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Port Everglades IWG Sub-Group Meeting
Modeling and Mitigation Sub-Groups
January 30, 2018: 1030 AM to 3:30 PM EST

Meeting Summary (based on agenda)

Overall goals:

- **Scientifically defensible decisions which meet project and regulatory agency requirements.**
- **No formal Requests for Additional Information (RAI) once permit application and Biological Assessments are submitted**
- **No-daylight between IWG members on how decisions were reached.**

Meeting Goals:

Specific list of activities and team members required to move forward on evaluation of the project by regulatory agencies including modeling and mitigation activities and a timeline for their accomplishment:

- **Decision on what modeling will be done for the project and expected model outputs.**
- **Understanding of inputs and outputs of Particle Tracking Model**
- **Decision on level of detail needed to evaluate project impacts.**
- **Corps response to questions/comments sent in by IWG members in answer to past Corps requests on modeling.**
- **How to evaluate and mitigate for direct impacts, anticipated indirect impacts and unanticipated indirect impacts.**
- **Decision on go or no go on the Deep-Water Disposal Placement Site**
- **Complete Modified Walker Map as environmental base map for the project.**

A. Introduction of Meeting & Attendee Introductions: All

See attached list of attendees.

B. Review Agenda / Set Meeting Expectations – Marie

- Marie clarified that the goal of "No RAIs" was indeed a goal. The agencies have the ability to ask RAI questions if needed. Hope is that adequate advanced coordination will minimize the need for RAIs.

C. Deep Water Disposal Site – Jason

- The deep-water placement site is no longer being considered as an option based on BPJ of the cost, effort and risk involved compared to other options.

D. Review Interviews on modeling and mitigation pre-meeting questions. – Marie/Janet

- To assist in the discussion, Marie drew a diagram showing how the agencies comments related to needing information both in the water column (turbidity plume) and settlement on the benthic community. She also drew how there are expected to be bands radiating from the dredge site of decreasing turbidity/sedimentation with distance from dredge, and some level of probability would be associated with each band. This is the type of information the agencies are looking for.

E. Introduce current Corps Modeling Scenarios – Drew

a. **Current model**
b. **Potential Options**
c. **Scale of model products**

- See Power Point Presentation – Presented three modeling options (Existing Model, Enhanced Model and New Model) and qualitative confidence levels for inputs and outputs, as well as cost and timing, of each. (note: slides that reference “aerial extent of sedimentation” should say “aerial extent of plume”.
- Existing PTM:
    - Hydrodynamic information was collected for one month: currents and waves.
    - Model applied worst case realistic scenario in terms of conditions during dredging.
    - Geotechnical information is from six core borings.
    - COE is planning 25 production scenario runs of the model – still ongoing. Any enhanced plan may require new model runs.
    - Original purpose of model was to make comparisons of different dredging operations and find the extent of needed monitoring.
    - PTM is best at inter-run comparisons. There is no way to include the specific conditions that will occur when construction takes place.
    - Agencies want a better understanding of the modeling inputs for current PTM.
        - Where do the sediment loads plugged into the model come from?
        - What is the source data for each of the runs?
        - Where are the point sources included (cutterhead, overflow, etc.)?
        - How effectively does the pipeline take away the sediment at the cutterhead?
        - Could more available data be used for the model? NOAA data from Florida Current Cable Calibration may be appropriate to use.
        - Need monitoring to determine ambient sedimentation (isn’t this needed for model calibration?).
    - The source strength (model input) is low in all model options. How could this be strengthened?
        - The geology changes throughout the project site.
        - Geology of a maintenance dredge would be different than a new cut.
        - There is high variability – patchiness – in these areas.
        - Where were the six cores taken – need a map - possible to get more geotechnical information?
        - What is the variation among the six cores? Taken to represent difference areas of the project, so can’t average the cores.
        - Matt Miller is best person to discuss the geotech – unable to make meeting – sick.
        - Target new data parameters that give the most “bang for the buck” to increase confidence in model output.
        - If confidence in the prediction of sediment deposition depth remains low, may need a new tool.
        - Corps is uncertain if there is a way to improve “source strength”. Can look at the sensitivity of model output to changes in source strength.
        - What output is possible- what resolution can the models provide?
        - DEP would like to see sediment accumulation at end of dredging. Corps is uncertain that any model can produce this to cm-level precision. USGS feels it can be achieved with a sediment transport model.
        - NMFS needs to know the areal extent of the sediment deposition and thickness.
        - Consider the possible trade-offs between up-front mitigation and monitoring. If up-front mitigation is done for probable secondary impacts, those areas would not need to be monitored. Look at a balance of mitigation and monitoring.

- The current model has not been validated in the nearshore area.
- Dredging Methods
  - Can literature be used to eliminate some dredging methods such as dredge overflow?
  - Look at Australia's recent $19 million dredge project near coral reefs. Scientists conducted studies of many aspects of the project.
  - Could the contract include some kind of requirement that the bidder submit a compliance metric – to be included as a performance measure in the contract?

F. Lunch (either continue modeling discussion or go on to mitigation)

- Modeling discussion continued: Next steps
  - The Corps will set up another modeling meeting in the next few weeks, likely in Jacksonville.
    - Meeting will focus on model inputs and model calibration.
    - By Friday 2/2, agencies should send Lacy information/questions they want addressed.
    - The Corps will send the meeting materials out a week in advance of the meeting.
    - The Corps will show the output of some of the production runs.

G. Project Mitigation: Includes next steps for each i.e. acreage, methods, taskers, timeline etc.

a. Seagrass Mitigation – Status – Erik/Terri

b. Mangrove Mitigation – Status – Erik/Terri

c. Hardbottom – Coral Communities Mitigation

i. Review of Feasibility Study Mitigation – Jason

- Due to time constraints, no presentations were made. Focus was on outlining "next steps".
- A meeting will be set up to further discuss seagrass and mangrove mitigation – aiming for first week in March.
- Seagrasses:
  - Discuss impact determination including seagrass maps, survey methodology, etc.
  - Use all available information. A seagrass survey was done in the area as part of a pipeline corridor project. Jenny will send out a copy of this report.
  - Port will assemble information on the status of West Lake Mitigation area: status of ledgers, pending modification, status and schedule of mitigation work.
  - Concern over the amount of seagrass credit available at West Lake Park.
  - Are there other opportunities for mitigation sites?
  - In-kind vs. out of kind?
- Mangroves:
  - Need similar information as above on seagrasses.
  - Need to review methods and means. How will mangrove areas be dredged with a "clean cut" that has no secondary impacts? Corps will discuss with engineering staff.
- Hard Bottoms
  - Need to review the EIS
  - Need to discuss 'blended" approach of transplantation and addition of new boulder hard bottom.
  - Need to refine organisms to be transplanted.

    - Need to characterize the current condition of the proposed mitigation site for new boulder reef.
    - Review inputs of preliminary UMAM and HEA. Need to review the inputs and assumptions to see if they explain different results. Jennifer will send Terri DEP's preliminary UMAM analysis.
    - Need to reach agreement on direct impacts, including areas where reef top cut off, etc.
- Revised Walker Map:
    - This will form the foundation of the mitigation review.
    - DEP has concerns about the ground truthing methods used.
    - Need a meeting soon to build confidence in the map and hopefully reach agreement.
    - Terry and Laura will figure out how to get the recon information on hard drive to Erik.

H. Summary of Taskers

- SEE ATTACHED

I. Close

Attachments: Attendee List, Taskers

US Army Corps of Engineers®

Port Everglades IWG Sub-Group Meeting

Modeling and Mitigation Sub-Groups

January 30, 2018

Summary of Taskers:

Modeling:

- **Marie:** Schedule meeting in next few weeks to discuss model inputs and calibration (Modeling Meeting). (Done - Date: March 2, 2018, Webinar).
- **Terri:** Send out core boring locations and logs to the IWG. (DONE 1/31/18)
- **All**: By Friday, February 2, send to Lacy the questions/information desired for the Modeling Meeting. (Done)
- **Kevin/Jason/Lacy**: Send meeting material out at least a week in advance of the Modeling Meeting. (Done)

Mitigation:

- **Marie:** Set up a meeting around the first week in March for Mitigation Team (Mitigation Meeting). (DONE 3/07/2018)
- **Terri**: Send information or link to information on the existing impact determination and mitigation plan to the Mitigation Team for review prior to the Mitigation Meeting.
- **Erik**: Gather information on the current status of West Lake Park (credit ledger(s), pending modification, status and timeline for conducting the mitigation work).
- **Jason S.**: Will discuss the construction techniques anticipated for the mangrove impacts with the engineers (cut with no secondary impacts).
- **Jenny**: Send the pipeline corridor report to the Mitigation Team. (Done 1/31/18)
- **Jenny**: Send preliminary UMAM estimates developed during review of feasibility study and EIS to Mitigation Team (DONE 1/31/18).

Revised Walker Map:

- **Marie:** Set up a meeting on the Revised Walker Map. (IWG members have asked to delay until after the modeling and mitigation meetings).

Other: Mark L., Laura and Kelly: Send hard drives back to Erik at:

Erik Neugaard
Port Everglades
1850 Eller Drive, Suite 504
Fort Lauderdale, Florida 33316

Attendees	Agency	In Person Attendance?
Sharp, Nicole	Broward County	web conference
Banks, Ken	Broward County	web conference
Bacopoulos, Peter	DEP	Yes
Peterson, Jenny	DEP	Yes
Biggs, Brendan	DEP	Yes
Kosmynin, Vladimir	DEP	Yes
Edwards, Lanie	DEP	web conference
Lazar, Ann	DEP	Yes
Walczak, Joanna	DEP	web conference
Marie Burns	Ecologix Group	Yes
Llewellyn, Janet	Ecologix Group	Yes
Wettstein, Fritz	FWC	Yes
DiGruttolo, Laura	FWC	web conference
Derby, Jennifer	EPA	Yes
Lehmann, Wade	EPA	Yes
Wilber, Pace	NMFS	Yes
Karazsia, Jocelyn	NMFS	Yes
Logan, Kelly	NMFS	web conference
Lamb, Mark	NMFS	web conference
Gramer, Lew	NOAA	yes
Neugaard, Erik	Port Everglades	Yes
Harold, Matt	Port Everglades	Yes
Anderton, David	Port Everglades	web conference
Kabiling, Michael	Taylor Engineering	Yes
Scerno, Debby	USACE- SAD	web conference
Spinning, Jason	USACE SAJ	Yes
Pfaff, Lacy	USACE SAJ	Yes
Hodgens, Kevin	USACE SAJ	Yes
Jordan-Sellers, Terri	USACE SAJ	Yes
Engle, Jason	USACE SAJ	Yes
Condon, Drew	USACE SAJ	Yes
Ralph, Gina	USACE SAJ	yes
Lassiter, Aaron	USACE SAJ	web conference
Storlazzi, Curt	USGS	web conference