

**Toledo Harbor Dredging Task Force
COMMITTEE MEETING MINUTES**

Date: November 27, 2012

Location: One Maritime Plaza, 720 Water Street, 7th Floor, Toledo, OH 43604

Attending Committee Members:

Joe Cappel, TLCPA
Gilda Mitchell, TLCPA
Gail Hesse, OLEC
Rian Sallee, OLEC
Scudder Mackey, ODNR
Steve Holland, ODNR
Elizabeth Wick, Ohio EPA-NWDO
Tim Schetter, Toledo Area Metroparks
Mary Knapp, U.S. Fish and Wildlife Service (phone)
Mike Pniewski, USACE
Cheryl Rice, Lucas County USDA NRCS
Sandy Bihn, Lake Erie Waterkeepers
Tom Hays, Lucas County
Chuck Campbell, City of Toledo

Guests:

Linda Greenwood, Sen. Rob Portman
Jane Ruvolo, Rep. Marcy Kaptur
Ann Longworth Orr, Sen. Sherrod Brown
Mark Loomis, USEPA (phone)
Jeff Schaeffer, USGS
John Hull, Hull & Associates, Inc.
Kelly Bensman, Hull & Associates, Inc.
Kristin Gardner, Hull & Associates, Inc.
Philip Hicks, Hull & Associates, Inc.

Committee Members Not Present:

Paul LaMarre, TLCPA
Matt Sapara, TLCPA
Paul Toth, TLCPA
Jeff Reuter, OSU Stone Lab
Kelly Tubbs, Kuhlman Corporation
Eileen Granata, ODOD
Brooke Furio, USEPA, Region 5
Josh Feldmann, USACE
Craig Forgette, USACE
Ron Kozlowski, USACE
Scott Pickard, USACE
David Romano, USACE
Tim Murphy, City of Toledo
Peter Ujvagi, Lucas County
Mark Locker, ODOT
Eric Neff, ODOT
John Recker, ODOT
Dick Bartz, USGS
Paul Roman, City of Oregon
Rick Unger, Lake Erie Charter Boat Assoc.
Paul Pacholski, Lake Erie Charter Boat Assoc.

The meeting began at 1:00 p.m.

The Task Force was provided with the April 2012 meeting minutes. Ms. Gail Hesse updated the Task Force on the status of the Toledo Harbor Sediment and Use Plan (THSMUP) being completed on behalf of the Task Force as part of a Great Lakes Restoration Initiative (GLRI) Grant awarded to the Ohio Lake Erie Commission (OLEC) and sub-granted to the Toledo-Lucas County Port Authority. Ms. Hesse informed the group that OLEC used the matching funds to complete refined costs and conceptual designs for the agricultural field improvement option presented in the draft THSMUP. Ms. Hesse stressed that the Task Force should consider developing a strategy to move forward with implementation of sediment management and use options identified in the THSMUP.

Mr. John Hull provided Task Force members with an overview of the draft THSMUP including the updated agricultural field improvement option conceptual design and estimated costs. The PowerPoint presentation given by Mr. Hull is provided as Attachment A. Mr. Hull explained the THSMUP development process and presented the preliminary ranking of sediment management and use options. He noted that the purpose of the THSMUP is to evaluate and

provide recommendations for dredged material placement options and not to consider upland sediment reduction strategies. Sediment management and use options identified as favorable included agricultural field improvements, open-lake placement with controls, wetland restoration and shoreline protection, and beneficial use.

Mr. Hull explained that further refinement of the agricultural field improvement option was completed to evaluate agronomic suitability and pumping and placement logistics. He also presented a pilot project concept for the agricultural field improvement option that includes an "edge of field" concept designed to decrease the amount of nutrient and sediment loadings back to the surface water body, which complements the 4R Nutrient Stewardship concept. Mr. Hull indicated that pilot projects involving the agricultural field improvement option and the open-lake placement with controls option could be implemented relatively quickly.

Task Force members provided feedback regarding their opinion of sediment management and use options presented in the THSMUP, as well as comments related to the refinement of the agricultural field improvement option. Task Force members discussed the need to develop federal and state agency and legislative support for implementation of THSMUP. Ms. Sandy Bihn expressed concern that Oregon, Ohio farmers and property owners might be resistant to leasing farmland as part of the agricultural field improvement option. She also expressed concern that the five mile radius would not provide the amount of farmland needed to accommodate the dredging and whether it was appropriate to install pipelines containing drainage water in existing roadside ditches. Mr. Hays and Mr. Campbell were generally supportive of a pilot project and Mr. Campbell indicated that the City of Toledo is exploring the potential use of City-owned properties.

Mr. Hull also identified the open-lake placement with controls option as another potential project that the Task Force might consider. Mr. Hull briefly discussed the white paper for the open-lake placement of dredged material with controls option that is included in the draft THSMUP. This option involves treating dredged material with alum and bentonite to reduce nutrient availability and sediment re-suspension. A pilot project would need to be coordinated with the U.S. Army Corps of Engineers (USACE) contract and could be completed during different cycles during the dredging season depending on lake conditions. Ms. Hesse commented that this option makes sense once baseline phosphorus data collected by the USACE in 2013 is available.

Ms. Elizabeth Wick mentioned that USACE will give Ohio EPA their monitoring plan for the collection of baseline phosphorus data in February 2013. Although the sampling is proposed to be completed at the beginning of the 2013 dredging season, USACE indicated the baseline data will not be available until late 2014. Ohio EPA plans to distribute the baseline monitoring plan to the Task Force for review. Ms. Wick informed the Task Force that Ohio EPA's public hearing regarding USACE's Section 401 request to complete the 2013 federal channel maintenance dredging of the Toledo Harbor will be held on January 24, 2013. Ms. Wick also mentioned that the NPDES permit issued for NuSoil requires that a computer model be completed to identify potential phosphorus loadings to Lake Erie from Facility 3.

Mr. Mike Pniewski updated the Task Force on changes to the USACE's planning process and presented the PowerPoint presentation included as Attachment B. Mr. Pniewski stated USACE Civil Works Feasibility planning studies will follow "3x3x3" guidelines, which stipulate a total cost of \$3 million or less, a three year completion time (preferably 18 months), and three levels of vertical team coordination including headquarters, division, and district offices. The Chief's approval is required if planning studies will take longer than 3 years. He stated that all existing planning studies are required to be reset and reclassified and informed the Task Force that

future funds will not be allocated to the Section 204 Maumee Bay Habitat Restoration Unit study until a committed construction sponsor is identified. Mr. Pniewski mentioned there might be a new Water Resources Development Act (WRDA) by the end of 2012. Mr. Scudder Mackey suggested that an opportunity for restoration funding might exist through the U.S. Fish and Wildlife Service. He mentioned that dredged material might be beneficially used for habitat restoration near Little Cedar Point.

There being no further business, the meeting concluded at 4:30 p.m.

ATTACHMENT A

Draft – For Discussion Purposes



Toledo Sediment Management and Use Solutions

Draft Toledo Harbor Sediment Management and Use Plan and Next Steps

Toledo Harbor Task Force Meeting
November 27, 2012
Toledo-Lucas County Port Authority




Toledo Harbor Sediment Management and Use Planning



- Review of the project
 - The Ohio Lake Erie Commission was awarded a GLRI grant to create a sediment management strategy/plan for the Toledo Harbor that identifies and addresses:
 - recommended short-term (1-5 years) options
 - recommended long-term (30-year) options
 - funding needs/sources/mechanisms
 - timelines for implementation of recommended approaches



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Toledo Harbor Sediment Management and Use Solutions
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Toledo Harbor Sediment Management and Use Plan Status



- Solicited input on potential options and gathered value judgments from stakeholders on the importance of relative criteria to evaluate options (weighting factors)
 - June 2011 public forum
 - December 2011 Task Force consensus
- Evaluated short-term (1-5 years) and long-term (5-30 years) options and solicited feedback
 - April 2012 Task Force meeting
 - June 2012 public forum
- Issued draft Toledo Harbor Sediment Management and Use Plan (THSMUP)
 - Task Force comments due December 17, 2012
 - Final THSMUP by December 31, 2012

Draft – For Discussion Purposes

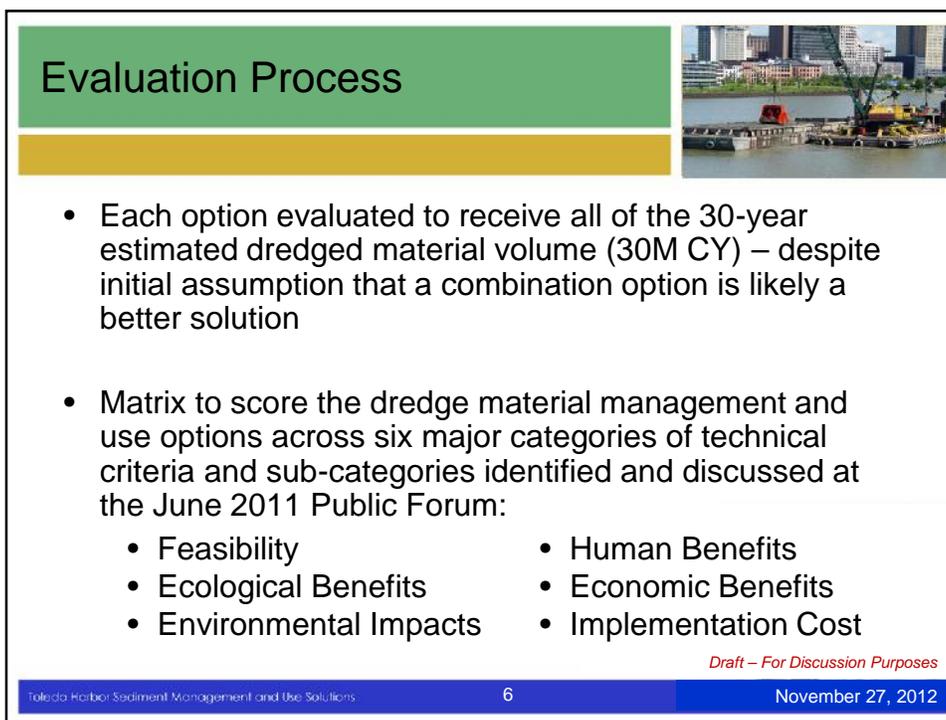
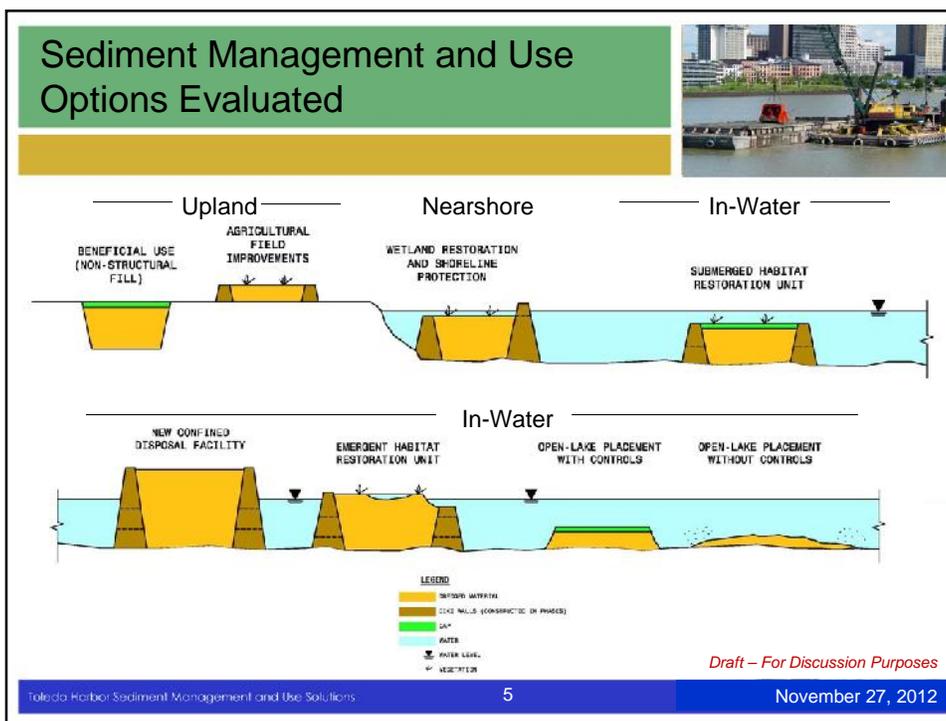
Today's Objectives

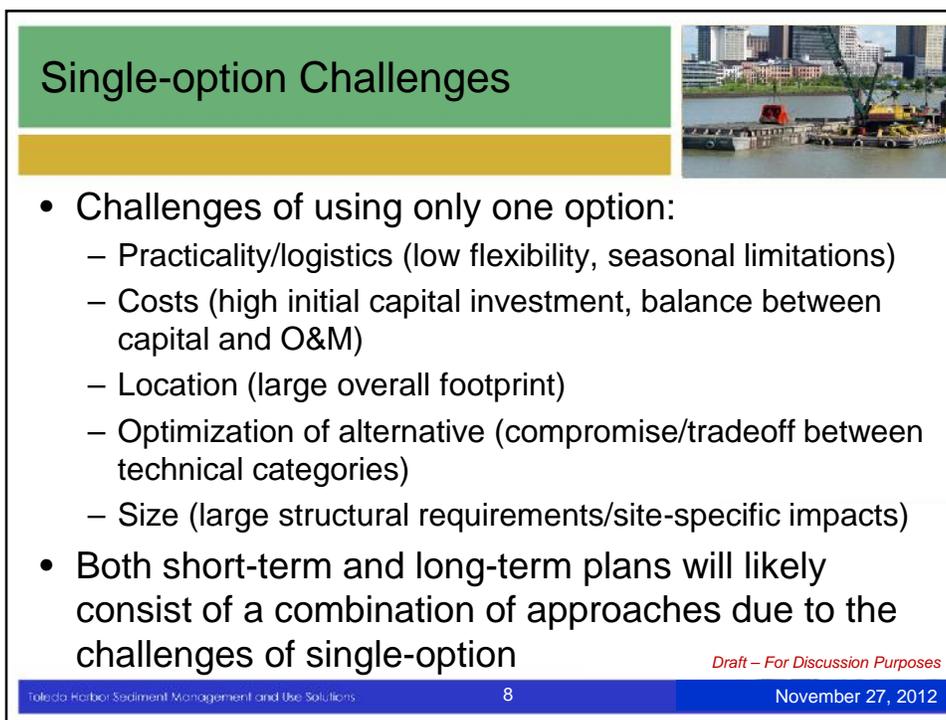
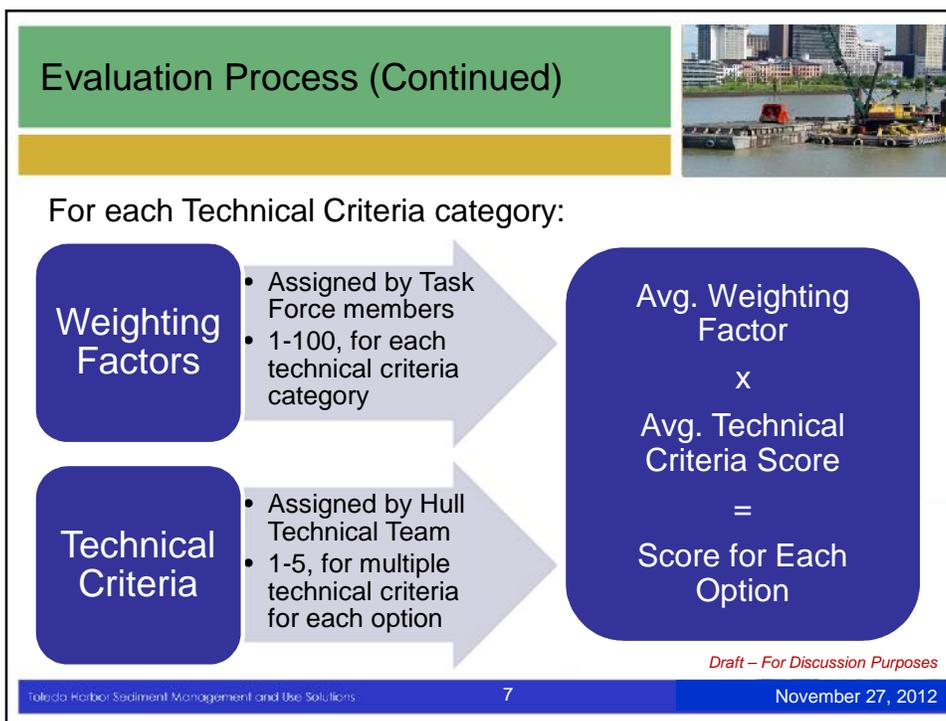


- Review potential sediment management and use options
- Present refinement of agricultural field improvement option
- Discuss next steps for THSMUP
- Solicit Task Force feedback



Draft – For Discussion Purposes





Combination Option



- Use a combination of options to minimize challenges
- Criteria for combination option:
 - Weighted scores
 - Estimated costs
 - Practicality/feasibility
 - Shorter implementation time
 - Improved short-term benefits

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Selection of Combination Option



- Wetland restoration and shoreline protection (7M CY)
- Agricultural fields (7M CY)
- Beneficial use (3M CY)
- Open-lake with controls (13M CY)
 - Options selected generally have a lower unit cost increase when a smaller footprint / feasible quantity was analyzed
 - More feasible options
 - Options selected ranked the highest in at least one technical category
 - Arbitrary selection of volumes for purposes of discussion
 - Will need a detailed design analysis completed

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Single and Combination Option Final Ranking and Relative Costs

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Rank	Option	Weighted Score	Relative Unit Cost (\$/CY)
1	Combination	397.7	\$13.50
2	Agricultural Fields (5-mile Radius)	391.0	\$10.20
3	Agricultural Fields (10-mile Radius)	386.8	\$11.20
4	Wetland Restoration & Shoreline Protection	379.7	\$10.90
5	Emergent HRU - Shallow Water	365.7	\$24.70
6	Beneficial Use	354.8	\$30.20
7	Emergent HRU - Deep Water	351.2	\$32.40
8	Open-Lake - With Controls	349.4	\$11.10
9	Open-Lake – No Controls	327.5	\$10.50
10	New CDF	318.2	\$27.30
11	Submerged HRU - Deep Water	317.4	\$42.60
12	Submerged HRU - Shallow Water	281.0	\$61.70

Toledo Harbor Sediment Management and Use Solutions

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Refinement of Agricultural Field Improvement Option



- Additional work completed since issuance of draft THSMUP:
 - Review of similar projects, including ODNR upland placement at East Harbor State Park
 - Review agronomic suitability of dredged material
 - Refine design and implementation methods
 - Refine preliminary cost estimates to include a more detailed pump management and maintenance cost
 - Identification of next steps recommended to move forward with implementation

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Toledo Harbor Sediment Management and Use Solutions

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ODNR East Harbor State Park Upland Placement Project

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East Harbor State Park

Hydraulic Dredge & Floating Pipeline (3,500 ft.)

Booster Pump

Booster Pump

Pipeline (4,000 ft.)

SR 163

Dredged Material Relocation Area (30 acres)

Boundaries are approximate
Not to Scale

41°32'17.28"N 82°47'28.88"W elev: 571 ft

41°31'26"N 82°47'17.28"W elev: 604 ft

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ODNR East Harbor State Park Upland Placement Project (Continued)

Material is hydraulically dredged from Middle Harbor

Transported through a booster pump upland

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ODNR East Harbor State Park Upland Placement Project (Continued)



Pumped upland through a 12-inch HDPE pipeline

Pumped into one of four cells at the upland site



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ODNR East Harbor State Park Upland Placement Project (Continued)



Empty constructed cell

Cell currently being filled



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ODNR East Harbor State Park Upland Placement Project (Continued)



Dredged material was placed in this portion of the cell last year and became vegetated within the last few months

Water depths vary within the cell being filled



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ODNR East Harbor State Park Upland Placement Project (Continued)



A silt curtain reduces the flow of water before entering a box weir

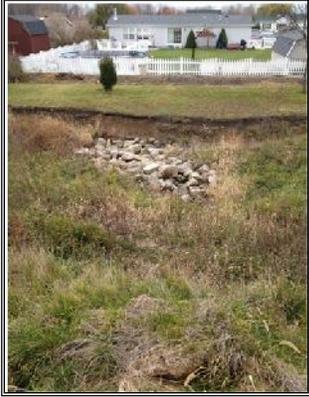
Box weir controlling flow to the perimeter ditch



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ODNR East Harbor State Park Upland Placement Project (Continued)





Water flows through the box weir to a perimeter ditch

Perimeter ditch with series of check dams



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Penn 7 Agricultural Suitability Study



- USACE conducted a ryegrass and barley greenhouse growth study on dredged material collected from Penn 7 in 1978
- Plant yields on dredged material were greater than yields on:
 - productive agricultural soils from Minnesota,
 - marginal coarser-grained soils, and
 - mixtures of varying ratios of dredged material and marginal soil.
- Increased yields attributed to greater nutrient availability, available water contents, or a combination of both.

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Other Upland Placement of Dredged Material on Agricultural Fields



- Lake Springfield, Illinois implementation
 - 362-acre field, 3 cells
 - Site grading and drainage ditch, no drainage tiles
 - 3.2M CY at an average depth of about 6 feet
 - Higher soybean yield than corn
- Lake Decatur, Illinois pilot projects
 - 5-acre plot, corn
 - 1 acre, grass/legume and soybeans

Harvesting corn grown in Lake Decatur sediment



Material ready for grading



Source: Agricultural Watershed Institute, 2005

Draft – For Discussion Purposes

Other Upland Placement of Dredged Material on Agricultural Fields



- Lake Paradise, Mattoon, Illinois
 - Feasibility of applying hauled and hydraulically pumped lakebed sediment to farmland and evaluation of crop yields
 - Higher corn yield in hauled sediment plots (< 1 acre) compared to original farmland
 - Hydraulically pumped plot had tile outlet terrace system with two sediment basins
 - Designed to hold 3 feet of sediment and 1 foot of water
 - More economical for large volumes of sediment

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Other Upland Placement of Dredged Material on Agricultural Fields



- Potomac River, Virginia
 - 450,000 CY dredged material placed onto reclaimed sand and gravel mine
 - Dewatered for one year
 - Various amendments
 - Planted with winter wheat and corn two years after placement of dredged material
 - Yields at or above county average; still productive today

Row crop experimental seeding (2001)



Wheat harvest (2002)



Source: Daniels, et al., 2007

Draft – For Discussion Purposes

Refinement of Agricultural Field Improvement Option



- Considerations for land application of sediment
 - Comparison to Regional Screening Levels
- Considerations for agronomic suitability
 - Drainage
 - Nutrients
 - Soil structure
- Considerations for crop suitability

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Refinement of Agricultural Field Improvement Option



- Evaluation of overall dredging and relocation operation
 - Hydraulic dredge vs. mechanical dredge
 - Optimum size of hydraulic dredge
 - Pump-out location
- Potential locations for Implementation
- Booster pumps and facilities
 - Operating costs
 - Locations

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Refinement of Agricultural Field Improvement Option



- Pipeline requirements
 - Temporary vs. buried
 - Routes
 - Distances
- Containment structure phasing
- Dewatering and structural controls
 - Drain tile
 - Buffer strip
 - Adjustable weir outfall

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Refinement of Agricultural Field Improvement Option Costs



- Major cost elements
 - \$300/acre rental per year
 - \$6,000/acre for purchase of easements
 - \$250,000/each for purchase of booster pump
 - \$0.15/kWH for booster pump operation
 - \$25,000 for booster pump facilities
 - \$75/foot for the upland buried pipeline

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Refinement of Agricultural Field Improvement Option – Costs for Different Alternatives



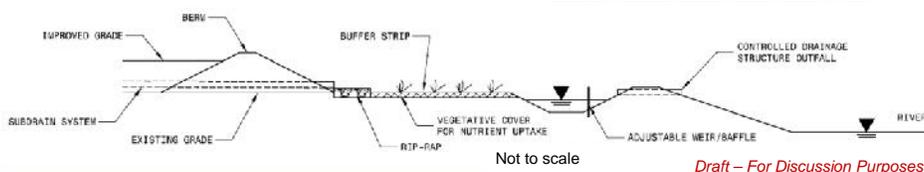
- Current mechanical dredging methods and pump-out system
 - \$10.00/CY to \$11.50/CY
- Hydraulic dredge
 - \$9.50/CY to \$10.50/CY for 18-inch
 - \$10.50/CY to \$11.50/CY for 24-inch
 - \$10.75 to \$11.50 for 16-inch
 - Cost range depends greatly on placement location and quantity of material managed

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Refinement of Agricultural Field Improvement Option



- Next Steps
 - Pilot project
 - Contact relevant landowners
 - Integrate edge of field concept



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Next Steps



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- Draft Toledo Harbor Sediment Management and Use Plan:
 - Issue draft report of agricultural field improvement option refinement to Task Force for review (Appendix L of THSMUP)
 - Submit comments no later than **Friday, December 17th**
 - Please note that all written comments and telephone comment logs will be put into the record and attached as an appendix to the final THSMUP
 - Final THSMUP by December 31st

Submit written comments and/or questions to Hull representatives and submit to Kristin Gardner (kgardner@hullinc.com) or fax it to her attention at 419-385-5487.

Contact Information



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References



- Agricultural Watershed Institute. 2005. *Potential for Beneficial Use of Lake Decatur Sediment*.
- Vitosh, M.L. et al. 2007. Tri-State Fertilizer Recommendations for Corn, Soybeans, Wheat, and Alfalfa.
- Gupta, S. C., et al. 1978. *The agricultural value of dredged material*. Technical Report D-78-36, 1978. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS., NTIS No. AD A061 298
- Lembke, W.D. et al. 1983. *Dredged sediment for agriculture: Lake Paradise, Mattoon, Illinois*. Research Report No. 175
- Daniels, W. L et al. 2007 “Conversion of Potomac River Dredged Sediments to Productive Agricultural Soils” National meeting of Amer. Soc. Of Surface Mining and Reclamation, Gillette WY, June 2-7, 2007. ASMR 3134 Montevesta Dr., Lexington KY.

Draft – For Discussion Purposes

ATTACHMENT B

Toledo Harbor Task Force Civil Works Transformation

November 27, 2012

Mike Pniewski

Project Manager

Michael.D.Pniewski@usace.army.mil

(419) 726-9121



US Army Corps of Engineers
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Former GI Watershed Study Process

▪ 3 Distinct Phases

Phase 1 – Existing Conditions

- Develop Without Project Conditions
- First Screening of Potential Measures
- ATR, Division and HQ Policy Review
- End Milestone – Feasibility Scoping Meeting

Phase 2 – Evaluate Alternatives

- NED, LPP, NER
- ATR, Division and HQ Policy Review
- End Milestone – Alternative Formulation Briefing



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Former GI Watershed Study Process

- 3 Distinct Phases

- Phase 3 – Optimize Selected Alternatives/Environmental Impact Statement

- Optimize Selected Alternatives and Perform Environmental Studies for EIS
 - Prepare Draft Feasibility Report
 - Perform ATR, MSC and HQ Review
 - Perform IEPR
 - Release Draft Report and Draft EIS
 - Hold CWRB
 - Release Final Report
 - End Milestone – Chief’s Report and ROD

- Task-Based Approach

Certain Tasks required for each milestone
whether necessary or not to meet study objectives



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New Planning Process

- Mandates Planning Studies follow 3x3x3 guidelines

Total Cost Under \$3 Million

Time to Complete under 3 years – preferable 18 months

Requires 3 levels of Vertical Team Coordination

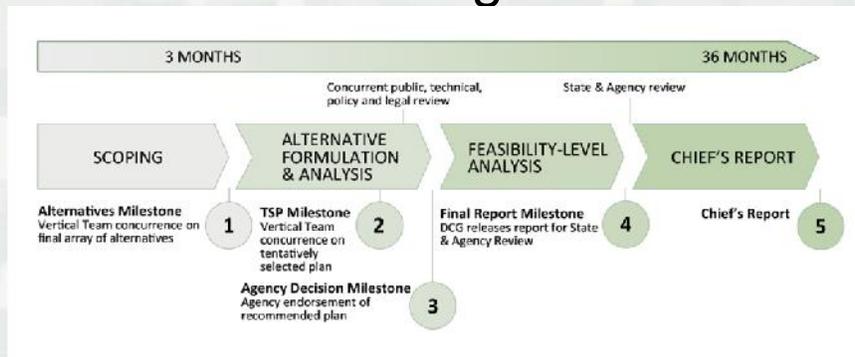
- HQ
- MSC
- PDT

- Existing Planning Studies required to be reset and reclassified



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New Planning Process



- **Decision-Based Approach**

- Process begins with Charette with entire VT present
- Vertical Team agrees on decision points and criteria necessary for making the next decision
- Documented in Decision Management Plan



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New Planning Process

- **Requires Evaluation of Risk for Each Decision**

- What information is needed for decision
 - What is the risk in making the decision if the information is not needed?
 - Vertical team must decide what information is required to make the decision.
 - i.e. For Final Array:
 - What is the impact real estate issues will have on final array? Will it influence the decision?
 - What data is immediately available? What level of certainty does the existing data provide? Will getting more data change the decision outcome?
 - What are the risks of using the available data? (Probability and consequence of making an undesirable decision)

- **Documented in Risk Register**



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New Planning Process

- Vertical Team should be empowered to ask
 - Will the information requested influence the decision?
 - What is the need for the information?
- Each project is unique
 - Because information was needed for a prior project does not mean it is necessary for this project at this point in the study?
 - Professional judgment is used to evaluate information needs required for the decision
- Constant communication is essential
 - PDT is empowered to ask questions of vertical team
 - Can request IPRs for entire VT or for certain areas depending on needs of study



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New Planning Process

- Decision Log is kept by PDT as decisions are made
- After last decision outlined in Decision Management Plan is reached
 - PDT prepares Report Synopsis outlining decisions made based on the decision criteria in the DMP
 - PDT prepares draft DMP outlining next major decisions to be made and decision criteria for each
 - PDT prepares draft risk register outlining risks associated with next decision
 - Three documents submitted to VT for review and comment
 - VT can choose to hold charette, conf. call, etc. to discuss decisions made and next decisions



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Effects on Maumee HRU

- ATR now performed after Selection of Tentatively Selected Plan
- Future Construction Sponsor involvement in planning to Tentatively Selected Plan
- Funds granted to Study were for development of initial conditions and measures. In this case, 50% of the work to TSP
- Due to scarcity of funds, future funds will not be allocated to study until a committed construction sponsor is identified. This Sponsor must be involved in development of TSP
- Data will be available to any requesting party



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