available. Alternative C was developed with a much smaller footprint than a similar plan that was approximately 3 times the size of the proposed Alternative C. Alternative C was developed with the goal of maximizing benefit despite reducing the footprint. This alternative is somewhat different than typical alternatives as many benefits are being realized upstream of the improvements. However, the same reaches were compared for clarity.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7067761 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The economic costs of each alternative evaluated may need to be described more completely.
Basis of concern: An estimate of the construction period and an estimate of the interest during construction (IDC) are not included in the documentation.
Significance of concern: Medium.
Recommendation to resolve concern: Include in the Economic Appendix an estimate of IDC and the construction period used to compute IDC; also, re-compute net benefits and the benefit-to-cost ratio (BCR) for each alternative evaluated ensuring that IDC is included, and revise the Economic Appendix as appropriate.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
Table B-14 in Appendix B: Economics has been modified to clarify that IDC was considered in the net benefits and BCR calculations.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
Please include the construction period (in years/months) used to compute IDC for Plan B and Plan C. These can be included as footnotes to Tables B-15 and B-16.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
Footnotes have been added to Tables B-17 and B-18 (Appendix B: Economics, Section III, page 29; pdf page 33) indicating a construction period of 3 years was used to calculate IDC.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 04 2018

Current Comment Status: **Comment Closed**

7067763 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The structure inventory used as the basis of the economic analysis may need to be described more completely.
Basis of concern: The Water Resources Development Act (WRDA) of 1990, Section 308 limits structures built or substantially improved after July 1, 1991 in designated floodplains not elevated to 100-year flood levels from being included in the benefit base.
Significance of concern: Medium.
Recommendation to resolve concern: Provide confirmation that the structure inventory being used in the economic analysis is compliant with WRDA 1990, Section 308 and document this in the Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
The structure inventory has been reviewed. It is believed that the structures used in the inventory are compliant with WRDA 1990 Section 308. Both counties have been included in the National Flood Insurance Program, and both have been aware of the regulations regarding development within floodplains.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018
Current Comment Status: **Comment Closed**

7067764 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The table headings should be more descriptive of what's displayed in the tables.
Basis of concern: Many of the tables that include values (e.g., damages, benefits, costs) do not have headings stating the discount rate (when appropriate), price level, period of analysis, and unit values (e.g., $1,000s, $Millions, etc.) used in the analysis.
Significance of concern: Medium.
Recommendation to resolve concern: Revise table headings to include the discount rate (when appropriate), price level, period of analysis, and units.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
Table headings have been revised to more clearly present discount rate, price level, period of analysis, and units, where appropriate in Appendix B: Economics.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018
Current Comment Status: **Comment Closed**

7067769 Risk Assessment N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The HEC-FDA results, in relation to the engineering/economic uncertainties used in the model(s), may have to be explained further. (Risk Analysis.)
Basis of concern: The distribution of damages reduced for the recommended plan should be reported so that an assessment can be made in regard to the consistency between the results and the engineering/economic uncertainties modeled in HEC-FDA; any significant difference between the EAD results when computed in HEC-FDA with and without uncertainty may need to be explained.
Significance of concern: Medium.
Recommendation to resolve concern: Include in the Economic Appendix a table showing the distribution of damages reduced for the recommended plan; verify whether or not there is a significant difference in EAD when HEC-FDA is run with and without uncertainty; if there is a significant difference provide an explanation as to why this may be the case.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
A table has been added as Table B-3 in Appendix B:
Economics. In addition, with and without risk FDA calculations were developed. The differences between with and without risk were within 20-25 percent.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 17 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018
Current Comment Status: **Comment Closed**

7067770 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The prevention of damages to the wastewater treatment plant may have to be described more fully.
Basis of concern: The derivation of damages and benefits associated with WWTP should be documented in the Economic Appendix.
Significance of concern: Medium.
Recommendation to resolve concern: Include in the Economic Appendix more details that describe the assumptions, data, and methodology used to calculate benefits associated with the prevention of damages to the WWTP.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

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1-0 Evaluation **For Information Only**
Damages were estimated for each annual percent chance exceedance flood event. The tables, assumptions, and calculations used when calculating the benefits associated with flood risk reduction to the WWTP are included in Appendix B: Economics.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
Please include a table showing the damages to the WWTP for each annual chance exceedance (ACE) event. Please also include the depth of flooding at the WWTP for each ACE event and the percent damages (depth-damage curve) assumed for each ACE event.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
The basis for the damage to the WWTP came from previous studies and discussions with the City of Jackson. The levee was overtopped for the 1979 flood and was very close to overtopping during the 1983 flood. Some damage on lower flows is assumed due to seepage and groundwater intrusion. A table with the frequency estimates has been added to Appendix B: Economics, Section III, page 23 (pdf page 27). The elevation of most of the plant is approximately 15 feet below the non-certified local levee; therefore, when this levee is compromised, the entire plant is anticipated to be impacted. This information is stated in Appendix B: Economics, Section III, page 22 (pdf page 26), last paragraph and in the first three paragraphs on page 23 (pdf page 27).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 02 2018

Current Comment Status: **Comment Closed**

7067772 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: With a project in place, is there zero chance of flooding to the wastewater treatment plant?
Basis of concern: The report notes that 100% of damages to the WWTP will be reduced.
Significance of concern: Medium
Recommendation to resolve concern: Verify that residual risk to WWTP is zero when either alternative is implemented and provide supporting data/information.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
It is true, there would be some risk, although greatly reduced when the levee is upgraded. The language in Appendix B: Economics, Section 3 has been updated. Damages were estimated for each annual percent chance exceedance flood event. The tables, assumptions, and calculations used when determining the benefits associated with flood risk reduction to the WWTP are included in the appendix. Variance in the estimated damages in large flood events for the WWTP will be updated as more data is gathered.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7067773 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Review concern: Benefits of the prevention of emergency costs.
Basis of concern: The derivation of benefits associated with emergency activities should be described.
Significance of concern: Medium
Recommendation to resolve concern: Include in the Economic Appendix how benefits associated with the prevention of emergency costs were calculated.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
More detailed descriptions of emergency cost have been included in Appendix B: Economics, Section 3.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Open Comment**
Table B-10 (Summary of Evacuation and Reoccupation Benefits) includes recreation benefits. This table seems out of place. Please include the correct table that includes evacuation/reoccupation benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
That was an oversight. The correct table has been included as Table B-10, on page 19 (pdf page 23) in Appendix B: Economics, Section III.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Open Comment**
Noted.

Please check the math in Table B-10. Damage reduction benefits for both Alternatives B and C do not add up.

Also, please edit the "Debris Removal & Gutting" category title (column 1 of Table B-10) as there is a misplaced damage value ($105,806) in the middle of the title.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 02 2018

3-0 Evaluation **For Information Only**
Table B-10 will be reviewed for updates and adjustments as necessary.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

3-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jun 05 2018
Current Comment Status: **Comment Closed**

7067775 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Benefits of the prevention of evacuation/reoccupation costs.
Basis of concern: The value per structure used to estimate benefits for the Pearl River FRM were taken from another study; this value is based on flooding characteristics specific to the New Orleans area, which may differ from the flooding characteristics in the Pearl River study area.
Significance of concern: Medium
Recommendation to resolve concern: Provide data/information that supports the applicability of using benefits per structure derived for the New Orleans study area, where flooding is deep and of long duration.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
The New Orleans Data was the best available date for the estimated evacuation and reoccupation. This area is only 2-3 hours south of the study area, and the study area was actually home to many of the evacuees during the event referenced. The language in Section 3 of Appendix B: Economics has been updated, specifically under "Evacuation and Reoccupation Costs" to clarify.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018
Current Comment Status: **Comment Closed**

7067777 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Expected annual damages (EAD) to roads and bridges is unclear.
Basis of concern: The text in the "Roads and Bridge Damage" section notes that without-project EAD to roads/bridges were estimated to be $89,100; Table B-13 indicates that without-project EAD for roads/bridges is $753,360.
Significance of concern: Medium
Recommendation to resolve concern: Clarify EAD for roads/bridges; make any necessary revisions to the report.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
Descriptions clarifying the different EAD for roads and bridges has been added to the report in Appendix B: Economics, Section 3.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Open Comment**
A table showing a summary of project benefits by damage/benefit category (similar to Table B-13 in the previous version of Appendix B) should be included in the current version of Appendix B.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
A table summarizing project benefits has been added back as Table B-16 in Appendix B: Economics, Section III, page 28 (pdf page 32).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 02 2018

Current Comment Status: **Comment Closed**

7067779 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Cost savings associated with decreased land fill as a National Economic Development (NED) benefit category.
Basis of concern: Claiming benefits associated with future development of the floodplain may be contrary to the intent of EO 11988 or Section 308 of WRDA 1990.
Significance of concern: Medium
Recommendation to resolve concern: Provide additional rationale as to why this is a legitimate NED benefit category that should be included in the benefit calculation; include this explanation/rationale in the Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
Appendix B: Economics has been updated to more clearly present that these are intensification benefits. These benefits have been estimated based upon land availability and with respect to lowering of the profiles in some areas.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
Please clarify at which point over the period of analysis was it assumed that the project (Alternative C) would be able to realize intensification and location benefits (i.e., time line of land formation).

How were land value projections made? Please include supporting data.

Please include supporting data regarding time line of new land formation with the project in place.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
The intensification benefits of the project were estimated to start at the beginning of the project (year one) and continue for the life of the project. This has been clarified in Appendix B: Economics, Section III, page 26, paragraph 1 (pdf page 30). Table B-14 presents the future estimates for waterfront real estate.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 27 2018

2-1 Backcheck Recommendation **Open Comment**
Please explain how $10,221,521 in location benefits (Table B-16) were derived from the values in Table B-14.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 04 2018

3-0 Evaluation **For Information Only**
Per Comment 2-0, the intensification benefits were estimated at the beginning of the project and continue for the life of the project. As discussed in Appendix B: Economics, pages 23-26, it is understood that all of these benefits will not happen immediately, but over the life of the project. Therefore, an annual analysis was used to estimate these benefits. The intensification and location benefits shown in Table B-14 are not annualized. The value referenced from Table B-16 is a conservative annualized estimate of the location benefit of Alternative C.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

3-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jun 05 2018

Current Comment Status: **Comment Closed**

7067780 Economics N/a n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The savings in wastewater treatment costs may need to be explained more fully.
Basis of concern: The derivation of average annual benefits associated with the costs savings in wastewater treatment should be documented.
Significance of concern: Medium.
Recommendation to resolve concern: Include in the Economic Appendix an explanation of how the benefits associated with the cost savings in wastewater treatment were calculated and the assumptions used to estimate these benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
Damages were estimated for each frequency event. Less than $1,000,000 damages were estimated for events for 25 years and less. The 50-year event and above assumed $100,000,000 to $200,000,000 damages based on information presented by the City of Jackson as expected damages if another 1979 event would occur. The treatment plant was severely damaged during that event.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
Please include a table in the Appendix showing the damages to the WWTP by annual chance exceedance (ACE) event, the depths of flooding at the WWTP for each ACE event, and the percent damages assumed at various depths of flooding (depth-percent damage curve).

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
The basis for the damage to the WWTP came from previous studies and discussions with the City of Jackson. The levee was overtopped for the 1979 flood and was very close to overtopping during the 1983 flood. Some damage on lower flows is assumed due to seepage and groundwater intrusion. A table with the frequency estimates has been added to Appendix B: Economics, Section III, page 23 (pdf page 27). The elevation of most of the plant is approximately 15 feet below the non-certified local levee; therefore, when this levee is compromised, the entire plant is anticipated to be impacted. This information is stated in Appendix B: Economics, Section III, page 22 (pdf page 26), last paragraph and in the first three paragraphs on page 23 (pdf page 27).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 04 2018

Current Comment Status: **Comment Closed**

7067781 Risk Assessment N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Use of exceedance probability-stage curves versus the use of exceedance probability-discharge curves in conjunction with stage-discharge (rating) curves in HEC-FDA. (Risk Analysis)
Basis of concern: Using only the exceedance probability-stage curve captures only uncertainty in stage and not discharge.
Significance of concern: Medium.
Recommendation to resolve concern: Provide rationale for why only exceedance probability-stage curves were used.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
By using the model for a river rather than a coastal setting, then the probability-flow relationship is usually used. Flow is in cfs and is usually designated by (Q). The flow of water leads to a stage. The flow is also an input to the model and the equivalent record length is applied to the probability-flow relationship just like the stage. The stage is really the determining factor for the damages.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
I believe the FDA models reviewed originally used exceedance probability-stage curves and not discharges.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
As stated in the Economic Appendix on page 11 (pdf page 15), the stage-probability relationship was used for HEC-FDA Model calculations. Due to the detailed analysis of the flow duration curve and the rigorous analysis of these flows in prior studies, it is believed that most of this uncertainty is captured.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 27 2018

2-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 04 2018

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Current Comment Status: **Comment Closed**

7067783 Risk Assessment N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Use of older version of HEC-FDA. (Risk Analysis)
Basis of concern: The economic modeling was performed using HEC-FDA v1.2.5, which has since been superseded by a newer version.
Significance of concern: Medium.
Recommendation to resolve concern: Convert economic model to HEC-FDA version 1.4.1 (May 2016 version).

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

1-0 Evaluation **For Information Only**
The model has been updated to the current version of HEC-FDA 4.1. These results have been used to update the data in Appendix B and the report.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7067784 Risk Assessment N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Current condition of existing levees/geotechnical levee fragility. (Risk Analysis)
Basis of concern: In areas where there are existing levees, does flooding occur due to overtopping of the levees or can flooding occur from a levee breach (prior to overtopping)?
Significance of concern: Medium.
Recommendation to resolve concern: Please clarify the flooding mechanisms; also, if flooding can occur from a levee breach prior to overtopping, please clarify in which reaches geotechnical levee fragility curves were used.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 17 2017

Revised Jul 18 2017.

1-0 Evaluation **For Information Only**
Fragility curves for the West and East Levee were used to develop the levee plans, which also drew on documents from previous studies and the levee certification report. The calculations were based on the conditions at RM 288.15. Levee reinforcement with the excess fill and lowering of the flowlines for the annual 0.2% chance exceedance flood event below the top of the levee, risk is dramatically reduced with Alternative C. Updated HEC-FDA runs with refined calculations regarding risk will be updated as the development of the TSP progresses.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 21 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7068800 Planning - Plan Formulation N/a Executive Summary - Project Benefits page vii n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: Total annualized benefits of the TSP should be reported in addition to the annualized net benefits.

b.Basis for Concern: ER 1105 -2-100, Appendix H states that all annualized benefits should be reported, including monetary and non-monetary as well as incidental benefits (benefits that are not used for project justification). (page H-46).

c.Significance: Medium.

d.Action to Resolve: use the example table 2A on page H-47 as a template for how costs and benefits should be displayed and reported.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

Revised Jul 20 2017.

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1-0 Evaluation **For Information Only**
Tables reporting costs and benefits, including those in Appendix B: Economics, have been updated using table 2A on page H-47 as a template.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
The Executive Summary only reports the annualized NET benefits rather than the annualized benefits prior to subtracting the costs of the project. Please include total annualized benefits. Include Table B-16 from the Economic Appendix in the Executive Summary.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 14 2017

1-2 Backcheck Recommendation **Close Comment**
The Executive Summary has been updated with the requested table to display the annualized benefits.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
The table detailing Equivalent Annual Benefits and Cost for Alternative C has been added to the Executive Summary (Integrated Draft FS/EIS, Executive Summary, page xiii; pdf page 15).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Closed**

7068804 Planning - Plan Formulation N/a Executive Summary - Project Costs page vii n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: The total project cost and the annualized OMRR&R costs should not be added together.

b.Basis for Concern: The annual costs and benefits must be reported in order to display the net benefits associated with the recommendation. The document states that the TSP is $319,600,000, including implementation costs and annualized OMRR&R costs. The costs should be reported as "total first costs" which includes all implementation costs but excludes OMRR&R. The total first cost should then be annualized and the annualized OMRR&R should be added at this time for a total annual cost. ER 1105-2-100, Appendix H notes that project costs and benefits should be "computed to an annual equivalent basis" (page H-46). Appendix H provides an example of how this should be displayed.

c.Significance: Medium.

d.Action to Resolve: use the example table 2A on page H-47 as a template for how costs and benefits should be displayed and reported.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

Revised Jul 20 2017.

1-0 Evaluation **For Information Only**
Tables reporting costs and benefits, including those in Appendix B: Economics, have been updated using table 2A on page H-47 as a template.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
The Project Cost Section of the Executive Summary still states that the estimated cost of the TSP is $345,850,000 which includes annualized OMRR&R costs. OMRR&R costs should be annualized and then added to the annualized construction cost, not the total project cost. Table B-16 from the Economic Appendix correctly shows the OMRR&R added to the Annual Cost. Include Table B-16 in the Executive Summary for clarification.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 14 2017

1-2 Backcheck Recommendation **Close Comment**
The Executive Summary has been updated and includes the requested table which displays OMRR&R costs as part of the annualized cost computation rather than as part of the Total Project Cost.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
The table detailing Equivalent Annual Benefits and Cost for Alternative C has been added to the Executive Summary (Integrated Draft FS/EIS, Executive Summary, page xiii; pdf page 15).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Closed**

7068806 Planning - Plan Formulation N/a Executive Summary - Benefit-Cost Ratio page vii n/a

NOTICE TO READER – This document contains deliberative discussions between Rankin Hinds Pearl River Flood and Drainage Control District ("FCD") and the US Army Corps of Engineers ("USACE"). Substantive edits and revisions to the referenced documents have been made after this report was produced. The remaining open comments are resolved in the Final FS/EIS and/or USACE Decision Document. The reader should not rely on this report as a final position of FCD or the USACE.

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: the Benefit-Cost Ratio should be displayed as the remainder of the annualized benefits minus the annualized costs.

b.Basis for Concern: the document states that "the annualized net project benefit estimate of $21,724,576 and the project cost estimate of $319,600,000, the Benefit-Cost ratio for the TSP is 2.6." The annualized costs, rather than the total project cost, should be subtracted from the annualized benefits in order to determine the net annualized benefits. The annual benefits should then be divided by the annual costs to determine the benefit-cost ratio.

c.Significance: Medium.

d.Action to Resolve: use the example table 2A on page H-47 as a template for how costs, benefits and the benefit-cost ratio should be displayed and reported.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Tables reporting costs and benefits, including those in Appendix B: Economics, have been updated using table 2A on page H-47 as a template.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
The Executive Summary has not been modified to display how the benefit cost ratio is derived. Annualized benefits and costs should be reported so that the benefits can be divided by the costs to determine the BCR. Table B-16 from the Economic Appendix correctly shows how the BCR was derived - please include it in the Executive Summary.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 14 2017

1-2 Backcheck Recommendation **Close Comment**
The Executive Summary has been updated with the requested table which displays how the benefit cost ratio is derived.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
The table detailing Equivalent Annual Benefits and Cost for Alternative C has been added to the Executive Summary (Integrated Draft FS/EIS, Executive Summary, page xiii; pdf page 15).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Closed**

7068809 Planning - Plan Formulation N/a General Comment n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Floodplain Management Plan)

a.Review Concern: A floodplain management plan must be prepared to inform the local community of the anticipated future condition with the project and identification of any residual risk remaining after project construction.

b.Basis for Concern: ER 1105-2-100, Appendix E requires the preparation of a floodplain management plan.

c.Significance: Medium.

d.Action to Resolve: provide an update on the status of the floodplain management plan.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

Revised Jul 20 2017.

1-0 Evaluation **For Information Only**
All municipalities and counties within the project area have floodplain management ordinances and are members of the NFIP. The proposed updated floodplain will be included with the final document. Upon FEMA, USACE, and State of Mississippi approval of the new floodplain, each of the municipalities and counties within the study area will update their ordinances. Appendix C: Engineering, Real Estate Plan, Section 9 has been updated to include this information.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Open Comment**
Section 9 (Real Estate Plan) of Appendix C includes the statement "Zoning and floodplain ordinances associated with this project will be updated as needed". Specific mention should be given to the preparation or updating of the Floodplain Management Plan pursuant to Section 402 of the Water Resources Development Act (WRDA) 1986 as amended (33 USC §§ 701b-12). Suggest providing a link to the City's or County's Floodplain Management Plan in the Feasibility Study.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

1-2 Backcheck Recommendation **Close Comment**
Section 8.1.2 (Non-Federal Responsibilities) of the Feasibility Report has been updated to include the requested language regarding the requirement to prepare or update Floodplain Management Plans.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
Information with respect to accessing the city and county Floodplain Management Plans has been included in Appendix C: Engineering, Real Estate Plan, Section 9.1, 9.2, and 9.3 on pages 15 and 16 (pdf pages 502-503).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018
Backcheck not conducted
Current Comment Status: **Comment Closed**

7068814 Planning - Plan Formulation N/a General Comment n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Terminology – Use of the term "Flood Risk Management" in lieu of "Flood Damage Reduction".

a.Review Concern: USACE is transitioning from the concept of flood damage reduction to a broader focus on flood risk management defined as managing both floodwaters to reduce the probability of flooding (such as structural approaches like levees and dams) and floodplains to reduce the consequences of flooding.

b.Basis for Concern: USACE National Flood Risk Management Program Initial Guidance lays out the rationale and strategies for this evolution.

c.Significance: Medium.

d.Action to Resolve: conduct a global change throughout the report and appendices from flood damage reduction to flood risk management.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
The terminology within the report and appendices has been changed to 'flood risk management.'

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
The report includes the phrase "flood damage risk management". This should be changed to "flood risk management" (pages vii, 5,127) Other locations with "Flood Damages" should be changed to "flood risk" (pages viii, 11, 15,16,94)

Submitted By: Sara Schultz [redacted] Submitted On: Dec 14 2017

1-2 Backcheck Recommendation **Close Comment**
The report has largely been updated to reflect the terminology of "flood risk". There are a couple of remaining instances of "flood damage" which should be updated on pages 2 and 6. The occurrence on page 12 is fine to leave as is since that is quoting language used at the time of the authorization. To summarize, the focus should be on the broader flood risk to people and structures rather than just damage to structures.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
"Flood damage risk management" has been changed to "flood risk management" on pages vii (pdf page 9; line 4-5), 5 (pd page 23; paragraph 1 of Section 1.1) , and 127 (pdf page 145, line 12). Additionally, on pages viii (pdf page 10; line 26), 11 (pdf page 29; line 12), 15 (Section 1.4, first paragraph), 16 (pdf page 24, blue box #1), and 94 (pdf page 112, Table 3-2, Objectives cell 1), the phrase "flood damages" was changed to "flood risk."

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018
Backcheck not conducted
Current Comment Status: **Comment Closed**

7068815 Planning - Plan Formulation N/a Section 1.3 - Need for Action page 13 n/a

NOTICE TO READER – This document contains deliberative discussions between Rankin Hinds Pearl River Flood and Drainage Control District ("FCD") and the US Army Corps of Engineers ("USACE"). Substantive edits and revisions to the referenced documents have been made after this report was produced. The remaining open comments are resolved in the Final FS/EIS and/or USACE Decision Document. The reader should not rely on this report as a final position of FCD or the USACE.

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Problems are not defined.

a.Review Concern: Problems must be clearly defined since these are the foundation of the plan formulation – we must have a clear understanding of what the study is trying to do. All the remaining steps in the planning process build off of this.

b.Basis for Concern: ER 1165-2-209 (Guidance for implementation of Section 203 studies) Appendix B (page B-1) states that the problems should be identified to support the rationale for why the study is needed and to facilitate the formulation of all reasonable alternatives that would potentially satisfy the need for a project.

c.Significance: Medium.

d.Action to Resolve: Suggest that the problems be written as: 1) Severe rainfall in the Upper Pearl River Watershed causes a high risk of downstream flooding in the study area. 2) High risk of flooding threatens critical infrastructure, including an existing wastewater treatment facility; 3) Flooding in the study area impacts transportation and evacuation routes.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
The problem statement has clarified in the main report and in Appendix A: Plan Formulation, Section A.1.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
The problem statements have been greatly improved however, the 4th Problem statement on page 6 in Section 1.2 is confusing and is somewhat redundant with the first problem statement. Consider combining the 2 statements to say: "Severe rainfall in the headwaters of the Upper Pearl River Watershed causes a high risk of downstream flooding in the study area, threatening approximately 5,000 structures.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 14 2017

1-2 Backcheck Recommendation **Open Comment**
The Feasibility Report has been updated as requested however the Plan Formulation Appendix still includes the 4th problem statement.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
The statements on page 6 (pdf page 24, blue box) have been combined to improve clarity.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

3-0 Evaluation **For Information Only**
The box in Appendix A has now been updated to match the problem statements as presented in the main report.

Submitted By: Blake Mendrop [redacted] Submitted On: Jun 01 2018

3-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Jun 05 2018

Current Comment Status: **Comment Closed**

7068818 Planning - Plan Formulation N/a Section 1.5 - Goals and Objectives pages 17-18 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Focus on Flood Risk.

a.Review Concern: the study goal and objectives should focus on reducing flood risk rather than just flood damages.

b.Basis for Concern: USACE is transitioning to focus on flood risk management beyond just reducing flood damages.

c.Significance: Medium.

d.Action to Resolve: Suggest that the goal be written as: "Provide a comprehensive solution to reduce the flood risk from the Pearl River in the Jackson metropolitan area." The objectives could be rewritten as " 1) Reduce flood risk in the Jackson metropolitan area through the year 2065; 2) Improve access to transportation routes and critical care facilities during flood events; 3) reduce the risk of flooding to critical infrastructure, specifically the Savanna Street WWTP;

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

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1-0 Evaluation **For Information Only**
The goals and objectives listed in Appendix A: Plan Formulation, Section A.1.2 have been updated and clarified.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
The first objective in the Feasibility Report (page 16) continues to focus on flood damage.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017
Current Comment Status: **Comment Closed**

7068822 Planning - Plan Formulation N/a Section 1.5 - Goals and Objectives page 18 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Objective should reflect problem or opportunity.

a.Review Concern: Objectives should be responses to either a problem or opportunity that has been identified. The last objective ("Integrate environmental design features into flood risk reduction features to conserve or improve natural resources") does not appear to be a response to any of the problems or opportunities discussed.

b.Basis for Concern: Objectives are the link between the identification of the problems and opportunities and the formulation and evaluation of the alternatives. The objectives help us determine if the alternatives are addressing the problems and opportunities. The lineage between these steps of the planning process must be clearly shown.

c.Significance: Medium.

d.Action to Resolve: add an opportunity "Provide environmental design features to conserve and improve natural resources".

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
The goals and objectives listed in Appendix A: Plan Formulation, Section A.1.2 have been updated and clarified.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
The FS/EIS and Appendix A have been updated as shown.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 14 2017
Current Comment Status: **Comment Closed**

7068825 Planning - Plan Formulation N/a Section 3.0 - Plan Formulation - Contraints page 98 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: the first 2 identified planning constraints ("not adversely impact flood elevations upstream or downstream of the study area", and "should not adversely impact the water supply being provided by the existing withdrawal at RM 290.7") are not expressly planning constraints. These are both situations that could be mitigated if they actually were a result of the identified plan.

b.Basis for Concern: There are very few actual planning constraints. Constraints are restrictions that limit the planning process (ER 1105-2-100) however it is more useful to let the planning process show that impacting these items would not be the most cost effective approach. For example, a new water intake facility could be constructed however the cost of doing so could be prohibitive and when this cost is added to the alternatives, it could cause the alternative to be less cost effective than other alternatives.

c.Significance: Medium.

d.Action to Resolve: delete these items as planning constraints. Consider adding them as a local concern or consideration.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
The USACE Vicksburg District assisted in rescoping and plan formulation early in this process, in part by providing feedback on the initially developed constraints. Those comments and suggestions were utilized to help modify and refine the initial list into the current list of constraints used moving forward in the planning process. Although we understand some things can be mitigated, these constraints were developed with respect for concerns from previous plans and other issues that have taken place since the 2006 Draft Report.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Open Comment**
The FS/EIS and Appendix A have been updated as noted however the 2nd paragraph within Section 3.2 (Planning Constraints) of the FS/EIS should be moved to Section 3.3 since it pertains to the Screening Criteria.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 14 2017

1-2 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
The information from that paragraph has been moved on page 95 (pdf page 113).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Closed**

7068826 Planning - Plan Formulation N/a Section 3.2.1 - Screening Criteria page 99 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Restructure Outline format

a.Review Concern: The Screening Criteria should be displayed as Section 3.3 rather than Section 3.2.1 as a subsection within the Planning Constraints.

b.Basis for Concern: the screening criteria are separate from the constraints. The constraints are used to help formulate alternative. The screening criteria are used to evaluate the alternatives.

c.Significance: Medium.

d.Action to Resolve: restructure the outline format to present the screening criteria as Section 3.2.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Screening Criteria has been moved to Section A.3 within Appendix A: Plan Formulation.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
The FS and Appendix A have been modified to reflect the comment.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

7068828 Planning - Plan Formulation N/a Section 3.2.1 - Screening Criteria page 99 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Effectiveness

a.Review Concern: the definition of effectiveness is whether the alternative addresses one or more of the identified objectives.

b.Basis for Concern: the effectiveness criterion establishes whether the alternatives are solving the problems as articulated by the objectives.

c.Significance: Medium.

d.Action to Resolve: modify the definition of effectiveness.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Table A.3 in Appendix A: Plan Formulation has been updated accordingly.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
The FS and Appendix A have been modified to reflect the comment.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

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7068829 Planning - Plan Formulation N/a Section 3.2.1 - Screening Criteria page 99 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Completeness

a.Review Concern: the definition of completeness is whether or not the alternative relies on other actions to obtain the benefits stated.

b.Basis for Concern: the completeness criterion establishes whether the benefits of the alternatives can be realized without additional actions.

c.Significance: Medium.

d.Action to Resolve: modify the definition of completeness.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Table A.3 in Appendix A: Plan Formulation has been updated accordingly.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
The FS and Appendix A have been updated to reflect the comment however, please note that completeness should focus more on whether the benefits claimed can be achieved by the project alone or if additional actions would be needed to achieve those benefits. The focus of the completeness criterion should not be on the realization of the objectives since this is covered by the effectiveness criterion.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

7068894 Planning - Plan Formulation N/a Section 3.2.1 - Screening Criteria page 99 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Completeness

a.Review Concern: the first 3 sub-bullets listed under Completeness (Reduction of flood risk, Reduction of transportation impact risk, Reduction of other infrastructure risk) should be used to help define Effectiveness rather than Completeness.

b.Basis for Concern: the listed sub-bullets reference the objectives, which are a measure of the effectiveness of the alternative.

c.Significance: Medium.

d.Action to Resolve: modify the sub-bullets for Completeness and Effectiveness.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Table A.3 in Appendix A: Plan Formulation has been updated accordingly.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
The FS and Appendix A still include the sub-bullets which are measures of effectiveness rather than completeness. Suggest removing these and focusing on the degree to which the actions achieve the stated benefits.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

1-2 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
The sub-bullets have been removed from the description of 'completeness' in Table 3-3 on page 96 (pdf page 114) and the report has been updated.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Closed**

7068897 Planning - Plan Formulation N/a Section 3.2.1 - Screening Criteria page 99 n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Acceptability

a.Review Concern: the definition of acceptability is "the viability of the alternative plan with respect to acceptance by State and local entities and the public and compatibility with existing laws, regulations and public policies".

b.Basis for Concern: the definition of Acceptability should not be based on whether there are outstanding issues with the alternative however these may come in to play in determining whether the alternative is acceptable.

c.Significance: Medium.

d.Action to Resolve: modify the definition of acceptability.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Table A.3 in Appendix A: Plan Formulation has been updated accordingly.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
The FS and Appendix A have been modified to reflect the comment.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

7068903 Planning - Plan Formulation N/a Section 3.2.1 - Screening Criteria page 99 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Principles and Guidelines (P&G) paragraph 1.6.2(c))

Efficiency

a.Review Concern: A plan is efficient if there are no other plans that provide the same level of output or benefits for less cost.

b.Basis for Concern: Efficiency is not based on the total project cost, the O&M cost or the B/C ratio.

c.Significance: Medium.

d.Action to Resolve: modify the definition of efficiency.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Table A.3 in Appendix A: Plan Formulation has been updated accordingly.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
The FS and Appendix A have been updated to reflect the comment.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

7069326 Cost Engineering N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Appendix)

1.OBSERVATION: 3 Alternatives are provided for review:

Alt A: Full real estate acquisition including structures, demo exceeding $2B.

Alt B: $556M

Alt C: $320M

Submitted By: Jim Neubauer [redacted] Submitted On: Jul 18 2017

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1-0 Evaluation **For Information Only**
Appendix C: Engineering, Cost Engineering has been modified to updated the cost for 2017.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
No further action.

Submitted By: Jim Neubauer [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

7069330 Cost Engineering N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Appendix) [**Critical/Flagged.**]

2.Table 1 Presentation:

a.Levees and Floodways are correctly called Levees and Floodwalls in accordance w/ USACE work breakdown structure.

b.Present contingencies separately to confirm they are included.

c.Include date of table to understand what year of money is presented.

Submitted By: Jim Neubauer [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Appendix C: Engineering, Cost Engineering has been modified to updated the cost for 2017.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
Engineering Appendix Table 3.1, 4.1 do not clearly identify contingency values. Table 3.1 does not present contingencies. Table 4.1 Contingency column for construction is blank. Clearly present the engineering processes and resulting contingency values. Include the risk "Input and Results" tab.

Submitted By: Jim Neubauer [redacted] Submitted On: Dec 15 2017

2-0 Evaluation **For Information Only**
The "Input and Results" tab for Alternative A, B, and C have been added to Appendix C: Engineering, Cost Analysis in Tables 2.1 (Appendix C: Engineering, Cost Analysis, page 2; pdf page 354), 3.2 (Appendix C: Engineering, Cost Analysis, page 7; pdf page 359), and 4.2 (Appendix C: Engineering, Cost Analysis, page 13; pdf page 365), respectively.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

7069332 Cost Engineering N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Appendix) [**Critical/Flagged.**]

3. Contingencies – CONCERN: Tables indicate that Alt B contingency approximates 25%. Alt C approximates 20%. Both appear low at this level of project study. Also, the contingencies do not appear to be risk based and lack basis of value. ER 1110-1-1300 and ER 1110-2-1302 require risk-based contingency development. SIGNIFICANCE: VERY HIGH. The lack of risk analyses results in lower contingencies and does not communicate the higher risks. The Low contingencies do not fully capture likely final costs and could be misleading. RESOLUTION: This reviewer has provided the cost engineer w/ a standard process employed by USACE that results in contingencies and risk registers describing the major risks. The final has not yet been provided for further review.

Submitted By: Jim Neubauer [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Contingencies have been updated using the risk base analysis provided by the USACE.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
Back calculations suggest this was performed. It should be clearly presented in tables.

Submitted By: Jim Neubauer [redacted] Submitted On: Dec 15 2017

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2-0 Evaluation **For Information Only**
The "Input and Results" tab for Alternative A, B, and C have been added to Appendix C: Engineering, Cost Analysis in Tables 2.1 (Appendix C: Engineering, Cost Analysis, page 2; pdf page 354), 3.2 (Appendix C: Engineering, Cost Analysis, page 7; pdf page 359), and 4.2 (Appendix C: Engineering, Cost Analysis, page 13; pdf page 365), respectively.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

7069333 Cost Engineering N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Appendix)

4. Alt B Estimate – CONCERN: The Alt B cost presentation is at a higher level than Alt C and lacks sufficient detail to review or fairly, confidently compare to Alt C. SIGNIFICANCE: VERY HIGH. RESOLUTION: Provide an estimate basis to at least the same cost detail and level as Alt C for a more confident comparison.

Submitted By: Jim Neubauer [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
As stated, a detailed cost analysis done by the USACE for a previous study was used and updated accordingly for Alternative B. Alternative C does not have as many cost items as the plan does not require pumps. However, cost estimates have been updated to include additional information not previously contained in Appendix C: Engineering, Cost Engineering.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Alternative level study resulting in a Class 4 estimate presentation is acceptable.

Submitted By: Jim Neubauer [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

7069334 Cost Engineering N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Appendix)

5. Alt B & Alt C Estimates – CONCERN: There appears an abundance of LS costs, EA costs and lack of any quantity development or backup data that supports the estimate development. This renders less confidence and the likely outcome would be higher contingencies. SIGNIFICANCE: VERY HIGH. RESOLUTION: Provide the scope and quantity data that was used to calculate/establish the presented costs, at least for the major cost features/elements.

Submitted By: Jim Neubauer [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
As stated, a detailed cost analysis done by the USACE for a previous study was used and updated accordingly for Alternative B. Alternative C does not have as many cost items as the plan does not require pumps. However, cost estimates have been updated to include additional information not previously contained in Appendix C: Engineering, Cost Engineering.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Presentation appears improved.

Submitted By: Jim Neubauer [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

7069335 Cost Engineering N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Appendix)

6. Notes and Assumptions – CONCERN: The titles associated with the various cost items lack sufficient detail to adequately describe what is being estimated. The estimate products lack notes and assumptions that further cost confidence. BASIS ER 1110-2-1302. SIGNIFICANCE: HIGH. RESOLUTION: Provide sufficient notes that help the reader understand the cost basis.

Submitted By: Jim Neubauer [redacted] Submitted On: Jul 18 2017

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1-0 Evaluation **For Information Only**
The Cost Engineering Section of Appendix C has been updated to include notes with sufficient detail about the estimates to improve confidence in the cost basis.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Improvements noted.

Submitted By: Jim Neubauer [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

7069337 Cost Engineering N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Appendix) [**Critical/Flagged.**]

7.Alt C Unit Prices – Example CONCERNS:

a.Dredging (placement) at $3.50/CY seems low.

b.Slurry Trench at $2.25/SF seems exceptionally low as compared to standard USACE slurry trenches near $45/sf.

c.Concrete Structure at $155/CY appears to be just the concrete. Structural concrete installed should approximate $500-800/CY.

RESOLUTION: Study the unit prices further.

Submitted By: Jim Neubauer [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Unit prices and quantities were reviewed, adjusted, and/or updated for many work items in Appendix C: Engineering, Cost Engineering.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
Some estimate data presented suggests costs back to year 2006. Explain processes applied to bring costs to 2016 or 2017 values.

Submitted By: Jim Neubauer [redacted] Submitted On: Dec 15 2017

2-0 Evaluation **For Information Only**
For Alternative C, the cost data was not dated back to 2006. However, cost data for Alternative B was brought forward from 2006. Language has been added to Appendix C: Engineering, Cost Engineering, Section 3.0, paragraph 1 (page 4; pdf page 356) to clarify how the costs were brought forward to 2016 values.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

7069528 Hydraulics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Climate Change does not seem to be addressed in the report or appendices.
Basis: The "Incorporating Climate Change" file was given in the review package, but it is ECB Guidelines only; the other documents of the report do not discuss climate change. The Environmental FEIS file discusses the climate but not future predictions or climate change.
Significance: Rather high since the report contains thousands of pages and there is no mention of how the project relates to climate change; though, I'm not certain that it is required for this project.
Action: Recommend adding text or figures that explain how the H&H looked at future conditions in regards to climate change.

Submitted By: Thomas Gambucci [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
The FS/EIS considered numerous flood events including up to the annual 0.2% chance exceedance flood event. This process analyzed past maximum rain events and subsequent flows. Nevertheless, we will review the data in comparison with ECB 2016-10 and the Climate Hydrology Assessment Tool and include the results. It should be noted that current USACE policy (ECB 2016-10) only requires a qualitative analysis and "does not require a quantitative assessment of how climate change might impact probable maximum flood (PMF) magnitudes for a particular study area." Furthermore, the ECB states that "projections of climate changes and their associated impacts to local-scale hydrology that may occur in the future can be highly uncertain..." and there is "no consensus how extreme storms will evolve in the future...." Accordingly, any results from this process must be considered in this context.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Close Comment**
Concur, a qualitative analysis is fine. The quote from the ECB in your evaluation text would be good to include in the report somewhere for people who are looking that this issue was addressed.

Submitted By: Thomas Gambucci [redacted] Submitted On: Nov 21 2017

Current Comment Status: **Comment Closed**

7069550 Risk Assessment N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Geotechnical levee fragility curves. (Risk Analysis)
Basis of concern: The use of fragility curves is not described in the Economic Appendix.
Significance of concern: Medium.
Recommendation to resolve concern: Please describe the geotechnical fragility curves, clarify where (in which reaches) they were used, and show the comparison between the without-project fragility curves and the with-project fragility curves. Include the description/explanation in the Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 18 2017

Revised Jul 18 2017.

1-0 Evaluation **For Information Only**
Fragility curves for the West and East Levee were used to develop the levee plans, which also drew on documents from previous studies and the levee certification report. The calculations were based on the conditions at RM 288.15. Levee reinforcement with the excess fill and lowering of the flowlines for the annual 0.2% chance exceedance flood event below the top of the levee, risk is dramatically reduced with Alternative C. Updated HEC-FDA runs with refined calculations regarding risk will be updated as the development of the TSP progresses.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 21 2017

1-1 Backcheck Recommendation **Open Comment**
Please include in Appendix B the without-project levee fragility curves used in the HEC-FDA analysis; please also include the with-project levee fragility curves, if applicable.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
Causes of failure other than overtopping or sources of uncertainty for existing levees include surface erosion, internal erosion (piping), underseepage, and slides within the levee embankment or foundation soils. Information on levee performance during past floods and review of previous studies indicate the likely modes of levee failure would be through seepage or overtopping for the existing levees. Fragility curves were developed using existing performance data from past events, including the 1979 flood. These fragility curves have been included in Appendix B: Economics, Amendment 1 (page 31; pdf page 35).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 04 2018

Current Comment Status: **Comment Closed**

7069585 Real Estate N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: Incorrect calculation of LERRD costs
and Total Project Costs
Basis: Model PPA and ER 405-1-12

LERRD includes fair market value of lands required to be provided and value of facility relocations required. NFS owned lands and the value of the estates needed for the project are to be included in this calculation even if already owned by the NFS. The REP is unclear as to whether the value of the 1120 acres "in control of the local sponsor" are included in the real estate cost estimate. It also appears that the $27.8M estimate does not include facility relocations. The REP baseline cost estimate needs to include a lot of additional detail as required by para. 12-18 of ER 405-1-12.

This issue may have resulted in the LERRD costs being understated in plan evaluation and with regard to the applicability of RE PGL 31. Please review and correct as needed.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

Revised Jul 18 2017.

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1-0 Evaluation **For Information Only**
Appendix C: Engineering, Real Estate Plan has been updated per ER-405-1-12. The local sponsor will own the land.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
1. I believe RE PGL 31 has been incorrectly applied to this study and a gross appraisal should have been prepared for the estimated land values. The REP should be annotated to describe the method or basis used to prepare the real estate land cost estimates.

2. The only incidental costs broken out in the TSP cost estimate are for appraisal production. Why are there no other incidental costs included for negotiations, title work, deed preparation, legal description and survey work and condemnations?
3. Ordinarily, such a cost estimate would also include federal labor cost estimates for review of the LERRD provided by the NFS both for construction and crediting. If LERRD crediting or a federal construction contract is anticipated in the future, then those costs should be added to the overall REP baseline costs. 12-18
4. The total LERRD (lands and damages) costs include utility/facility relocation costs and lands required for mitigation.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
Please see attached pdf for complete response.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 01 2018 (Attachment: Comment_7069585_Response.pdf)

2-1 Backcheck Recommendation **Close Comment**
Close with comment:
1. Per ER 405-1-04, 4-17, cost estimates may be used where value of lands is not expected to be greater than 10% of project costs, but same policy also says cost estimates are not supposed to be used in decision or authorization documents. This report is a decision document. If a cost estimate is used, the increased risk must be identified in writing. So, I non-concur with narrative that a cost estimate is appropriate for this report. Nevertheless, the NFS has produced a gross appraisal. The appraisal report should not be included in the report, but rather the key points and conclusions summarized. This reviewer is not qualified to review the gross appraisal which ordinarily would be reviewed by a USACE review appraiser.

Close with comment: 2 and 3. Still do not see the break out of administrative costs per original comment and back check, but total costs included with contingencies should be sufficient.

Close with comment: 4. Utility relocation costs have been included in the REP. However, non-concur with suggestion utility/facility relocations are not Relocations/LERR based on CECW-P 2011 Memo definitions. Indeed there are variances by law with regard to how utilities are treated for deep draft commercial harbor projects, but that is not this project's fact scenario and the $12M utility adjustments for this project need to be analyzed to see if they qualify as relocations and therefore treated as LERR NFS costs in the 02 account.
Concur that mitigation land costs are not creditable as LERR but are cost shared construction costs. However, the land requirements and costs must still must be included in the REP as land requirements and described accordingly. Per ER 405-1-12, LER required to support mitigation must be acquired before commencement of construction of the project or it must be acquired concurrently with the LER required to support the basic project purpose, whichever the Secretary of the Army, or his designee, determines is appropriate.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jun 05 2018
Current Comment Status: **Comment Closed**

7069594 Real Estate N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: Not Compliant with Corps Policy
Basis: ER 405-1-12

The REP is not in accordance with the guidance in Chapter 12 of the above cited regulation.

The Final Report RE Appendix needs to address the twenty required elements or explain why the element is not applicable to the proposed project. This only needs to be done for the selected plan.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

Revised Jul 18 2017.

1-0 Evaluation **For Information Only**
Appendix C: Engineering, Real Estate Plan has been updated per ER-405-1-12.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Open Comment**
There are still deficiencies in the level of detail provided:

1. 12-16c (17) HTRW - the report indicates a landfill will require partial removal and other mitigation/remediation measures. ER 405-1-12 requires "a concise discussion of the impacts on the real estate acquisition
process and the LER value estimate due to known or suspected presence of contaminants that are located in, on, under, or adjacent to the LER required
for the construction, operation or maintenance of the project including LER that is subject to the navigation servitude and must also disclose whether clean-up or other response actions of non-CERCLA regulated material will be required to implement the project and, if the project is cost shared, who will be responsible for performing, and paying the costs of
performing such work, as between the Government and the non-Federal sponsor. I could not find this information in the REP or the main report.
2. 12-16c (16) Appendix C cost estimate identifies a bridge removal for the TSP. This should be discussed in the REP utility/facility section as to whether it is a LERRD cost item and if not, why not.
3. 12-16c (7) It is mentioned in the REP that some of the lands for the channel improvement are within the navigation servitude limits, but the report doe snot address whether the servitude is available and will be exercised for the project.
4. 12-16c (11) I could not find mention in the REP for the TSP (ALT C) that there are no residential or business relocations required.
5 12-16c (12) No recommendation or rationale is in the REP on the acquisition of mineral rights where fee is the recommended estate.
6. 12-16c (5)What does the NFS own, if anything, as a part of the existing federal project with the footprint of the proposed TSP (ALT C)?
7. Recommend the REP be written only for the TSP (ALT C).

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
Please see attached pdf for complete response.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018 (Attachment: Comment_7069594_Response.pdf)

2-1 Backcheck Recommendation **Close Comment**
1. The REP remains incomplete on this item. It merely refers to Appendix C. Pere ER 405-1-12, the REP should discuss and provide a map of lands known to be or potentially contaminated with hazardous substances regulated by CERCLA. For property valuation/costs used in the report and for crediting later, the value would be as if a response action has already occurred. The NFS will have to bear 100% of the cost of the investigations and response action outside of project costs unless the lands are subject to navigation servitude. The NFS remediates prior to acquisition of lands and USACE project commitments. NFS answer seems to propose something different that will have to be addressed by civil works policy makers. Some of the response narrative provided is helpful bit it is not in the report.
2. I don't understand the response "the cost reflects the contingency of the potential cost of upgrades to existing bridges if possible impacts occur." If this is not a facility adjustment required by the project (relocation), then this sounds like betterments that cannot be part of project costs.
3. Discussion of the servitude needs to be added to the REP. If the servitude is available, the USACE policy is to apply it where possible to eliminate unnecessary NFS land acquisition and costs/credits.
4. No additional comment.
5. Do not concur REP is sufficient on mineral discussion. Statement of no known mineral activity is not an analysis of risk assessment if proposal is to leave mineral interests in third parties outstanding.
Discussion in response should be added to report.
6. The REP discusses approximately 1,120 acres as owned by the local sponsor or communities
that are members of the local sponsor, Rankin-Hinds Flood and Drainage Control District. If a PPA is signed by RHFDCD, then they will need to own all of the lands for construction and OMRR&R. Ownership of necessary project lands by members of the District will likely cause implementation and PPA non-standard language issues.
7. No further comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jun 05 2018
Current Comment Status: **Comment Closed**

7069608 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: The EAD and benefits reported for the Savannah Street WWTP.
Basis of concern: From looking at the HEC-FDA results and the numbers reported in the Economic Appendix, it is unclear what the EAD and benefits are for the Savannah Street WWTP. The report indicates that EAD for the WWTP is about $2.9 million; the HEC-FDA model indicates that in the damage reach called "Treatment Plant" EAD is approximately $62,000.
Significance of concern: Medium.
Recommendation to resolve concern: Please clarify 1) the EAD and benefits for the WWTP 2) explain what structures/damageable property are included in the "Treatment Plant" reach as delineated in the HEC-FDA model and 3) Revise the statement in the report (in the "Waste Water Treatment Plant" section) that indicates that damages to the WWTP would be reduced by 100% by either plan (Comprehensive Levee Plan or the Channel Improvement Plan). Based on the EAD and damages reduced/benefits results displayed in Table B-13, damages to the WWTP would not be reduced by 100%.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 18 2017

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1-0 Evaluation **For Information Only**
It is true, some risk would remain, although it would be greatly reduced when levee is upgraded. The language in Appendix B: Economics, Section 3 has been updated accordingly. Damages were estimated for each annual percent chance exceedance flood event. The tables, assumptions, and calculations used when calculating the benefits associated with flood risk reduction to the WWTP are included in Appendix B: Economics. Variance in the estimated damages for the WWTP concerning large flood events will be updated as more data is gathered.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018
Current Comment Status: **Comment Closed**

7069678 Real Estate N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: fulfilling NFS duties
Basis: PPA responsibilities

It is my understanding the Rankin Hinds Flood and Drainage Control District is going to be the construction Sponsor. The required LERRD will need to be owned by the District if they are the sole construction sponsor. The REP discusses land "in control of" the District or communities that are members of the District. First, "in control of" is unclear from a real property perspective. Does this mean fee ownership of the lands? How does ownership of lands by community members of the District, but not the District, support the District's ability to meet the PPA requirement for LERRD as the NFS? The final REP must clarify the implementation plan for ownership of the LERRD by the NFS or address multiple project sponsors.

Submitted By: Paula Johnson-Muic [redacted]. Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Appendix C: Engineering, Real Estate Plan has been updated per ER-405-1-12. Local Sponsor will own the land.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
Recommend deletion of "in control of" language still in the REP. If left in, this language confuses the issue of title to the required lands which must be titled in the name of the NFS in order for construction to proceed.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7069688 Real Estate N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Real Estate Cost Estimate
Basis: Need to capture all possible LERRD costs in the final feasibility report. ER 405-1-12, Chapter 12.

The REP states that after feasibility level design, any real estate interests needed for non-structural measures will be identified. Will this be done in time to include in the final feasibility REP? Possible requirements must be addressed in the report, even if assumptions have to be made or contingency costs used to cover the potential costs. This needs to be clarified in the final REP.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Appendix C: Engineering, Real Estate Plan has been updated per ER-405-1-12. All lands needed for project have now been included in the real estate cost estimate.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
My concurrence is based on my understanding that there are no non-structural elements in the TSP, Alternative C.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018
Current Comment Status: **Comment Closed**

7069699 Real Estate N/a n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: Non-standard estates
Basis: ER 405-1-12, Chapter 12

The standard estates required should be identified by number and interests in lands owned by the NFS to be utilized for the project that do not match the standard estates need to be identified in the report using the exact language that requires approval.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Appendix C: Engineering, Real Estate Plan has been updated per ER-405-1-12. All lands needed for project have now been included in the real estate cost estimate.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
The REP for Alternative C describes "standard temporary easements and fee. However, the REP fails to identify the specific standard estates that will be used in support of the project features. For example, fee will be acquired, but which one of our four standard fee estates will be used? Choosing depends on the report recommendation for how to handle mineral rights. The REP likewise need to spell out what temporary or permanent easements will be used and for what construction or O&M purpose to address all aspects of excavation, construction, disposal, laydown, borrow areas and so on. Will a permanent channel improvement easement be used or a levee easement? If fee is planned for these features, then the report needs to explain why it is needed. LERRD crediting in a future phase will be limited to the value of the minimum required estate.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
The intent is for the local sponsor to own (fee) all lands within and adjacent to the channel improvement to the limits of the outside of the fill areas. It is not known at this time how many temporary easements would be needed. It is assumed that some will be needed for access, but these would be minimal. The local sponsor having all lands in fee simple takes care of most access, maintenance and construction items regarding real estate. This language has been added to Appendix C: Engineering, Real Estate Plan, page 2, paragraph 2 (pdf page 489).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Non-concur because REP still does not list the standard estates to be used from Chapter 12 of ER 405-1-12. We have several different fee estates, so which one is recommended and why? Which "temporary easement"?

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jun 05 2018
Current Comment Status: **Comment Closed**

7069702 Real Estate N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: Requirements for a REP
Basis: ER 405-1-12, Chapter 12

A Non-Federal Sponsor Capability analysis must be included in the final report.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
The final report will include a non-federal sponsor capability analysis.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
For item 1d and 1e of the analysis provided, please explain the basis for the statement that the non-federal sponsor can acquire and condemn lands outside of the sponsor's political boundary.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
The Backcheck Recommendation asks for the basis of our statement that the non-federal sponsor can acquire and condemn lands outside its political boundary.

The Rankin-Hinds Pearl River Flood and Drainage Control District (i.e., the non-federal sponsor) is organized under Miss. Code Ann. § 51-35-301 et seq. The District's powers are set forth at § 51-35-315, which provides two bases for acquiring and condemning land outside the District's political boundaries. Section 51-35-315(f) empowers the District to acquire, by any manner other than condemnation, any property or any interest therein "within or without the boundaries of the district, necessary for the project." Section

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51-35-315(g) empowers the District to acquire by condemnation any property or any interest therein "within or without the boundaries of the district, necessary for the project." Moreover, subsection (g) specifies that the District's right of eminent domain is superior and dominant to the rights of utilities, railroads, and other companies or corporations.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Please include the information in Evaluation 2 in the Real Estate Plan or note in the capability assessment itself.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: May 11 2018
Current Comment Status: **Comment Closed**

7069729 Real Estate N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Utility and Facility Relocations
Basis: Chapter 12 of ER 405-1-12

Relocations based on principles of just compensation are part of LERRD. The cost of the facility adjustment is paid by the NFS in exchange for the real property rights needed for the project. All of these costs are to be include in the 02 account and are a part of LERRD NFS costs. Upgrades or betterments are not part of project costs or eligible for credit. The final REP will need a great deal more detail on this element and the applicability of PGL 31 will need to be laid out.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Facility/Relocation cost has been updated and is included in Appendix C: Engineering, Real Estate Plan.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
I do not concur that Real Estate PGL 31 is applicable to this study. It is a Corps process for projects that are following the "smart" planning principles, and this study/report, to my knowledge, is not such a study, but instead is governed by ER 1105-2-100 and Par. 12-17 of ER 405-1-12 Chapter 12. I recommend all references to the PGL be removed from the report and REP.

In the REP, page 15, a draft attorney opinion outline has been provided. When the opinions on the affected utilities are completed, the results should be summarized in the REP narrative, but the legal opinion itself should not be attached or otherwise incorporated into the REP.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
References to PGL 31 have been removed. The attorney's opinion had been removed and replaced with Appendix C: Engineering, Real Estate Plan, Section 10.0 Utility Relocation, page 16 (pdf page 503).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jun 05 2018
Current Comment Status: **Comment Closed**

7069770 Real Estate N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Voluntary Seller
Basis: Policy Compliance

Please explain how the land acquisition discussion in the Main Report, page 227, from willing sellers for non-structural solutions, is policy compliant with Corps guidelines for FDR projects. How will this be implemented with land acquisition for the structural project that will not be voluntary?

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Alternative A is presented as the nonstructural solution and is considered evacuation of the floodplain. A detailed real estate plan for this alternative was not performed and only estimated based on structure values and relocations assumed as percentage of rea estate values. This alternative would not be voluntary. For Alterative C, with the lack of induced flooding, Appendix C: Engineering, Real Estate Plan has been updated to follow ER-405-1-12. Cost and benefits associated with voluntary buyouts has been removed and updated. Although some structures would remain in the floodplain, flood risk has been greatly reduced with lowering of the flowlines.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

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1-1 Backcheck Recommendation **Close Comment**

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7069773 Real Estate N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: Multiple Project Purposes

The Main Report at page 227-228 discusses recreation and environmental project features. The requirements for LERRD must be broken out by project purpose in the REP narrative and baseline cost estimate. This may impact crediting and cost share percentages.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
Lands for recreation are not separate as this land is included in the areas needed for excavation and disposal.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
If fee lands are required for other project features, then I concur with the response as long as the REP describes all project features, including those for recreation, and the intent to locate them on fee lands acquired for other project purposes. However, many of the other project features like the levee, or channel improvement may only require a permanent easement and not fee. These easements will not support the recreation features which require a fee estate. If the latter is the case, then my initial comment still applies. The REP needs a more detailed description of the standard estates required for the project features.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
The Real Estate Appendix is being updated and finalized with updated information from the brief gross appraisal. While still waiting on the finalized appraisal, the initial valuation does come within 10% of the preliminary real estate estimates in this report. Information from the appraisal will be added to the report upon receipt of the final document. The final real estate appendix will clarify that all lands will be obtained in fee.

Submitted By: Blake Mendrop [redacted] Submitted On: Mar 01 2018

2-1 Backcheck Recommendation **Close Comment**
Non-responsive to the comment.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jun 05 2018

Current Comment Status: **Comment Closed**

7069774 Real Estate N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

The REP does not address disposal requirements. Is all of the excavated fill going to be used to create the new levees or is there a need for disposal easements or some other real property requirement? This needs to be addressed in the REP for completeness. Access road requirements must also be addressed.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
All disposal will be placed behind the levees and other areas identified within the real estate plan to be acquired for the project. Although the precise location is not known, a cost for temporary easements has been included in the real estate plan.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Accepting response because this will also be further addressed in the resolution of comment 7069699.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018

Current Comment Status: **Comment Closed**

7069776 Real Estate N/a n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

The Main Report contains costs for mitigation, but the REP does not address LERR for mitigation. This must be resolved in the final report.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jul 18 2017

1-0 Evaluation **For Information Only**
The final report will include the mitigation plan and LERRD needs.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
The cost estimate for the TSP does not include the fee lands for mitigation in the Lands and Damages total. See Table 3.2 of App. C. All lands required for the project construction and any mitigation for the construction are to be included in the LERRD total. In addition, facility relocation costs are also a part of LERRD. So, for Alt. C, the total lands (LERRD) costs are closer to 43.7M, not 19.2M. The REP has been corrected to include both the mitigation land and utility relocation costs.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jan 08 2018

2-0 Evaluation **For Information Only**
See response to ID 7069585, question #4. As stated in response to ID 7069585, there are no facility relocations required for the project. Regarding the comment on mitigation land costs, they are not required to be included within the LERRD's. Regardless, we are preparing a Brief Gross Appraisal and have identified mitigation land costs within the REP.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Mitigation land costs and not part of LERR, but are construction costs and cost shared so original comment was in error. However, the REP must include a discussion of the land requirements for mitigation per ER 405-1-12, Chapter 12.

Submitted By: Paula Johnson-Muic [redacted] Submitted On: Jun 05 2018

Current Comment Status: **Comment Closed**

7070404 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Description of Alternative C in regard to new land formation and location benefits.
Basis of concern: The Economic Appendix does not include a description on Alternative C but indicates that, "In the case of the Alternative C channel improvements/weir, the land use is changing due to the floodplain limits changing and new land being formed."
Significance of concern: Medium.
Recommendation to resolve concern: Include a detailed description of Alternative C (and also Alternative B) in the Economic Appendix and explain where and how new land is formed with Alternative C in place.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 19 2017

1-0 Evaluation **For Information Only**
Noted. More detailed description of the plans has been added in Appendix B: Economics.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7070405 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Source of data/information used to estimate location benefits.
Basis of concern: The report used to estimate location benefits is not included in the Economic Appendix, which makes it difficult to evaluate the location benefit analysis as well as the report/analysis that the location benefit analysis is based upon.
Significance of concern: Medium-High. (This concern is considered Med-High because location benefits make up a large percentage of total benefits.)
Recommendation to resolve concern: Include in the Economic Appendix the Economic Research and Associates (ERA) analysis/report.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 19 2017

1-0 Evaluation **For Information Only**
More details have been added to Appendix B: Economics regarding location benefits.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

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1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7070407 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Unit Day Values (UDV) used for recreation benefits.
Basis of concern: Outdated UDVs from 2013 were used in the analysis.
Significance of concern: Medium.
Recommendation to resolve concern: Update recreation benefit analysis using October 2016 UDVs from Economic Guidance Memorandum (EGM) 17-03.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 19 2017

1-0 Evaluation **For Information Only**
UDV's updated using EGM17-03 has been included in the Appendix B: Economics. Additionally, two (2) line items previously left out of have been added to the calculations.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7070408 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Derivation (calculation process) of recreation benefits.
Basis of concern: Table B-13 indicates recreation benefits of approximately $4 million. How was this calculated?
Significance of concern: Medium-High. (This concern is considered Med-High because recreation benefits comprise a large percentage of total benefits.)
Recommendation to resolve concern: Show calculation in Amendment 1 – Recreation Benefits.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 19 2017

1-0 Evaluation **For Information Only**
Recreation calculations are included in Appendix B, Amendment 1.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7070409 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Readability of Economic Appendix.
Basis of concern: The report has grammatical and typographical errors.
Significance of concern: Medium.
Recommendation to resolve concern: Proofread report.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 19 2017

1-0 Evaluation **For Information Only**
Noted

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

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7070410 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Total benefits for the "Lake" project/Alternative C as listed in Tables B-13 and B-14 respectively.
Basis of concern: The total benefits ($35,297,554) listed in Table B-13 are not consistent with the total benefits ($35,295,554) listed in Table B-14.
Significance of concern: Medium.
Recommendation to resolve concern: Reconcile total benefits listed in Tables B-13 and B-14. Revise Economic Appendix.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 19 2017

Revised Jul 19 2017.

1-0 Evaluation **For Information Only**
Table B-13 and Table B-14 have been updated and revised.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Please include tables that summarize damages, benefits, costs, BCRs, and net benefits by damage/benefit category and by alternative.

Tables B-13 and B-14 in the original version of the report, which summarized damages, benefits, costs, BCRs, and net benefits, are not included in the current version of the report.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
Table B-13 has been added back to the report as Table B-16 (Appendix B: Economics, page 28; pdf page 32). Table B-14 was revised as Tables B-17 through B-20 (Appendix B: Economics, pages 29-30; pdf pages 33-34) to satisfy various other comments that the information within Table B-14 should be presented in accordance with example table 2A on page H-47 of ER 1105-2-100.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Noted.

Submitted By: Timi Shimabukuro [redacted] Submitted On: May 04 2018

Current Comment Status: **Comment Closed**

7070417 Economics N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Review concern: Price level and discount rate.
Basis of concern: The Economic Appendix indicates that the analysis was performed using an October 2013 price level and a 3.25% discount rate.
Significance of concern: Medium.
Recommendation to resolve concern: Update the analysis using an October 2016 price level and a current discount rate of 2.875%.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jul 19 2017

1-0 Evaluation **For Information Only**
The analysis has been updated with the most recent price levels and discount rate for 2017.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Timi Shimabukuro [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7071776 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: The purpose and need of the project (or the goals and objectives for that matter) do not discuss the level of protection are seeking, or needing to provide?
Nature of Concern: This is critical as it helps to not only lay the foundation for alternatives development, but the evaluation of alternatives, cumulative impacts, and ultimately whether or not the selected alternative is the Least Environmentally Damaging Practicable Alternative (LEDPA, per CWA).
Significance: Major as it impacts other aspects of the EIS.
Recommendation: Clarify what level of flood level reduction is needed, and why.

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Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**

The "least environmentally damaging practicable alternative (LEDPA)" requirement arises out of 40 CFR § 230.10(a), which does not allow a Section 404 permit to issue if there is a practicable alternative that is less environmentally damaging than the preferred alternative. This project is not seeking a Section 404 permit; it is a Congressionally authorized federal USACE project. As acknowledged at 33 CFR § 336.1(a), "the Corps does not process and issue permits for its own activities." Accordingly, this project will proceed under USACE Engineering Regulations and Guidance such as the USACE Planning Guidance Notebook, ER 1105-2-100.

Moreover, even if this were not a USACE project, specific authorization for the project comes from WRDA 2007 § 3104. The statute allows the project to be constructed if it "is environmentally acceptable and technically feasible." ER 1105-2-100, in turn, defines "acceptability" as containing two dimensions: implementability and satisfaction. Implementability is a project's feasibility "from technical, environmental, economic, financial, political, legal, institutional, and social perspectives." Satisfaction is defined as the satisfaction a plan brings to governmental entities and the general public, with the USACE acknowledging "the extent to which a plan is welcome or satisfactory is a qualitative judgment." (ER 1105-2-100 at E-4)

Accordingly, the test for whether a plan is "environmentally acceptable" is substantially more subjective and less stringent than whether it is the LEDPA. This project is not required to meet the LEDPA standard, but only to be environmentally acceptable. The report need not address whether Alternative C is the LEDPA because that standard is inapplicable.

Alternative B is not a "practicable alternative" in that it provides less flood reduction benefits than Alternative C, which benefits have been calculated to be the NED Plan. Moreover, as required by EO 11990, Alternative C "includes all practicable measures to minimize harm to wetlands which may result" from the project, as set forth in section 4.5.8.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**

I don't believe the existing authorization language and referenced USACE policy allows the project to proceed without meeting the requirements of the CWA. We (USACE) still have a federal responsibility to demonstrate why the impacts we are having, especially as it relates to CWA, are reasonable and practicable. Even if our mitigation ensures no net loss of wetlands (which is a requirement) we need to demonstrate why these impacts are acceptable or practicable. We can shift away from explaining a desired level of flood protection within the Purpose and Need. However, the report should include further discussion or rationale for why we need this specific alternative (with its associated impacts), and why we don't have other reasonable or practicable options with similar or acceptable FRM benefits that avoid, minimize or reduce the predicted wetland impacts. I don't believe the existing discussion comparing the TSP to Alternative B is extensive enough to demonstrate we've selected the LEDPA. I recommend adding discussion in the report explaining why there are no other options or reasonable way we can avoid the nearly 2,000 acres of wetland impacts the TSP would have and provide similar or acceptable FRM benefits. We should explain specifically why we have selected the LEDPA.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 05 2018

2-0 Evaluation **For Information Only**

The Backcheck Recommendation emphasizes a need to demonstrate why the recommended plan is reasonable and practicable. First, this is at odds with (and expands upon) the original Question, which stated the Commenter's belief that we need to ultimately show why the preferred alternative is also the least environmentally damaging practicable alternative, or LEDPA. As set forth in our original Response, this project is proceeding under – and is in compliance with – the CWA and WRDA 2007 § 3104. As the Backcheck Comment uses the term "reasonable and practicable" we will assume this is an agreement with the authorities cited in our Response, showing the project need not be the LEDPA but instead may be approved as long as it is "environmentally acceptable."

Second, the Draft EIS report contains more than sufficient explanations for Alternative C as the most reasonable and practicable approach to providing the necessary flood protection. As set forth in Section 3 of the draft report, Alternative A is incredibly cost prohibitive, as its implementation would exceed $2 billion.

In comparing Alternatives B and C, the draft report is detailed in explaining why Alternative B is both more costly and less effective than Alternative C. Section 3 of the draft report illustrates that Alternative B would carry an implementation cost of $729,413,400 and annual maintenance and operation costs of $2.2 million. Alternative, C, on the other hand, would cost $345,849,000 to implement and $650,000 annually for maintenance and operation. Section 3.7 compares the benefits of the two plans: Alternative B would provide some flood protection but with 28 miles of levees, it would carry a risk of overtopping or failure. It would also provide very little storage behind the levees which requires an extensive pumping system. Alternative C brings with it more wetlands impact than does Alternative B, but it also has potential water-quality benefits due to its removal of solid waste and its reduction or elimination of the leaching of contaminants into the Pearl River – features missing from Alternative B. In addition, as set forth at Section 5.3, Alternative C will include a fully developed mitigation plan for unavoidable adverse impacts.

As stated within Section 3.6 of the main report, the design event was the annual 1% chance exceedance flood event. However, consideration to the 0.5% chance event was given, which is equivalent to the the size of the 1979 flood event during which the levees.Alternative C reduces the reliance on levees alone and thus the risk of overtopping and problem areas behind the levees, as well as including recreational and economic benefits that Alternative B lacks.

For all these reasons and more, as fully set forth in the Report, Alternative C is the most reasonable and practicable option, providing the best flood protection and additional benefits for the lowest cost.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

NOTICE TO READER – This document contains deliberative discussions between Rankin Hinds Pearl River Flood and Drainage Control District ("FCD") and the US Army Corps of Engineers ("USACE"). Substantive edits and revisions to the referenced documents have been made after this report was produced. The remaining open comments are resolved in the Final FS/EIS and/or USACE Decision Document. The reader should not rely on this report as a final position of FCD or the USACE.

Backcheck not conducted

Current Comment Status: **Comment Open**

7071777 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 2.4.7 does not support well how transportation is impacted by various floods.
Nature of Concern: There is key information that is not included that provides important context for transportation impacts via flooding. At what point do key highways become unusable? How frequently does that happen (level of flood event)? For how long? (duration of closure: hours, days, weeks?).
Significance: Moderate
Recommendation: Provide context for the level of flooding that impairs key highways. Include an update to Figure 2-18 for flood levels below a 500-year event. That is an extremely rare flood, and it would be helpful to understand what roads are blocked by a 100-year event. How long would this type of flood last? This same type of information would be helpful for discussion on railroads.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Updated information concerning transportation impacts has been included in section 2.4.7.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Section 2.4.7 still does not describe the level of impact to flooding outside of a 500-year event, which is a rare flood. It would help to understand what the risks and impacts also look like for a 100-year event, including what the duration of the impact to transportation might be for this type of event.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
Figure 2-19 in Section 2.4.7 on page 54 (pdf page 72) presents the number of miles impacted for a range of flood events. Additionally, a detailed analysis of rerouting costs are included in Table B-12 of Appendix B: Economics (page 22; pdf page 26). Typical re-routing costs were calculated using a 7-day duration to estimate impacts.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 27 2018

2-1 Backcheck Recommendation **Close Comment**
Revisions would address comment.

Submitted By: Elliott Stefanik [redacted] Submitted On: May 16 2018

Current Comment Status: **Comment Closed**

7071779 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: The screening criteria in Section 3.2.1 are substantially flawed.
Nature of Concern: Within "Effectiveness," it's never defined what an "acceptable" level of flood damage reduction is. Similarly, for "Completeness," almost any alt by definition could meet this metric: reduction of flood risk. It's also not clear where "Environmental design features for habitat conservation" fit into any of the alternatives, or analysis of alternatives. Lastly, we must better describe what makes an Environmental Impact "acceptable," particularly for wetlands. We have substantial wetland impacts, but no explanation why these are "acceptable."
Significance: Critical.
Recommendation: We need to clarify the level of FRM sought, and why. We also need to better describe the screening criteria so we better understand how alternatives will be screened.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
The discussion of this concern was too long to fit in this comment box. Please see the attached pdf for the full response.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017 (Attachment: 7071779.pdf)

1-1 Backcheck Recommendation **Open Comment**
I disagree with the response provided for the same general reasons provided in my response on 7071776. In my opinion we are neither compliant with, nor operating within the spirit of the Clean Water Act. The response provided does not address the original comment.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

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2-0 Evaluation **For Information Only**

The Backcheck Recommendation emphasizes a need to demonstrate why the recommended plan is reasonable and practicable. First, this is at odds with (and expands upon) the original Question, which stated the Commenter's belief that we need to ultimately show why the preferred alternative is also the least environmentally damaging practicable alternative, or LEDPA. As set forth in our original Response, this project is proceeding under – and is in compliance with – the CWA and WRDA 2007 § 3104. As the Backcheck Comment uses the term "reasonable and practicable" we will assume this is an agreement with the authorities cited in our Response, showing the project need not be the LEDPA but instead may be approved as long as it is "environmentally acceptable."

Second, the Draft EIS report contains more than sufficient explanations for Alternative C as the most reasonable and practicable approach to providing the necessary flood protection. As set forth in Section 3 of the draft report, Alternative A is incredibly cost prohibitive, as its implementation would exceed $2 billion.

In comparing Alternatives B and C, the draft report is detailed in explaining why Alternative B is both more costly and less effective than Alternative C. Section 3 of the draft report illustrates that Alternative B would carry an implementation cost of $729,413,400 and annual maintenance and operation costs of $2.2 million. Alternative, C, on the other hand, would cost $345,849,000 to implement and $650,000.00 annually for maintenance and operation. Section 3.7 compares the benefits of the two plans: Alternative B would provide some flood protection but with 28 miles of levees, it would carry a risk of overtopping or failure. It would also provide very little storage behind the levees which requires an extensive pumping system. Alternative C brings with it more wetlands impact than does Alternative B, but it also has potential water-quality benefits due to its removal of solid waste and its reduction or elimination of the leaching of contaminants into the Pearl River – features missing from Alternative B. In addition, as set forth at Section 5.3, Alternative C will include a fully developed mitigation plan for unavoidable adverse impacts.

As stated within Section 3.6 of the main report, the design event was the annual 1% chance exceedance flood event. However, consideration to the 0.5% chance event was given, which is equivalent to the the size of the 1979 flood event during which the levees.Alternative C reduces the reliance on levees alone and thus the risk of overtopping and problem areas behind the levees, as well as including recreational and economic benefits that Alternative B lacks.

For all these reasons and more, as fully set forth in the Report, Alternative C is the most reasonable and practicable option, providing the best flood protection and additional benefits for the lowest cost.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

7071780 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 3.5.3. This discussion is confusing with regard to "conveyance improvements." Is "conveyance improvement" channelization where meander bends are cut off and lost???
Nature of Concern: It's difficult to understand what exactly the impact may be.
Significance: Moderate
Recommendation: Please better explain these different features and what specifically they are (either here; or early under the measures).

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**

Appendix A: Plan Formulation, Section A.5.3 clarifies the intent and definition of conveyance Improvements.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**

Section A.5.3 does help clarify the difference between conveyance improvements and channel improvements. It would be helpful if this discussion was briefly summarized in the main report.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7071781 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 3.5.4. The discussion about the new weir is confusing and we need to be able to understand this better. 1) what does this control structure look like; 2) why do you need that for flood control, including why does providing a higher pool above the dam help with FRM (recreation is mentioned in Appendix A); 3) how does the low flow control function operate? There's a lot that's not clear on what these features are, and why they were selected.
Nature of Concern: Poor understanding of features and their purpose.
Significance: Major
Recommendation: Please better describe the purpose of these features, particularly the weir and why it's important for flood control.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

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1-0 Evaluation **For Information Only**
Section 3.5.4 has been modified. However, more detailed explanation is included in Appendix A: Plan Formulation and Appendix C: Engineering.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Description is adequate.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 05 2018

Current Comment Status: **Comment Closed**

7071783 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 3.7 states: "Plans in the final array of alternatives are assumed to provide equal level of risk reduction." However, further below (e.g., 3.7.3) it states that NED benefits are not maximized. How do you provide the same level of risk reduction, but not maximize NED benefits with an alternative that costs less?
Nature of Concern: unclear what the benefits are of alternative B
Significance: Moderate
Recommendation: Please explain better what the assumptions are of this analysis.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Section 3 has been updated to describe the benefits of the alternatives.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Section 3.8 still states: Plans in the final array of alternatives are assumed to provide equal level of risk management. However, based on the review of tables B-15 and B-16, the two plans do not provide equal levels of risk reduction. Alternative B has $21M in average annual benefits; Alternative C has $39M in average annual benefits. This can be resolved by simply removing the statement that the two plans provide equal levels of risk reduction.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 03 2018

2-0 Evaluation **For Information Only**
The sentence has been removed from Section 3.8 of the Integrated Draft FS/EIS (page 124; pdf page 142).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Revision addresses comment.

Submitted By: Elliott Stefanik [redacted] Submitted On: May 16 2018

Current Comment Status: **Comment Closed**

7071784 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 3.8 identifies the TSP, yet there appears to be little consideration for environmental impacts within the selection process. The TSP does appear to the most substantial environmental impacts, including over a thousand acres of wetland fill.
Nature of Concern: There is no explanation for why the most impactful alternative was selected as the TSP.
Significance: Major.
Recommendation: The report needs to explain how environmental impacts were considered during selection of the TSP.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
As previously discussed, the TSP does have more environmental impacts than Alternative B, but the selection of the TSP was done considering all of evaluation criteria and the planned objectives of the project. In addition, though it does have more wetland impacts than Alternative B, that is not the case with other alternatives that were considered and screened out earlier in the evaluation process. Additional information can be provided to the draft report to discuss the environmental impacts as it relates to the TSP selection process and to further explain why it is the TSP relative to the entire evaluation criteria and not the environmental impacts alone.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
The report needs to justify why the TSP impacts are warranted to clearly meet certain FRM objectives, and why these objectives can't be met with other alternatives.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

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2-0 Evaluation **For Information Only**
The Backcheck Recommendation emphasizes a need to demonstrate why the impacts of the recommended plan are warranted. As set forth in Section 3 of the draft report, Alternative A is incredibly cost prohibitive, as its implementation would exceed $2 billion.

In comparing Alternatives B and C, the draft report is detailed in explaining why Alternative B is both more costly and less effective than Alternative C. Section 3 of the draft report illustrates that Alternative B would carry an implementation cost of $729,413,400 and annual maintenance and operation costs of $2.2 million. Alternative, C, on the other hand, would cost $345,849,000 to implement and $650,000 annually for maintenance and operation. Section 3.7 compares the benefits of the two plans: Alternative B would provide some flood protection but with 28 miles of levees, it would carry a risk of overtopping or failure. It would also provide very little storage behind the levees which requires an extensive pumping system. Alternative C brings with it more wetlands impact than does Alternative B, but it also has potential water-quality benefits due to its removal of solid waste and its reduction or elimination of the leaching of contaminants into the Pearl River – features missing from Alternative B. In addition, as set forth at Section 5.3, Alternative C will include a fully developed mitigation plan for unavoidable adverse impacts. Alternative C reduces the reliance on levees alone and thus the risk of overtopping and problem areas behind the levees, as well as including recreational and economic benefits that Alternative B lacks.

For all these reasons and more, as fully set forth in the Report, Alternative C is the most reasonable and practicable option, providing the best flood protection and additional benefits for the lowest cost.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 27 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

7071785 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 4.4.7. It's unclear how Alts B and C have different flood risk for transportation. Also, it's unclear if temporary construction impacts to transportation are conveyed for these alts.
Nature of Concern: Understanding of risks to transportation.
Significance: Minor.
Recommendation: Please clarify.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Alternative B is adding levees which does not help with flood reduction of major transportation routes. Major highways through levee reaches are still impacted. Alternative C actually lowers the flood profiles, therefore improving transportation routes.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Response is confusing as 4.4.7, Alt B, states that this alternative provides benefits to most major transportation routes. The point is that the discussion does not differentiate the impacts among alternatives for transportation. It's also unclear if temporary construction-related impacts to transportation are discussed.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
Appendix B: Economics, Section III, page 21-22 (pdf pages 25-26) under infrastructure damages presents a detailed discussion on the cost of Alternatives B and C as it relates to all events and benefits to each. Construction will not impact the roads therefore temporary impacts to transportation will not be seen.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 27 2018

2-1 Backcheck Recommendation **Close Comment**
Response addresses comment.

Submitted By: Elliott Stefanik [redacted] Submitted On: May 16 2018

Current Comment Status: **Comment Closed**

7071786 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 4.5.2.2. We need to better describe the impacts of each alternative on flood levels. In addition, it's difficult to understand the importance and significance of water quantity as it relates to this project. How will this project quantity, especially as it relates to evaporation loss?
Nature of Concern: Unclear understanding of this resource category.
Significance: Unknown
Recommendation: I believe this issue is due to the uncertainty of why a new weir is included in Alt C. Ultimately we need to explain why evaporational losses are a concern for this Alt. Also we need to better explain the impacts of each alternative on flood heights, and clarify if this presents any major issues.

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Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Evaporation losses are specifically addressed in Appendix C. Discussion in Section 4 will be updated to better explain that the TSP does not add a new weir, rather it relocates a previously existing weir. The updates will also clarify why evaporational losses are a low risk impact of this project.

As referenced in Appendix A: Plan Formulation, planning constraints, including screening criteria, were used to analyze and develop a final array of alternatives. Multiple channel improvement alternatives were reviewed and analyzed hydraulically. Alternatives considered are discussed in Appendix A, and options studied include improvements around the existing weir and relocation of the weir. Extension of the channel improvements upstream of Highway 25 were found to be an important part of maximizing the flood reduction benefits by decreasing flood risk in the area between Highway 25 and the Ross Barnett Reservoir. Over excavating the floodplain increases the conveyance which reduces the flood elevations and reduces the flood risk for this plan. The preliminary weir elevation was selected to provide a cost effective balance between the amount of conveyance needed to provide flood risk management and the expense of excavation. Relocating the weir allows for the water supply to be continued while simultaneously creating a large body of water. The local sponsor is currently responsible for maintaining over 300 of the 1500 acres of the proposed body of water footprint. Vegetation control in this area is difficult and if the vegetation is not properly maintained, conveyance is restricted. This body of water not only provides recreational benefits, the depth of the water also limits the local sponsor's maintenance requirements by reducing the area where spraying, mowing, or other vegetation control is needed.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Be advised we should describe somewhere in the document how each alternative impacts flood heights and any resulting adverse impacts.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7071787 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 4.5.2.3 There is a lack of clarity on the impacts of different alts on tribs entering the river within the project area.
Nature of Concern: We need to better describe and explain this situation and impact. Are we saying tributaries are blocked during floods? How frequently? Are their connectivity impacts (fish passage)? What are the impacts of this, with impacts of pumping? Same with Alt C.
Significance: Moderate/major
Recommendation: Please better explain how each alternative operates with adjacent tributaries, and clearly describe the impacts to those tribs.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Appendix C currently discusses the impact of the TSP on tributaries within the project area. This further discussed in the Appendix C: Engineering, Hydrologic and Hydraulic Analysis, Section 4.2. Fish passage discussion are further discussed in the Appendix D: Environmental and within Section 4.5 of the main report.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
It would be helpful to bring some of this discussion into the main report.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7071788 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 4.5.2.4. For both Alts B and C, there appears to be risk of soil erosion due to the project. However the risk is poorly explained. How significant of a risk is this to the project? What about water quality, stream stability and aquatic habitat?
Nature of Concern: Poor understanding of risk for potential impacts.
Significance: Moderate.
Recommendation: Please better describe the risk to both the project and the natural environment from potential erosion due to the project.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Water quality and stream stability is discussed in more technical detail in Appendix C: Engineering. Additional soil erosion is not considered to be a major issue due to channel velocities being reduced. However, as seen in the Cost Engineering section of Appendix C, cost for channel protection is included for the channel improvement area.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

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1-1 Backcheck Recommendation **Close Comment**
It would be helpful to bring this discussion into the main report.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7071790 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: Sections 4.5.3 and 4.5.8. The TSP has substantial impacts to wetlands without an explanation for how impacts were avoided or minimized, or how the TSP is the LEDPA per CWA.
Nature of Concern: We can not selective an alternative if another practicable alternative could be selected with fewer impacts to waters of the United States.
Significance: Critical.
Recommendation: Additional information must be provided to demonstrate why this Alternative is the LEDPA, including anything we've done to avoid, minimize and mitigation project alternatives.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
The discussion of this concern was too long to fit in this comment box. Please see the attached pdf for the full response.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017 (Attachment: 7071790.pdf)

1-1 Backcheck Recommendation **Open Comment**
Comment remains open along the same logic provided in response to comment 7071776 and similar comments.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
The Backcheck Recommendation emphasizes a need to demonstrate why the recommended plan is reasonable and practicable. First, this is at odds with (and expands upon) the original Question, which stated the Commenter's belief that we need to ultimately show why the preferred alternative is also the least environmentally damaging practicable alternative, or LEDPA. As set forth in our original Response, this project is proceeding under – and is in compliance with – the CWA and WRDA 2007 § 3104. As the Backcheck Comment uses the term "reasonable and practicable" we will assume this is an agreement with the authorities cited in our Response, showing the project need not be the LEDPA but instead may be approved as long as it is "environmentally acceptable."

Second, the Draft EIS report contains more than sufficient explanations for Alternative C as the most reasonable and practicable approach to providing the necessary flood protection. As set forth in Section 3 of the draft report, Alternative A is incredibly cost prohibitive, as its implementation would exceed $2 billion.

In comparing Alternatives B and C, the draft report is detailed in explaining why Alternative B is both more costly and less effective than Alternative C. Section 3 of the draft report illustrates that Alternative B would carry an implementation cost of $729,413,400 and annual maintenance and operation costs of $2.2 million. Alternative, C, on the other hand, would cost $345,849,000 to implement and $650,000 annually for maintenance and operation. Section 3.7 compares the benefits of the two plans: Alternative B would provide some flood protection but with 28 miles of levees, it would carry a risk of overtopping or failure. It would also provide very little storage behind the levees which requires an extensive pumping system.. Alternative C brings with it more wetlands impact than does Alternative B, but it also has potential water-quality benefits due to its removal of solid waste and its reduction or elimination of the leaching of contaminants into the Pearl River – features missing from Alternative B. In addition, as set forth at Section 5.3, Alternative C will include a fully developed mitigation plan for unavoidable adverse impacts. Alternative C reduces the reliance on levees alone and thus the risk of overtopping and problem areas behind the levees, as well as including recreational and economic benefits that Alternative B lacks.

For all these reasons and more, as fully set forth in the Report, Alternative C is the most reasonable and practicable option, providing the best flood protection and additional benefits for the lowest cost.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

7071791 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 4.5.5 states: "Significant increases in aquatic and fisheries habitat associated with the channel improvements will provide an associated direct benefit to aquatic and fisheries resources." What exactly is the "benefit?" Is it simply more acres due to impoundment? And how is this a benefit we can claim?
Nature of Concern: The nature of claimed benefits is highly unclear and unsubstantiated.
Significance: Moderate
Recommendation: Better explain what exactly this weir is, why it's needed, and how changes associated with it are a benefit to aquatic habitat.

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Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
The TSP will be designed to hold minimum, normal flows. The current river channel will be enlarged, and the minimal flows and a set channel depth will be maintained through the project area. The weir structure will help maintain the minimum pool, but the area will be excavated as well to the relative depth of the existing river channel. As such, the available aquatic and fisheries habitat will have expanded by the size of the excavated channel area. In addition, significant siltation that has been occurring within the existing river channel through the project area has resulted in lower than optimal water depths for most species. We would anticipate this being a benefit to the aquatic and fisheries habitat due to the native species that are found within the riverine system and the amount of available habitat that will be provided, including the improvements in the water depths through the project area.
Additional information has been provided within the draft report to better explain the weir structure and the excavation activities. In addition, the section 4.5.5 discussion has been modified to better describe these benefits to the available habitat.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Close Comment**
In my opinion, it's debatable whether or not this is truly a "benefit" to aquatic habitat. It would be helpful to have input from State resource agencies and the USFWS on the overall project, and whether or not they consider the proposed feature a benefit. The Fish and Wildlife Coordination Act report would help fulfill this, but has not yet been provided.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

Current Comment Status: **Comment Closed**

7071792 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 4.5.5 and 5.3 discuss an adaptive management plan. However, no such plan has been created for this report, despite the clear need for mitigation and thus a monitoring plan to assess mitigation effectiveness.
Nature of Concern: WRDA 2007 requires that USACE studies include an adaptive monitoring plan for mitigation associated with USACE projects. If a plan is needed it must be included as a part of feasibility studies. This plan has specific requirements, almost none of which appears within the Feasibility Study.
Significance: Critical
Recommendation: The report must include an adaptive monitoring plan, which includes all key aspects required by ER 1105-2-100 and WRDA 2007. I can provide an overview of items to include upon request.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Discussion in the draft report about the proposed plan to develop an adaptive management plan was primariliy concerning mitigation for the potential habitat effects for the two listed aquatic species within the Pearl River channel. It was the intent to develop the adaptive management plan during the preconstruction, engineering, and design phase to provide the specifics needed to manage these potential effects. In addition, it was the intent to complete the proposed mitigation plan in detail during that same phase and include all the documentation in the final report. Section 2036 of WRDA 2007 (amending Section 906 of WRDA 1986) requires that mitigation banks shall be given first consideration, where appropriate, to offset the impacts. This review was completed, and due to the size and scope of the mitigation requirements, use of mitigation banks is not an appropriate approach for this project. Furthermore, given the other WRDA 2007 requirements, we will begin development of the adaptive management plan and mitigation adaptive monitoring plan discussion for inclusion in the draft report. We can do this to a level of detail consistent with assumptions as to what properties may be available for purchase for the habitat replacement purposes relative to the HEP analysis.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
This needs to be completed as a part of the draft report moving forward for public and vertical team review.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
Because the FS/EIS is being conducted under WRDA 1996 Section 211, not all Corps of Engineers ER and WRDA requirements are applicable. Additionally, ER 1105-2-100 does not expressly state that complete monitoring and adaptive management plans should be included within the Draft FS/EIS. Regardless, to better inform the public and the vertical team, we have revised Sections 4 and 5 to include additional information on the proposed monitoring plan and adaptive management plan goals and objectives. (Integrated Draft FS/EIS Report, Section 5.3, pages 235-242; pdf pages 253-260).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

7071794 Environmental N/a n/a n/a n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 4.5.7 and 5.3. It appears that project alternatives, including the TSP, have a potential to impact federally listed species and impact designated critical habitat. However, it doesn't appear any consultation has occurred with USFWS or NMFS.
Nature of Concern: Substantial issues related to ESA could impact the TSP. This poses a substantial risk to the project.
Significance: Critical
Recommendation: There are several steps that need to be taken. First, we need to clarify what our effects determination is for listed species and impacts to critical habitat, particularly for the TSP. I don't believe we can conclude "no effect," in which case we need to explain what has been done, and what remains in terms of consultation with appropriate agencies as it relates to ESA.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Additional information has been provided for both sections relative to the two listed species affects and the critical habitat designation. Based upon our coordination activities, the USFWS has very limited information relative to the gulf sturgeon utilization within the portion of the river within the project area. The most recent research and monitoring activities have been carried out by the USACE ERDC staff. Based upon that research and monitoring, it is concluded that there is likely no utilization of the river channel within the project area and has not been for some time. It was, however, designated as critical habitat for the gulf sturgeon.
We have also assimilated the available monitoring information on the ringed sawback map turtle that has been conducted by the Mississippi Department of Wildlife, Fisheries and Parks (MDWFP). Based upon those coordination efforts, the portion of the river through the project area has limited use from the map turtle population due to the degradation of the river channel associated with the past flood reduction efforts within the project area by the USACE. Based upon the available data, the MDWFP no longer conducts monitoring activities for the map turtle within that portion of the river through the project area.
A meeting with the USFWS and the Vicksburg District relative to the Section 7 consultation process has been held and the initiation of the formal consultation as it relates to the two listed species has begun. At this point in the process, we have not determined a "no effect" on either species but the available information does not indicate that it is not likely to lead to significant adverse effects for the existence of either species. The Biological Assessment (BA) has now been revised and will be forwarded to the USFWS for utilization during the Section 7 consultation process. At this point, the BA findings are that the TSP is likely to adversely affect both of the aquatic species but not result in jeopardy to the continued existence. In addition, revisions have been made to Section 4.5.7 and 5.3 relative to the species impacts. It should also be noted that we have added the newly listed species, the Northern Long-eared Bat to the discussions in Section 4.5.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
This consultation process should be completed to the fullest extent possible to minimize risk that project alternatives do not need to be modified to address ESA compliance.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
Originally, at the start of the FS/EIS process USACE guidance to RHPRFDD stated that USFWS consultation (and any other necessary consultation) should occur after the Draft FS/EIS was completed. More recently, USACE guidance recommended conducting all federal agency consultation after submittal of the documents to the ASA/OWPR (following WRDA 1986 Section 203 guidance, as amended by WRDA 2014 Section 1014(a). Currently, it has been determined by the USACE that Section 203 does not apply to this FS/EIS, and RDPRFDD can begin consultation with all federal agencies (USFWS with assistance from Corps District office). Accordingly, we have begun coordinating with USFWS and USEPA (along with other federal and state agencies). These activities will progress simultaneously during the close out of the ATR and the IEPR process.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
Action addresses comment. MVK should be advised that there are risks with selecting the recommended plan to far in advance of the consultation process. Modifications to the recommended plan could result.

Submitted By: Elliott Stefanik [redacted] Submitted On: May 16 2018
Current Comment Status: **Comment Closed**

7071795 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 4.5.8, Section 5.3 and the mitigation appendix is at best confusing in terms of assessing impacts and mitigation needs. It appears a regulatory analysis was performed to quantify the amount of wetlands impacted, but HEP was then used to make the analysis habitat based. This approach is fine, but we should describe this more clearly in the main report and corresponding appendix. Also, we need to do an analysis of mitigation alternatives to identify what exactly would be recommended for a mitigation action. This is less clear, and need to be better explained. At a minimum the alternative analysis doesn't include mitigation banks as one alternative. This is required per WRDA 2007. We also have to factor in cost when comparing our mitigation alternatives, and it doesn't' appear this was performed.
Nature of Concern: Lack of clarity in the mitigation analysis.
Significance: Major
Recommendation: Please clarify the mitigation needs of the project, how mitigation will be implemented, how mitigation alternatives were compared (both cost and benefits) and the real estate needs associated. This may be included but it's not well explained, and key information is at the very end of the mitigation appendix. Some of this information should be brought to the main report to better explain the mitigation and how it meets USACE policy. Please note that Civil Works policy is different than USACE regulatory policy, and we need to be careful not to

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confuse the two. We do have to meet the directive of "no net loss," but we do this in different ways than regulatory staff. Thus Section 5.3 should be edited accordingly.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**

The mitigation needs for the project are defined in terms of habitat replacement based upon the HEP analysis that was performed as per the guidance provided by the Vicksburg District. We did include, additionally, a HGM analysis and Charleston District Mitigation requirements to insure that documentation was provided that the HEP habitat replacement would also insure that the wetland mitigation requirements were met. A review of potential mitigation options relative to habitat replacement has been conducted and it appears that properties will be available to provide the replacement requirements. However, Mississippi is very limited as it regards wetland mitigation banks and the availability of wetland mitigation credits would not be such to meet the project requirements for either of the action alternatives.

Section 2036 of WRDA 2007 (amending Section 906 of WRDA 1986) requires that mitigation banks shall be given first consideration, where appropriate, to offset the impacts. This review was completed and due to the size and scope of the mitigation requirements, use of mitigation banks is not an appropriate approach for this project. Furthermore, given the other WRDA 2007 requirements, we have developed additional information for the adaptive management plan and mitigation adaptive monitoring plan discussion for inclusion in the draft report. We did this to a level of detail consistent with assumptions as to what properties may be available for purchase for the habitat replacement purposes relative to the HEP analysis.

The Section 5.3 documentation has been revised to better describe the mitigation requirements and the proposed range of habitat replacement determined by the HEP analysis. At the same time, the discussion relative to HGM has been removed and the HEP analysis will be the only reference that is made relative to habitat replacement and mitigation moving forward. In addition, comparisons relative to costs and benefits will be discussed based upon the known available properties and the associated costs for obtaining those properties. The projected costs, however, are already included in the anticipated overall project costs.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**

The mitigation discussion is improved but still lacking some specific details that the vertical team will want to see. Our mitigation discussion must include:

-Clearly list mitigation objectives. I would recommend we target to offset specific habitat unit losses linked with specific habitat types that are impacted. I would not focus only on total habitat unit losses, but habitat unit losses by habitat type. At a minimum, we need to demonstrate our project would have no net loss of wetlands; and that mitigation for bottomland forest are done "in-kind."

-Clearly list the criteria or metrics that will be used to document success or failure of mitigation. Often these are the habitat units linked with the models used to predict habitat losses. Also briefly explain how the proposed monitoring links back to the models used to estimate HUs.

-We need to clearly list both the implementation and monitoring costs for mitigation alternatives (this is almost always done in a table(s) with dollar amounts). We need to demonstrate that mitigation and monitoring costs are a part of plan comparison (average annual cost of each FRM alternative).

-Discuss the consultation process that will be used with natural resource agencies to implement adaptive management, monitoring and determining mitigation success.

-Clearly demonstrate where mitigation would most likely be done. We need to demonstrate a watershed focus, if possible.

The report does include a contingency plan, but it's basically for the local sponsor to fix anything that doesn't work. That's fine, but ensure they are OK taking on this risk.

To improve the clarity I would strongly recommend we include a specific appendix for Mitigation and Adaptive Management. This will allow the vertical team to quickly assess the key components they will be looking for related to mitigation. Mitigation and A/M has been a significant concern with similar FRM projects and will receive scrutiny.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 05 2018

2-0 Evaluation **For Information Only**

We revised the Mitigation Plan, Section 5.3 (page 235; pdf page 253) to include the objectives and to cover the items that were noted. Additional information was added to further discuss the criteria to be utilized assuming a HEP analysis would be completed on the mitigation properties at each monitoring event. Also added to the report was discussion concerning the utilization of the baseline conditions generated from the HEP analysis to quantify and assess the monitoring events and associated data.

Until the final mitigation plan is developed and specific properties identified, we do not feel there is enough information available to confidently estimate the final monitoring cost. The total cost estimated for each alternative includes the monitoring costs. For the Alternative B and Alternative C costs annualized over the 50 year period, the portion attributed to mitigation costs would be $290,000 and $600,000, respectively. At this time, approximately 10% of this cost could be estimated as the monitoring cost.

The intention to coordinate and consult with the pertinent natural resource agencies throughout the property selection, plan implementation, monitoring and adaptive management plan development and implementation processes is thoroughly discussed in

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Section 5.3 on page 241 (pdf page 259).

Section 5.3 now explicitly states properties within the Pearl River Basin will be prioritized and that the focus of the mitigation plan will be the replacement of the specific habitat unit losses within the Pearl River Basin.

The local sponsor understands the costs associated with the contingency plan implementation and appreciates that these costs would be their responsibility if needed.

At this point, discussion of the mitigation plan remains in the draft integrated FS/EIS document itself (Section 5.3, page 335; pdf page 253). The mitigation and adaptive management plan can be added to Appendix D: Environmental in the future if necessary.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 27 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

7071796 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Concern: Section 5.1, page 233 states: "The community considers Alternative C as the best plan to provide flood risk reduction, recreational benefits, and economic opportunities for the area." Recreation was not identified as a goal and objective of the project, and was not included in the Purpose and Need statement.
Nature of Concern: It appears selection of the TSP has been driven by factors not specified as a purpose or need of the project.
Significance: Potentially major.
Recommendation: Please explain why recreation is an important factor in selection of the TSP. We may we need to modify goals and objectives, as well as the Purpose and Need statement if recreation is in fact a key factor in guiding plan development and selection.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**

The Comment has three potential action items: explain why recreation is an important factor in the selection of the preferred alternative, add recreation to the goals and objectives, and add recreation to the purpose and need statement. To address these in reverse order: first, the purpose and need statement is intended to be a narrow description of the single most important purpose of the proposed activity. See 33 CFR § 325, App. B at 9(b)(4). Here, we have identified flood damage risk reduction as the primary purpose of the report and the need for the project. Therefore, recreation is not an appropriate subject for the purpose and need statement of Section 1.1.

This conclusion is consistent with the fact that several secondary benefits of the preferred alternative, all of which are more directly related to the overall purpose of flood control, are listed under "objectives" in Section 1.5. That section lists "reduce flood damages" first, and adds: 2) reduce loss of transportation routes; 3) reduce damage to critical infrastructure; and 4) integrate environmental design features to conserve or improve natural resources. The purpose of this section, then, is to set forth the goals and objectives of the project that flow directly from the main purpose of flood control.

As the Comment notes, the report sets forth that recreation will be one of the benefits of the project; however, it does not belong in Section 1.5. Goals and objectives are prospective in nature. The items listed in Section 1.5 are the goals of the project in determining federal participation and the National Economic Development project. Recreation, on the other hand, was revealed to be a benefit as the project alternatives were comparatively analyzed. In other words, contrary to the Comment's statement, the selection of the TSP was not driven by recreation. Rather, it has now become clear that the preferred alternative provides significantly greater recreational benefit than the other alternatives.

Unquestionably, Jackson – recently named the single most obese city in the United States – would see significant benefits from the increased access to outdoor recreational activities attendant to the preferred alternative. Recreation is not a purpose, goal, or objective of the project. It is an additional benefit, a data point favoring the preferred alternative.

Recreation was not used as a key factor for selecting the plan.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**

Then recreational considerations should be removed from the last two sentences of Section 5.1, pg 229. Recreation is not a consideration in selection of the TSP.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**

Recreation is not and was not a consideration in the selection of the TSP. However, the sentences in question discuss why the TSP is also the LPP, and the recreational benefits are a part of why the Tentatively Selected Plan is the Locally Preferred Plan. As it is clearly stated in the sentence on page 229 (pdf page 247), line 1-3, "The TSP creates the most economic benefits (NED) in addition to being the LPP. The community considers Alternative C as the best plan to provide flood risk management, recreational benefits, and economic opportunities for the area." Therefore, these sentences were not removed from the report.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

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2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Elliott Stefanik [redacted] Submitted On: May 16 2018
Current Comment Status: **Comment Closed**

7071797 Environmental N/a n/a n/a n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
[**Critical/Flagged.**]

Concern: Section 6. It's unclear if we have done anything to ensure compliance with the Fish and Wildlife Coordination Act.
Nature of Concern: The Fish and Wildlife Coordination Act requires USACE to coordinate with USFWS during a federal decision making process such as a feasibility study, typically to include the creation of a Coordination Act Report. Such activities including coordination with FWS and State resource agencies. There is no evidence this has occurred.
Significance: Critical.
Recommendation: Please explain what we have done during the feasibility study in terms of coordination with natural resource agencies, and what we have done to ensure compliance with the FWCA.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
We have coordinated with and included the USFWS and the MDWFP in the feasibility study process from the original scoping process moving forward. We have also had meetings with the USFWS throughout the evaluation process. We have conducted a formal meeting with the USFWS and the USACE to discuss the FWCA process, the Section 7 consultation, and plans to provide the draft documentation needed to complete both processes. At the appropriate time, a FWCA report will be included in the FS/EIS documents. In addition, we are coordinating with the USFWS relative to the completion of the adaptive management plan details for the two listed species and the potentially affected habitats.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 20 2017

1-1 Backcheck Recommendation **Open Comment**
Documentation to demonstrate compliance with FWCA will need to be included in the draft report. This will need to include specific discussion in the main report outlining how the study is in compliance with FWCA. MVD and HQ will ask for this as a part of any draft report undergoing vertical team or public review.

Submitted By: Elliott Stefanik [redacted] Submitted On: Jan 02 2018

2-0 Evaluation **For Information Only**
This Recommendation reflects some of the confusion that has consistently followed this project on the subject of FWCA compliance: specifically, the timing of when an FWCA report is required.

The USACE- Vicksburg District has gone back and forth regarding the applicability of WRDA 1986 Section 203 Guidance. It originally took the position that the guidance does not apply to the project. It then changed course, determining Section 203 Guidance did apply and providing RHPRFDD with a flowchart depicting the "remaining Review Process" for the watershed study. The flowchart begins with "close out ATR" and then lists "Begin Initial Environmental and Cultural Coordination," explicitly including coordination with the Fish & Wildlife Service. That is, until recently the Vicksburg District operated under the assumption that Section 203 Guidance was applicable, and therefore FWCA coordination would take place after the ATR process is complete.

Meanwhile, we have received conflicting information from HQ and from ATR reviewers that suggested an FWCA report should be included before the Draft EIS is complete. Recently, the confusion has been cleared up as both the District and HQ have confirmed that Section 203 Guidance is not required for this project, and therefore RHPRFDD can begin consultation with all federal agencies, including USFWS.

Accordingly, we have begun the process of coordinating with USFWS regarding the FWCA process and the Section 7 consultation. These activities will progress simultaneously during the close-out of the ATR and IEPR processes. It is our intention to include the documentation reflecting FWCA compliance and the completion of the Section 7 consultation in the final EIS.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

2-1 Backcheck Recommendation **Close Comment**
The action will address the comment, assuming the coordination occurs and we can demonstrate the process. MVK should be aware that there is risk to advancing beyond a TSP prior in advance coordination process. There is potential that the agency coordination could result in changes to the TSP.

Submitted By: Elliott Stefanik [redacted] Submitted On: May 16 2018
Current Comment Status: **Comment Closed**

7073035 Planning - Plan Formulation N/a Section 3.6 - Cost Estimates Page 127 n/a

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Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: Alternative plan costs are included but quantitative benefits are not displayed for each alternative.

b.Basis for Concern: Average annual benefits must be included in order to display the net benefits of each alternative and then identify the plan which maximizes net benefits.

c.Significance: Medium.

d.Action to Resolve: use the example table 2A on page H-47 of ER 1105-2-100 as a template for how costs and benefits should be displayed and reported

Submitted By: Sara Schultz [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Tables B-13 and B-14 have been updated using Table 2A on page H-47 of ER 1105-2-100 as a template.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Include a table in the Feasibility Report which displays the total first cost, the annual cost, the OMRR&R cost, the Annual Benefits, the Net Annual Benefits and the BCR for each of the final alternatives. This can be combined in to one table in order to easily compare the alternatives side by side.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

1-2 Backcheck Recommendation **Close Comment**
Table 3-8 has been added to the Feasibility Study to display and compare the average annual benefits of the alternatives.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
This data has been added to the report as Table 3-8 in Section 3.8.5 (page 125; pdf page 143).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Closed**

7073050 Planning - Plan Formulation N/a Section 3.7.4 - Alternative C Page 129 n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: Alternative C is described as the plan with the most NED benefits. The NED plan is actually the plan which maximizes the net benefits rather than providing the most NED benefits.

b.Basis for Concern: ER 1105-2-100 stipulates that net benefits be displayed in order to identify the NED plan in accordance with the Federal objective. The goal is to identify the plan with the most net benefits (benefits minus costs) rather than the plan with the most benefits overall which could be a more expensive plan but with fewer net benefits than a less expensive plan.

c.Significance: Medium.

d.Action to Resolve: revise the sentence to state that Alternative C provides the highest net benefits compared to the other alternatives if this is the case.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
The description of Alternative C as the NED plan is presented in the executive summary, as well as in Sections 3.8 and 5.1 of the main report.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
The FS states on page 124 that Alternative C maximizes the NED benefits. The statement should be that Alternative C maximizes net NED benefits.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

1-2 Backcheck Recommendation **Close Comment**
Table 3-8 has been updated to display Average Annual Costs and Benefits.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

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2-0 Evaluation **For Information Only**
The statement (on page 124, line 28; pdf page 142) has been updated per the comment.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Closed**

7073062 Planning - Plan Formulation N/a | Section 3.7.5 - Cost Comparison | Page 129 | n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: Table 3-8 (Economic Cost Comparison) includes the Implementation Cost, the Annual OMRR&R costs, the Benefit to Cost Ratio, and the Annualized Net benefits. The table should also include the Annualized Cost and the Annualized benefits in order to clearly display how the Annualized net benefits and the B/C ratio were derived.

b.Basis for Concern: without providing the annualized cost and annualized benefits, it is not possible for the reader to determine how the net benefits and B/C ratio were determined.

c.Significance: Medium.

d.Action to Resolve: use the example table 2A on page H-47 of ER 1105-2-100 as a template for how costs and benefits should be displayed and reported.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Tables B-13 and B-14 have been updated using Table 2A on page H-47 of ER 1105-2-100 as a template.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Table 3-8 has been updated to display average annual costs and benefits.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
This data has been added to the report as Table 3-8 in Section 3.8.5 (page 125; pdf page 143).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

Current Comment Status: **Comment Closed**

7073089 Planning - Plan Formulation N/a | Section 3.8 - Identifying the Tentatively Selected Plan | Page 129 | n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: this section states that Alternative C is the TSP, the LPP and the NED plan however this has not been clearly demonstrated.

b.Basis for Concern: The Report must show a comparison of the annualized cost, annualized benefits and the net benefits in order to determine if the NED has actually been correctly identified.

c.Significance: High.

d.Action to Resolve: use the example table 2A on page H-47 of ER 1105-2-100 as a template for how costs and benefits should be displayed and reported.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Tables B-13 and B-14 have been updated using Table 2A on page H-47 of ER 1105-2-100 as a template.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
Please include the information shown in tables B-15 and B-16 from the Economic Appendix in Section 3.9 to display how the NED plan is identified. this information can be combined into one table to show the comparison. Also display the information for Alt A. Additionally, if the NED plan is the plan that is preferred by the sponsor/proponent, there is no need to call out an "LPP" which is usually only developed when the NED plan is not acceptable to the sponsor.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

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1-2 Backcheck Recommendation **Close Comment**
Table 3-8 provides a comparison of the average annual costs, benefits and B/C ratio for Alternatives B and C. Annualized costs and benefits for Alt A were not developed however the construction first costs far surpass the other alternatives and a qualitative discussion of this alternative is included in the report.

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
This data has been added to the report as Table 3-9 in Section 3.9 (page 126; p144). Additionally, the sponsor understands that they are not required to identify an LPP; however, they would like to recognize that Alternative C is the plan preferred by the local community.

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018
Backcheck not conducted
Current Comment Status: **Comment Closed**

7073104 Planning - Plan Formulation N/a Section 5.1.2 - Project Benefit Analysis Page 237 n/a
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: The report states that October 2013 price levels were used in the evaluation. The analysis should be updated to reflect current price levels of October 2016.

b.Basis for Concern: The costs but be calculated in the current price levels per Civil Works Cost Engineering guidance (ER 1110-2-1302).

c.Significance: Medium.

d.Action to Resolve: update analysis with October 2016 price levels.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
October 2017 price levels have been used to update the report and appendices, including Tables B-13 and B-14,

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
Please include this price level information in all of the tables showing costs.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017
Current Comment Status: **Comment Closed**

7073110 Planning - Plan Formulation N/a Section 5.1.2 - Project Costs Page 237 n/a
Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

a.Review Concern: the report states "the project implementation costs; operation maintenance and major replacement costs; average annual equivalent cost; benefit-cost ratio; and excess benefits over costs are $21,700,000". It is unclear how all of these cost and benefits added together equal this number.

b.Basis for Concern: The annual costs and annual benefits should be displayed in order to determine the net benefits. This net benefit number can then be reported.

c.Significance: Medium.

d.Action to Resolve: use the example table 2A on page H-47 of ER 1105-2-100 as a template for how costs and benefits should be displayed and reported.

Submitted By: Sara Schultz [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Tables in Appendix B: Econimics, including Tables B-13 and B-14, have been updated to follow the template Table 2A.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Open Comment**
This language is still in the Feasibility Report in Section 5.1.2. This language can be replaced with Table B-16 (Equivalent Annual Benefits and Cost) from the Economic Appendix which correctly displays the information.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

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1-2 Backcheck Recommendation **Open Comment**
Table 5-1 displays the annual benefits and costs along with most of the other items that are listed under the "Project Costs" paragraph in Section 5.1.2. Recommend deleting the first 2 sentences of the paragraph and rewriting them to state: "The project construction cost is $345,850,000. The annual project OMRR&R is $650,000. The total average annual cost, including OMRR&R is $13,860,000"

Submitted By: Sara Schultz [redacted] Submitted On: May 24 2018

2-0 Evaluation **For Information Only**
The table has been added as Table 5-1 in Section 5.1.2 on page 223 (pdf page 251).

Submitted By: Blake Mendrop [redacted] Submitted On: Feb 26 2018

Backcheck not conducted

3-0 Evaluation **For Information Only**
The section under "Project Costs" in Section 5.1.2 has been rewritten as follows:
"With an estimated project implementation cost of $345,850,000 and annual project operation, maintenance, repair, rehabilitation, and replacement (OMRR&R) costs of $650,000, the total average annual cost, including OMRR&R, is $13,860,000. The estimated average annual benefits are $39,160,000. Therefore, the benefit-to-cost ratio is 2.83, and the net annual benefit is $25,300,000. The average annual equivalent costs, benefit-cost ratio, and excess benefits over costs are based on a three year construction period, a base year of 2020, a 2¾ % discount rate, and a period of analysis of 50 years, pursuant to USACE policy. Recreation costs and benefits are presented for the channel improvement alternative only, and do not include operation and maintenance costs. These costs will be refined for the TSP in the final analysis."

Submitted By: Blake Mendrop [redacted] Submitted On: Jun 01 2018

3-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Sara Schultz [redacted] Submitted On: Jun 05 2018

Current Comment Status: **Comment Closed**

7073117	Planning - Plan Formulation	N/a	Section 6.0 - Environmental Laws and Compliance	Page 246	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

Executive Order 11988, Floodplain Management

a.Review Concern: Executive Order (EO) 11988 has been modified by EO 13690.

b.Basis for Concern: the language of the EO is located at the following link:
https://obamawhitehouse.archives.gov/the-press-office/2015/01/30/executive-order-establishing-federal-flood-risk-management-standard.

c.Significance: Low.

d.Action to Resolve: modify the heading to state "Executive Order 11988, Floodplain Management as amended by Executive Order 13690".

Submitted By: Sara Schultz [redacted] Submitted On: Jul 20 2017

1-0 Evaluation **For Information Only**
Under Section 6 the EO issued August 15, 2017, entitled Presidential Executive Order on Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure, "Executive Order 13690 of January 30, 2015 (Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input), is revoked." Accordingly, the Comment does not require action at this time.

Submitted By: Blake Mendrop [redacted] Submitted On: Nov 19 2017

1-1 Backcheck Recommendation **Close Comment**
The discussion of EO 11988 as displayed in the FS is sufficient.

Submitted By: Sara Schultz [redacted] Submitted On: Dec 15 2017

Current Comment Status: **Comment Closed**

7465720	Cost Engineering	N/a	n/a	n/a	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Alternative Reviews)

The Alternative Level review does not include a separate Cost DX ATR Certification. The certification is reserved for funding level documents such as the Recommended Plan. The recommended plan will require a more thorough cost ATR and focus on the following products: Main Report, record of DQC and quantities, MCACES MII estimates, project and construction schedule, risk-based contingencies developed using formal CSRA method (for projects greater than $40M), total project cost summary and cost appendix.

Submitted By: William Bolte [redacted] Submitted On: May 11 2018

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1-0 Evaluation **For Information Only**
Upon completion of the review of this planning document, the Cost DX ATR Certification will be completed and provided with the final document.

Submitted By: Blake Mendrop [redacted] Submitted On: May 22 2018

Backcheck not conducted

Current Comment Status: **Comment Open**

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Enclosure 6

Cost ATR Certification
(as of 18 March 2020)

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WALLA WALLA COST ENGINEERING MANDATORY CENTER OF EXPERTISE

COST AGENCY TECHNICAL REVIEW

CERTIFICATION STATEMENT

For Project No. 406402

MVK – Pearl River Basin, Mississippi Federal Flood Risk Management Project
Hinds & Rankin Counties, MS

The Pearl River Basin, Mississippi Federal Flood Risk Management Project, as presented by the project sponsor Rankin-Hinds Pearl River Flood and Drainage Control District, as part of WRDA 96, Section 211 process, has undergone a successful Cost Agency Technical Review (Cost ATR), performed by the Walla Walla District Cost Engineering Mandatory Center of Expertise (Cost MCX) team. The Cost ATR included study of the project scope, report, cost estimates, schedules, escalation, and risk-based contingencies. This certification signifies the products meet the quality standards as prescribed in ER 1110-2-1150 Engineering and Design for Civil Works Projects and ER 1110-2-1302 Civil Works Cost Engineering.

As of March 17, 2020, the Cost MCX certifies the estimated total project cost:

FY20 Project First Cost: $366,779,000
Fully Funded Amount: $420,268,000

It remains the responsibility of the Sponsor to correctly reflect these cost values within the Final Report and to implement effective project management controls and implementation procedures including risk management through the period of Federal Participation.

Michael P. Jacobs, PE, CCE
Chief, Cost Engineering MCX
Walla Walla District

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****** TOTAL PROJECT COST SUMMARY ******

PROJECT: **Pearl River Feasibility**
PROJECT NO P2# 406402
LOCATION Jackson Metrc

DISTRICT: **Rankin Hinds Flood and Drainage Control Dis**
POC: **CHIEF, COST ENGINEERING, xxx**

PREPARED: **2/1/2020**

This Estimate reflects the scope and schedule in report; FS/EIS

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)						TOTAL PROJECT COST (FULLY FUNDED)			
						Program Year (Budget EC): 2020 Effective Price Level Date: 1 OCT 19									
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	**TOTAL ($K)**	Spent Thru: **1-Oct-19** ($K)	**TOTAL FIRST COST** ($K)	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
	B	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*		*K*	*L*	*M*	*N*	*O*
2	RELOCATIONS	$1,623	$406	25.0%	$2,029	0.0%	$1,623	$406	$2,029	$0	$2,029	16.2%	$1,885	$471	$2,357
5	FISH & WILDLIFE FACILITIES	$4,11	$1,028	25.0%	$5,139	0.0%	$4,11	$1,028	$5,139	$0	$5,139	16.2%	$4,775	$1,194	$5,969
8	ROADS, RAILROADS & BRIDGES	$12,107	$3,027	25.0%	$15,134	0.0%	$12,107	$3,027	$15,134	$0	$15,134	16.2%	$14,063	$3,516	$17,579
17	LEVEES & FLOODWALLS	$6,045	$1,51	25.0%	$7,556	0.0%	$6,045	$1,51	$7,556	$0	$7,556	16.2%	$7,022	$1,755	$8,777
19	CHANNELS & CANALS	$153,23	$38,308	25.0%	$191,539	0.0%	$153,23	$38,308	$191,539	$0	$191,539	16.2%	$177,988	$44,497	$222,485
15	FLOODWAY CONTROL & DIVERSION STR	$23,397	$5,849	25.0%	$29,246	0.0%	$23,397	$5,849	$29,246	$0	$29,246	16.2%	$27,177	$6,794	$33,971
14	RECREATION FACILITIES	$9,385	$2,346	25.0%	$11,73	0.0%	$9,385	$2,346	$11,73	$0	$11,731	16.2%	$10,901	$2,725	$13,627
		$0	$0	-	$0	-	$0	$0	$0	$0	$0	-	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$209,899	$52,475		$262,374	0.0%	$209,899	$52,475	$262,374	$0	$262,374	16.2%	$243,812	$60,953	$304,765
1	LANDS AND DAMAGES	$31,250	$6,250	20.0%	$37,500	0.0%	$31,250	$6,250	$37,500	$0	$37,500	6.3%	$33,219	$6,644	$39,862
30	PLANNING, ENGINEERING & DESIGN	$39,88	$9,970	25.0%	$49,85	0.0%	$39,88	$9,970	$49,85	$0	$49,851	10.4%	$44,041	$11,010	$55,051
31	CONSTRUCTION MANAGEMENT	$13,643	$3,41	25.0%	$17,054	0.0%	$13,643	$3,41	$17,054	$0	$17,054	20.7%	$16,472	$4,118	$20,590
	PROJECT COST TOTALS:	$294,673	$72,106	24.5%	$366,779		$294,673	$72,106	**$366,779**	$0	**$366,779**	14.6%	$337,543	$82,725	$420,268

ESTIMATED TOTAL PROJECT COST: **$420,268**

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****** TOTAL PROJECT COST SUMMARY ******

****** CONTRACT COST SUMMARY ******

PROJECT: Pearl River Feasibility
LOCATION: Jackson Metro
This Estimate reflects the scope and schedule in report FS/EIS

DISTRICT: Rankin Hinds Flood and Drainage Control District
POC CHIEF, COST ENGINEERING, xxx
PREPARED: 2/1/2020

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 10-Feb-20 Effective Price Level: 1-Oct-19				Program Year (Budget EC): 2020 Effective Price Level Date: 1 OCT 19								
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	RISK BASED CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	PHASE 1 or CONTRACT													
02	RELOCATIONS	$1,623	$406	25.0%	$2,029	0.0%	$1,623	$406	$2,029	2025Q1	16.2%	$1,885	$471	$2,357
06	FISH & WILDLIFE FACILITIES	$4,111	$1,028	25.0%	$5,139	0.0%	$4,111	$1,028	$5,139	2025Q1	16.2%	$4,775	$1,194	$5,969
08	ROADS, RAILROADS & BRIDGES	$12,107	$3,027	25.0%	$15,134	0.0%	$12,107	$3,027	$15,134	2025Q1	16.2%	$14,063	$3,516	$17,579
11	LEVEES & FLOODWALLS	$6,045	$1,511	25.0%	$7,556	0.0%	$6,045	$1,511	$7,556	2025Q1	16.2%	$7,022	$1,755	$8,777
09	CHANNELS & CANALS	$153,231	$38,308	25.0%	$191,539	0.0%	$153,231	$38,308	$191,539	2025Q1	16.2%	$177,988	$44,497	$222,485
13	FLOODWAY CONTROL & DIVERSION STR	$23,397	$5,849	25.0%	$29,246	0.0%	$23,397	$5,849	$29,246	2025Q1	16.2%	$27,177	$6,794	$33,971
14	RECREATION FACILITIES	$9,385	$2,346	25.0%	$11,731	0.0%	$9,385	$2,346	$11,731	2025Q1	16.2%	$10,901	$2,725	$13,627
		$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$209,899	$52,475	25.0%	**$262,374**		$209,899	$52,475	$262,374			$243,812	$60,953	$304,765
01	LANDS AND DAMAGES	$31,250	$6,250	20.0%	$37,500	0.0%	$31,250	$6,250	$37,500	2022Q1	6.3%	$33,219	$6,644	$39,862
30	PLANNING, ENGINEERING & DESIGN													
1.5%	Project Management	$3,148	$787	25.0%	$3,936	0.0%	$3,148	$787	$3,936	2022Q2	8.9%	$3,428	$857	$4,285
1.0%	Planning & Environmental Compliance	$2,099	$525	25.0%	$2,624	0.0%	$2,099	$525	$2,624	2022Q2	8.9%	$2,285	$571	$2,856
10.0%	Engineering & Design	$20,990	$5,247	25.0%	$26,237	0.0%	$20,990	$5,247	$26,237	2022Q2	8.9%	$22,852	$5,713	$28,565
1.0%	Reviews, ATRs, IEPRs, VE	$2,099	$525	25.0%	$2,624	0.0%	$2,099	$525	$2,624	2022Q2	8.9%	$2,285	$571	$2,856
1.0%	Life Cycle Updates (cost, schedule, risks	$2,099	$525	25.0%	$2,624	0.0%	$2,099	$525	$2,624	2022Q2	8.9%	$2,285	$571	$2,856
1.0%	Contracting & Reprographics	$2,099	$525	25.0%	$2,624	0.0%	$2,099	$525	$2,624	2022Q2	8.9%	$2,285	$571	$2,856
1.0%	Engineering During Construction	$2,099	$525	25.0%	$2,624	0.0%	$2,099	$525	$2,624	2025Q1	20.7%	$2,534	$634	$3,168
1.0%	Planning During Construction	$2,099	$525	25.0%	$2,624	0.0%	$2,099	$525	$2,624	2025Q1	20.7%	$2,534	$634	$3,168
0.5%	Adaptive Management & Monitoring	$1,049	$262	25.0%	$1,312	0.0%	$1,049	$262	$1,312	2025Q1	20.7%	$1,267	$317	$1,584
1.0%	Project Operations	$2,099	$525	25.0%	$2,624	0.0%	$2,099	$525	$2,624	2022Q2	8.9%	$2,285	$571	$2,856
31	CONSTRUCTION MANAGEMENT													
2.0%	Construction Management	$4,198	$1,049	25.0%	$5,247	0.0%	$4,198	$1,049	$5,247	2025Q1	20.7%	$5,068	$1,267	$6,335
2.0%	Project Operation:	$4,198	$1,049	25.0%	$5,247	0.0%	$4,198	$1,049	$5,247	2025Q1	20.7%	$5,068	$1,267	$6,335
2.5%	Project Management	$5,247	$1,312	25.0%	$6,559	0.0%	$5,247	$1,312	$6,559	2025Q1	20.7%	$6,335	$1,584	$7,919
	CONTRACT COST TOTALS:	$294,673	$72,106		$366,779		$294,673	$72,106	**$366,779**			$337,543	$82,725	**$420,268**

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Enclosure 7

Statement of Completion of Agency Technical Review

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COMPLETION STATEMENT OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been performed for the Integrated Feasibility Report & Environmental Impact Statement – Pearl River Watershed Hinds & Rankin Counties, Mississippi. These products were developed by the Rankin-Hinds Pearl River Flood and Drainage Control District (the Non-Federal Interest) under the authority of Section 211 of the Water Resources Development Act of 1996. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-217, 20 February 2018, Water Resources Policies and Authorities, REVIEW POLICY FOR CIVIL WORKS.

During the ATR of the final documents, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was assessed. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy.

Compliance with US Army Corps of Engineers policy was not fully verified by the ATR. The ATR team and the Non-Federal Interest PDT were not able to come to agreement on the actions necessary to resolve all ATR comments. Section 8.2 of the ATR Summary Report dated May 2020 summarizes the ATR comments where significant disagreements between the ATR Team and PDT remain.

As part of the ATR effort, the ATR team also assessed the effectiveness of the Quality Control (QC) efforts of the non-Federal Interest in accordance with EC 1165-2-217. No formal QC documentation was provided to the ATR team, thus requiring the assessment to be based solely on the quality of the products provided for review. Based on those products, the ATR team assessment was that the QC performed was inconsistent and resulted in numerous issues raised during ATR.

SCHULTZ.SARA.MARIE.1231835055 Digitally signed by SCHULTZ.SARA.MARIE.1231835055
Date: 2020.06.10 11:10:22 -07'00'

Sara Schultz
ATR Team Leader - CESPK-PDW

Date

THAUT.ERIC.WILLIAM.1231631824 Digitally signed by THAUT.ERIC.WILLIAM.1231631824
Date: 2020.06.10 09:55:08 -07'00'

Eric Thaut
Deputy Director, FRM-PCX
Review Management Organization

Date

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