

22 December 2009

MEMORANDUM FOR THE RECORD

SUBJECT: Civil Works Review Board (CWRB) for Comprehensive Everglades Restoration Plan (CERP), C-111 Spreader Canal Western Project, FL

1. The subject meeting was held 15 December 2009 from 1000 until 1300 Eastern Time at U.S. Army Corps of Engineers Headquarters, Washington, DC. The agenda and List of Attendees are attached.
2. The purpose of the meeting was to obtain CWRB approval to release the Draft Chief's Report for the C-111 Spreader Canal Western Project for State and Agency (S&A) Review.
3. The meeting was opened by Mr. Steve Stockton, CWRB Chair, who offered opening remarks and provided an overview of the meeting purpose to the project Sponsors and others in attendance.
4. Colonel Al Pantano provided the briefing of the C-111 Spreader Canal (SC) Western Project. This is an Everglades restoration project that will modify the existing C-111 Canal to change the flow of ground and surface water as a first step in the restoration of the southeastern portion of the Everglades ecosystem. Colonel Pantano reviewed the problems and opportunities identified during the study, the alternatives considered, the recommended features, the implementation costs, and the status of the Agency Technical Review (ATR) and Independent External Peer Review (IEPR). Mr. Dan Vogler of the Jacksonville Geomatics team provided a brief explanation of the GIS tool used to evaluate the potential real estate takings for the project. When asked by Colonel Pantano about his thoughts on the GIS tool, Mr. Karl Nixon said it was extremely helpful to the real estate team to analyze hydrologic effects on a parcel by parcel basis. The tool was recommended for use for other projects in need a collaborative tool for real estate, counsel and project management. Mr. Tommy Stroud, Assistant Deputy Executive Director of South Florida Water Management District (SFWMD) spoke on behalf of the non-Federal sponsor's support of the C-111 Spreader Canal project and discussed SFWMD's plans to move forward with construction of the C-111 SC Western Project.
5. MG Todd Semonite applauded those present for their efforts in the success of this project. He stressed the importance of continuing the forward momentum of the Everglades restoration effort. He reviewed the South Atlantic Division quality assurance activities and reported all technical and policy compliance were complete. He recommended the project be approved for State and Agency Review.
6. Ms. Jeanette Gallihugh presented a summary of the HQ Policy Review. The current November 2009 PIR is under review at HQ. Previous important plan formulation concerns have been addressed regarding justification for "D Series" management measures, reanalysis of the final array of alternatives, and sizing of the Frog Pond area. The Cost Effective/Incremental Cost Analysis (CE/ICA) and ecological modeling have changed from the draft PIR. Jacksonville District indicated the model changes did not impact plan formulation and will revise the PIR to

provide rationale and expanded discussion to support that conclusion. The November 2009 PIR also added a proposal for Federal cost-sharing for treatment of legally applied agricultural chemicals on the C-111 SC Western Project lands, but did not include all the documentation needed to support the proposal. Upon further consideration, SFWMD has decided to remove their request to cost-share agricultural chemical soil remediation, so the PIR will be updated to reflect this recent change. The HQ Policy Review Team recommendation is to approve release of the PIR/EIS for S&A Review contingent upon HQUSACE review of the revised final PIR, particularly in regards to agricultural chemicals remediation and revised CE/ICA.

7. The following is a summary of questions and discussion that was held during the CWRB:

- a) The quantification of the intended reduction in seepage was discussed. Members of the CWRB asked if there was a specific seepage reduction target identified. The question was answered by Ms. Griffith, who stated that the focus of most project related studies and modeling was to evaluate how to best rehydrate Taylor Slough and maximize restoration; not calculate how much seepage would be reduced. There is no specific seepage reduction target because although the goal is to keep water in Taylor Slough, the seepage cannot be reduced completely. If too much seepage is cut off, it would cause impacts to the lower Miami well fields or Biscayne Bay. The goal is to balance and adaptively manage the system. A quantification of how much water is lost to tide was also discussed. The Eastern PIR will address more of the water lost to tide. Mr. Don Jodrey stated the quantity of water is an important metric, but the point is to rehydrate Everglades National Park. It is an international Biosphere reserve and the biggest National Park east of Mississippi. It is critical to protect the lands that were Federally set aside to benefit the American people and future generations. The Federal investment in the Everglades is immense.
- b) The future without project conditions were discussed. The current, significantly degraded ecosystem and inferred further drastic degradation were noted. Without the project, the chance for survival of several endangered species is slim. The future consumptive water demands from development and impact on the project or vice versa were also discussed. Carol Wehle said SFWMD has frozen all municipal water withdrawals in the region to 2006 levels.
- c) Many questions were raised regarding the use of Habitat Units to evaluate restoration value for an area. The performance metrics used to develop Habitat Units were further explained. 1) The hydroperiod across the park, 2) flows in Taylor Slough and 3) changes in salinity in Florida Bay. These three performance metrics were aggregated to form Habitat Units. Hydroperiod and flow changes were intuitive and responsive. Salinity was not as responsive which could be an issue related to the scale of project vs. scale of area of influence for salinity. The Board asked everyone present and those listening via conference call to think on better ways to capture Habitat Units and improve guidance for future projects. Habitat Units for project value and success need to be improved. The problem of how to quantify environmental output will have an increasing importance in the future. It is quickly becoming more important to know how to value ecological projects in the face of future budgetary justification. Mr. Stuart Appelbaum clarified for the Board that though HUs are only used on an individual project basis, there is a different metric for CERP system wide evaluation.

Additionally, the National Academy of Sciences issues a CERP system report card every two years. The 2010 report card is currently in the works. The biggest complaint in these reports is the lack of forward progress on the projects. Ms. Carol Wehle added that it is difficult to determine HUs for interconnected projects. For example, one project has a certain set of HUs, but once the second or third interconnected project is built, they may have more or less benefits. For example, the C-111 SC Western Project will be increasing benefits once the Eastern Project is done. The IEPR panel had requested more justification on HU calculations during their review.

- d) The inclusion of sea level rise studies and potential impact on the project success was discussed. Sea level rise was evaluated using the most recent guidance. Three scenarios were analyzed using the recommended plan. Generally, an overall 33 percent decrease in benefits may occur due to sea level rise.
- e) Ms. Jodie Staebell stated all ATR comments have been resolved and closed.
- f) The Pre-Partnership Credit Agreement and all necessary environmental documents are in place for SFWMD to proceed with construction. Additionally, in February 2010 the SFWMD Governing Board is setting up a specific account to address future Adaptive Management costs. Additionally, Ms. Carol Wehle clarified that SFWMD would not be receiving straight reimbursement for their construction of this project, but would request credit on the “ledger” for the CERP program.
- g) Project authorization status was discussed. The proposed C-111 SC Western Project will be recommended for implementation under the overall CERP authority, not the initial, conditional authority for the specific C-111 Spreader Canal project identified in the Restudy and authorized in the WRDA 2000, Sections 601(b)(2)(C), (D), and (E). The scope of the proposed project has been expanded to address ecological problems in Everglades National Park, concentrating mainly on the ecological feature Taylor Slough and its downstream estuaries in Florida Bay. Due to these changes in cost, scope, and intended restoration area, the proposed C-111 SC Western Project will be recommended for authorization under the overall CERP authority in the WRDA 2000, Section 601(b)(1).
- h) A question was asked regarding the 30 percent land purchase cost out of total project cost. It was stated that general policy for aquatic ecosystem restoration projects is that if land purchase costs exceed 25 percent of total project cost, the project is no longer a priority. Ms. Jeanette Gallihugh explained that compliance with that policy is being evaluated for CERP on a programmatic level, but individual projects may exceed the 25 percent threshold. The purpose of the policy is to focus projects on habitat restoration rather than setting aside lands for preservation. The lands acquired for this project will be actively restored and used for restoration, so it is felt the amount of purchased lands are acceptable for this particular restoration effort.

- i) A comparison of the 18 million dollar Preconstruction Engineering and Design (PED) cost with other projects' costs was asked for. Given the complexity of this project and level of stakeholder involvement, this project's PED costs may be slightly more than the typical CERP project. The economic highs and lows can influence overall project costs as well. For example, PED costs may have been high, but now SFWMD is able to take advantage of lower construction bids due to the stressed economy.
- j) Several questions regarding the functionality and design of the project were raised by the CWRB:
 - Ms. Becky Griffith reviewed the main features of the project and described the two main parts of the project—the first is the Frog Pond and Aerojet Canal hydraulic ridge to reduce seepage from Taylor Slough and the second consists of other features that slow water down and allows percolation into ground. Part of a hydraulic ridge has been constructed for the C-111 South Dade project. This ridge is working and provides some evidence that the proposed C-111 Spreader Canal Western Project hydraulic ridge will likely work.
 - The flexibility of the project to mitigate for unintended adverse impacts was questioned. The hydraulic ridge design was chosen over the permanent seepage barrier design because of the inherent flexibility. The benefit of this project approach is that the pumps can be turned off if there are serious unintended adverse affects. If the project works really well, it could potentially be expanded. The South Florida environment has highly variable rainfall events to which the natural system has adapted. This particular project is flexible and will be able to respond to these events. Monitoring will be used to evaluate how the system responds and operations may be modified to improve success.
 - The reasoning for the number and location of the ten canal plugs in the C-110 canal was requested. Modeling showed ten plugs was best configuration in the canal. Additionally, there was an issue of soil material availability. It was more cost effective to make best use of available soil from dug canal than to truck in extra soil material.
 - More explanation of the incremental changes at S-18C was requested. The incremental changes are intended to test impacts of raising water to see if it is in fact consistent with what modeling showed. The increments will occur gradually over a four year period. It was stated that the incremental changes were not explained clearly enough in the report text.
- k) It was noted that there are no project impacts to tribal lands.
- l) It was questioned why out of six Federal agencies asked to be cooperating agencies for NEPA, one refused and five others did not respond. This response is typical of CERP projects. Cooperating agency is a formal option in the NEPA process. Despite a negative response or lack of response, they were still engaged in the Project Delivery Team. Paul Souza added that USFWS is often asked to participate as a cooperating

agency in the NEPA process. The agencies are already participating by collaborating with the team and developing the Draft and Final Coordination Act Reports and Biological Opinion. The USFWS feels that for them to be a cooperating agency in the NEPA process would be a redundant effort.

- m) The Board asked the IEPR panel if they are confident the new report now reflects the hydrologic model and uncertainties as identified in their October IEPR comments. The IEPR panel (who participated via audio-only phone lines) expressed they would have liked to see the GIS presentation shown at the meeting, but other than that, the CWRB presentation appears to indicate the information requested is now provided in the report. The Board requested an affirmative statement regarding the modeling to be included in the final PIR. It was reiterated that the model calibration report has been added to PIR. Karen Johnson-Young added that for the record, the IEPR panel provided their report in October and their work is done. They will see the report once it is released to the public.
- n) A question arose regarding the potential of any project structures to negatively impact human life if they failed. In the context of major flood events, the canal can move water out of urban areas and actually help reduce flooding situations. The project structures would not impact human life any more than any other component of the CS&F project.

8. Due to time constraints, Steve Stockton asked for lessons learned to be provided in writing to Wes Coleman. The district and division presentation slides were provided to the Office of Water Project Review after the CWRB meeting. The District lessons were that the Federal Advisory Committee Act inhibits collaborative planning; a standard process and streamlined contracting for IEPR is needed; and standard guidance for CWRB materials is needed. Division identified the importance of continuous coordination with the sponsor, as well as participation with other agencies, in the quality of the recommended plan and the decision document.

9. The meeting concluded with a positive, unanimous vote by the Board members for contingent approval to release the report for S&A review, subject to HQ Policy Review Team concurrence with report revisions to address IEPR and HQ Policy comments. These revisions will include clarification of the hydrologic model calibration, agricultural chemicals remediation, revised CE/ICA, and other policy comments arising from review of the November 2009 report. The CWRB will not reconvene, but approval will be coordinated through Board Members via written recommendation of the Office of Water Project Review.

10. Mr. Steve Stockton thanked everyone for their attendance and participation and closed the meeting at 1330 hours Eastern Time.

**C-111 SPREADER CANAL WESTERN PROJECT, FL
COMPREHENSIVE EVERGLADES RESTORATION PLAN**

Civil Works Review Board

15 December 2009

(Meeting was delayed 1 hour from times shown)

AGENDA

- 0900 Welcome Mr. Steve Stockton
Director of Civil Works, USACE and CWRB Chair
- 0905 Introductions Mr. Steve Stockton
CWRB Chair
- 0910 Project Briefing COL Alfred Pantano, Jr.
District Commander, Jacksonville District
- 1030 Sponsor Support Ms. Carol Wehle
Executive Director
South Florida Water Management District
- 1040 Division Commander Briefing BG (P) Todd T. Semonite
Division Commander, South Atlantic Division
- 1100 Policy Review Assessment Ms. Jeanette Gallihugh
Review Manager, Office of Water Project Review
- 1115 Board Discussion Mr. Steve Stockton
CWRB Chair
- Member Questions
 - Proposed Agency response to Independent External Peer Review
 - Office of ASA(CW), OMB Questions
- 1145 Action Mr. Tab Brown
Chief, Planning Community of Practice
- 1150 Lessons Learned / After Action Report: COL Alfred Pantano, Jr.
District Commander
Jacksonville District
- What was supposed to happen?
 - What did happen?
 - Why did it happen that way?
 - How will we improve next time?
- 1155 Lessons Learned SAD, OWPR, Sponsor, Others
- 1200 Summary of Project Briefing COL Alfred Pantano, Jr.
District Commander,
Jacksonville District
- 1205 Close Mr. Steve Stockton
CWRB Chair

**C-111 SPREADER CANAL WESTERN PROJECT, FL
Comprehensive Everglades Restoration Plan**

**Civil Works Review Board
15 December 2009**

Attendees

Civil Works Review Board (CWRB)

Name:

Director of Civil Works and CWRB Chair	Mr. Steve Stockton
Chief, Planning Community of Practice (CoP)	Mr. Theodore (Tab) Brown
Commander, North Atlantic Division	COL Peter DeLuca
Chief, Environmental Community of Practice (CoP)	Mr. James Balocki
Chief, North Atlantic Div. Regional Integration Team (RIT)	Mr. Mohan Singh

Office of Management and Budget (OMB)

Representatives could not attend due to time change

Department of the Army – Office of Assistant Secretary of the Army for Civil Works

Senior Water Resources Planner	Mr. Cliff Fitzsimmons
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Office of Counsel

Counsel, USACE	Mr. William Bayert
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Planning & Policy Division

Deputy, Planning & Policy Division	Could not attend
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Office of Water Project Review (OWPR)

Chief, Office of Water Project Review	Mr. Wesley Coleman
Policy Review Manager	Ms. Jeanette Gallihugh
Policy Review Team	Mr. Ken Claseman
Policy Review Team	Ms. Marilyn Benner
Policy Review Team	Mr. Miguel Jumilla
Policy Review Team	Mr. Rodney Hallstrom
Civil Works Review Board Team	Ms. Patricia Bee

**C-111 SPREADER CANAL WESTERN PROJECT, FL
Comprehensive Everglades Restoration Plan**

**Civil Works Review Board
15 December 2009**

Attendees (cont.)

South Atlantic Division Regional Integration Team (SAD RIT)

Chief, South Atlantic Division RIT	Could not attend
Deputy, South Atlantic Division RIT	Ms. Stacey Brown
Planning Program Manager, SAD RIT	Mr. Steve Kopecky

South Atlantic Division (SAD)

Division Commander	MG Todd Semonite
Director, Programs Directorate	Mr. Les Dixon
Chief, Planning	Mr. Wilbert Paynes
District Support Team / Lead Planner	Mr. Mike Magley

Jacksonville District (SAJ)

District Commander	COL Alfred Pantano, Jr.
Deputy District Commander, South Florida	LTC Michael Kinard
Chief, Planning and Environmental Division	Ms. Rebecca Griffith
Chief, Restoration Planning Section	Mr. Mark Wolff
CERP Program Manager	Mr. Stuart Appelbaum
CERP Deputy Program Manager	Ms. Kim Taplin
Project Manager	Mr. Michael Collis
Planning Technical Lead	Mr. Ray Wimbrough
Economist	Mr. Kevin Wittmann
Engineering Technical Lead	Mr. Eddie Douglass
Environmental	Mr. Brad Tarr
Real Estate	Mr. Karl Nixon
Office of Counsel	Mr. Don Nelson
Chief, Geomatics Section	Mr. David Robar
Senior GIS	Mr. Dan Vogler
Everglades Partners Joint Venture	Ms. Elizabeth Carwell

South Florida Water Management District - Non-Federal Sponsor

Executive Director	Ms. Carol Wehle
Assistant Deputy Executive Director	Mr. Tommy Strowd
Director, Policy & Coordination	Mr. Tom Teets
Federal Liaison	Mr. Garret Wallace
Project Manager	Mr. John Shaffer

**C-111 SPREADER CANAL WESTERN PROJECT, FL
Comprehensive Everglades Restoration Plan**

**Civil Works Review Board
15 December 2009**

Attendees (cont.)

Other Agencies

Deputy Regional Director, US Fish & Wildlife Service	Mr. Mark Musaus
Field Supv, Vero Beach Office, US Fish & Wildlife Service	Mr. Paul Souza
Attorney-Advisor, Department of the Interior	Mr. Don Jodrey

Ecosystem Planning Center of Expertise – Mississippi Valley Division

Director PCX / Agency Technical Review Mgr	Ms. Jodi Staebell
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Independent External Peer Review Team (IEPR)

Program Manager (Battelle Memorial Institute)	Ms. Karen Johnson-Young	
Deputy Project Manager, Battelle Memorial Institute	Ms. Lynn McLeod	via phone
IEPR Review Team Member	Dr. Tom Cuba, Ph.D.	via phone
IEPR Review Team Member	Mr. C. Deane Fowler, P.E.	via phone
IEPR Review Team Member	Dr. Paul Keddy, Ph.D.	via phone
IEPR Review Team Member	Dr. Chin Man (Bill) Mok, Ph.D., P.E., P.G., D.WRE.	via phone
IEPR Review Team Member	Dr. Walter Milon, Ph.D.	via phone