

DRAFT FINAL
SUMMARY OF THE DREDGED MATERIAL MANAGEMENT PROGRAM
INNOVATIVE REUSE COMMITTEE MEETING

August 27, 2019, 5:30 PM
2200 Broening Highway
Baltimore, Maryland 21224

Attendees:

Innovative Reuse Committee (IRC) Members:

Anne Arundel County Department of Public Works (DPW): Chris Phipps
Baltimore County Department of Environmental Protection and Sustainability (EPS): David Riter
Baltimore Port Alliance (BPA): Rupert Denney
Chesapeake Bay Foundation (CBF): Doug Myers
Maryland Department of the Environment (MDE): Matt Rowe
Stancills, Inc: Chris Siciliano
Turner Station Conservation Team (TSCT): Larry & Stephanie Bannerman
United States Army Corps of Engineers, North Atlantic Division, Baltimore District (CENAB): Kevin Brennan

IRC Support Staff and Observers:

Facilitator: Steve Pattison
Anne Arundel County DPW: Masoud Ghatineh
Biohabitats, Inc.: Joe Berg, Chris Streb
EcoLogix Group: Bob Summers
Furbish: Michael Furbish
GreenVest, LLC: Adam Ganser, Paul Zanecki
Mahan Rykiel Associates (MRA): Isaac Hametz
Maryland Department of Natural Resources (DNR): Bruce Michael
Maryland Department of Transportation (MDOT): Eddie Lukemire
Maryland Department of Transportation Maryland Port Administration (MDOT MPA): Kristen Fidler, Katrina Jones, Kristen Keene, Holly Miller, Gannon Price
Maryland Environmental Service (MES): Jeff Halka, Dallas Henson, Benjamin Langer, Lauren Mentzer
Northgate Environmental Management (NGEM): Steve Bedosky, Deni Chambers
Schnabel Engineering, Inc.: Michael Roscoe
South Baltimore Gateway Partnership: Brad Rogers
Straughan Environmental, Inc.: Jeff Nelson
Terracon: Nancy Straub
Tradepoint Atlantic: Peter Haid
University of Maryland Center of Environmental Science (UMCES): Elizabeth Price

Action Items:

1. Maryland Environmental Service (MES) will revise the May 28, 2019 Innovative Reuse Committee (IRC) summary based on the suggestion by Mr. Denney regarding the spelling of Worcester County, Maryland.
2. Prior to the fall IRC meeting, Mr. Pattison will distribute the list of questions for consideration regarding updating the Innovative Reuse Strategy.

3. The Maryland Department of Transportation Maryland Port Administration (MDOT MPA) will investigate the feasibility of rescheduling the November 26, 2019 IRC meeting to the following week considering the timing of Thanksgiving holiday.

Welcome & Introductions

Steve Pattison, Facilitator

Mr. Pattison welcomed the meeting attendees and the attendees introduced themselves.

Mr. Pattison requested comments on the May 28, 2019 IRC meeting summary. Mr. Denney provided the correct spelling of "Worcester" County. The Committee did not raise any additional comments and accepted the May 2019 summary as final once the update has been incorporated.

Water Resources Development Act (WRDA) 2018 Section 1122 – Beneficial Use Pilot Program

Kevin Brennan, CENAB

Mr. Brennan provided an update regarding the 2016 Water Resources Development Act (WRDA), Section (§) 1122, Beneficial Use of Dredged Material Pilot Program. WRDA 2016 requires the United States Army Corps of Engineers (USACE) to establish a program to conduct 10 pilot projects throughout the United States for the beneficial use of dredged material. The 10 pilot projects selected by the USACE in December 2018 are currently awaiting funding. Mr. Brennan stated that the projects could be allocated funding through the USACE's Fiscal Year 2020 Work Plan. The Work Plan is developed by USACE Administration to allocate additional funding provided by Congress to various authorized USACE projects. Mr. Denney asked if the current list of selected pilot projects will remain the intended projects although funding has not been received. Mr. Brennan responded that the selected pilot projects are the projects that will advance once funding is allocated.

Mr. Pattison inquired about the status of the 10 additional pilot projects that WRDA 2018 requires the USACE to establish. Mr. Brennan responded that the USACE, North Atlantic Division, Baltimore District is awaiting guidance regarding the proposal solicitation process from USACE Headquarters.

Innovative and Beneficial Reuse Progress Report

Kristen Keene, MDOT MPA

Ms. Keene provided updates regarding the MDOT MPA innovative reuse program.

Current/Upcoming Innovative Reuse Projects

Hawkins Point DMCF South Cell Closure

Ms. Keene informed the Committee that approximately 4,500 cubic yards (cy) of dredged material from the Cox Creek Dredged Material Containment Facility (DMCF) was reclaimed and moved to the Hawkins Point site to be utilized in the closure/grading of the South Cell.

Quarantine Road Landfill Alternative Daily Cover

In partnership with the Baltimore City Department of Public Works (DPW), approximately 6,000 cy of dredged material from the Cox Creek DMCF was reclaimed and hauled to the Quarantine Road Landfill (QRL) for use as alternative daily cover. Baltimore City DPW reports that the dredged material is performing satisfactorily and is comparable to the standard daily cover material.

Hart-Miller Island North Cell Pilot Project

Ms. Keene provided an update regarding the Hart-Miller Island (HMI) North Cell Pilot Project developed in coordination with Mahan Rykiel Associates (MRA) through the 2017 Design with Dredge summer internship. The primary goals for this project are to create diverse habitat, engage and educate stakeholders,

and optimize operations and maintenance costs associated with habitat development in the North Cell of HMI. The project is divided into four phases including Phase I: Concept Design (completed); Phase II: Design Development (in process); Phase III: Construction (begin winter 2019); and Phase IV: Adaptive Management & Monitoring (three-year period post construction).

Mr. Myers asked if additional dredged material will be brought to HMI for the project. Ms. Keene responded that this project will repurpose material currently onsite at HMI.

Ridgley's Cove Remedial Capping

Ridgley's Cove is an under-utilized park located behind the Horseshoe Casino parking garage in Baltimore City, adjacent to the middle branch of the Patapsco River. Ridgley's Cove will undergo on-shore and off-shore remediation in association with the mitigation requirement for the TopGolf development in Baltimore City. MDOT MPA, in close coordination with the Maryland Department of the Environment (MDE), Baltimore Development Corporation (BDC), and BDC consultants, is planning to contribute 23,000 cy of blended dredged material to serve as the remedial capping material. As a part of this project the material must support vegetative growth in the upland portion of the property. MDOT MPA is currently in the process of identifying amendments that will be blended with Cox Creek DMCF dredged material to meet the project specifications and MDE's recreational end-use classification. Hauling of the material to the project site is expected to begin in early 2020. MES Operations staff at Cox Creek DMCF are currently in the process of drying and stockpiling material for this project.

Preview: DMMP Annual Report 2020 Innovative Reuse Recommendations

Ms. Keene stated that the DMMP Annual Report is developed by the DMMP Management Committee and submitted to the DMMP Executive Committee for approval. The report is organized by key focus areas that are fundamental to the ongoing success of the DMMP. The goals of the report include presenting an overview of the accomplishments of Maryland's DMMP at the end of the year and to provide recommendations for the next year.

The 2019 DMMP Annual Report is currently under development and there are two preliminary 2020 recommendations that pertain to the innovative reuse program. The first recommendation for the innovative reuse program will involve determining ways to better utilize dredged material to address climate change/resiliency needs in the Chesapeake Bay region. The second recommendation will involve revising the 2014 Innovative Reuse Strategy. Ms. Keene reiterated that the draft 2020 recommendations have not yet been approved by the DMMP Executive Committee.

Updating the Innovative Reuse Strategy

Ms. Keene stated that significant progress has been made over the past five years towards accomplishing the action items outlined in the 2014 Innovative Reuse Strategy. This progress provides a prime opportunity to review and update the strategy and develop new action items to accomplish for the next five to ten years. The November IRC meeting will include a facilitated discussion to obtain recommendations for an updated Innovative Reuse Strategy and Ms. Keene provided a list of questions for the Committee to consider for the November meeting discussion. The list of question included: 1) Are there any outstanding research and development needs for dredged material end uses? 2) Are there other agencies, business, environmental advocacy groups, citizens and/or private sector representatives that you feel MDOT MPA should be engaging with? 3) Are there existing regulatory barriers or impediments that could be updated to help facilitate dredged material reuse? 4) How can we build on the progress we have made to-date promoting the innovative reuse and beneficial use of dredged material; are there any additional education and outreach

needs? 5) How can the beneficial use of dredged material be expanded to address Maryland's coastal resiliency needs? Prior to the fall IRC meeting, Mr. Pattison will distribute the list of questions for consideration to the Committee along with the August 2019 meeting summary.

Mr. Denney inquired about the number of agencies that are involved in Maryland's coastal resiliency needs and asked if the DMMP Harbor Team has or should formally reach out to these agencies to determine regulatory impediments regarding their use of dredged material. Ms. Keene responded that there are several agencies involved in coastal resiliency concerns/efforts in Maryland at local, state, and federal levels; coordination regarding regulatory impediments should be conducted with all agencies involved with coastal resiliency. Each agency operates on a different scale, so the varying input would be useful in updating the Innovative Reuse Strategy. Mr. Brennan stated that the United States Fish and Wildlife Service (USFWS) would be interested in using dredged material to increase coastal habitat for the Black Rails and Saltmarsh Sparrows which are currently in decline due to loss of coastal habitat. Mr. Lukemire stated that the MDOT Headquarters is currently working with the USACE regarding the Baltimore Coastal Storm Risk Management Study. Mr. Michael stated that the Maryland Department of Natural Resources (DNR)'s Chesapeake and Coastal Service is a partnership among local, regional, and state agencies that collaborate with many private organizations to ensure that the group's expertise, tools, and financial resources are used to their utmost capacity to address Chesapeake, coastal, and ocean management priorities.

University of Maryland Dredged Material Blending Studies

Mr. Lukemire requested an update regarding the studies being performed by the University of Maryland (UMD). Ms. Keene responded that MDOT MPA has been coordinating with MDOT State Highway Administration (SHA) and UMD on two studies for blended dredged material. The first study involves determining an embankment fill material blend that meets MDOT SHA's Embankment specification. This study is currently completed and under review. The second study is looking to identify a topsoil blend that meets MDOT SHA's Topsoil specification. This study is expected to be completed by December 2019. Once the final reports for both studies have been completed, MDOT MPA will schedule presentations for the DMMP committees.

Anne Arundel County Beneficial Use Projects

Chris Phipps, Anne Arundel County DPW

Mr. Pattison stated that MDOT MPA provides an opportunity for Committee members to provide updates from their respective organizations. Therefore, Mr. Phipps will provide an overview of work performed by the Anne Arundel County DPW and their role/interest in the innovative and beneficial use of dredged material.

Mr. Phipps introduced himself as the Director of the Anne Arundel County DPW and introduced Mr. Masoud Ghatineh to the Committee. Mr. Phipps stated that, similar to MDOT MPA, Anne Arundel County DPW is challenged by how to better reclaim and better utilize waste streams, such as dredged material, municipal solid waste, and wastewater. Currently, 44% of Anne Arundel County solid waste is diverted to a recycling program. Additionally, approximately 6 million gallons of highly treated wastewater effluent from the Cox Creek Water Reclamation Facility is used at the Brandon Shores Generating Station as uptake water in the emission control system. Anne Arundel County DPW has also begun to reuse existing hot-mix asphalt on county roads and bridges through a replenishment process that involves melting, re-shaping, and curing the existing asphalt.

Mr. Phipps stated that Anne Arundel County has 163 navigable waterways, four county-owned dredge material placement (DMP) sites, and four beneficial use sites. Annually, over the last 10 years, Anne

Arundel County performed two to five dredging projects consisting of approximately 28,000cy. Funding for dredging projects is obtained through the DNR Waterway Improvement Fund (WIF) and is matched with county funds. The annual program budget is approximately \$2 million.

Mr. Phipps discussed the four county-owned DMP sites and four beneficial use sites used by the Anne Arundel County DPW. The Idlewilde DMP site is in Shady Side, MD and has a maximum capacity of 76,000cy with a current available capacity of 37,000cy. The Rock Creek DMP site is located south of the Cox Creek DMCF and has a maximum capacity of 79,000cy with a current available capacity of 35,000cy. Mr. Phipps added that the Idlewilde and Rock Creek DMP sites are in residential communities and are therefore difficult to transport material to and from without a disturbance to the community. The South County DMP site is in southern Anne Arundel County and has a maximum capacity of 118,000cy with a current available capacity of 70,000cy. The CSX DMP site is located off Marley Neck Boulevard in Pasadena, MD and has a maximum capacity of 74,000cy with a current available capacity of 41,000cy. However, per an agreement with the community the CSX DMP is restricted to receiving material from Marley Creek dredging projects only. Mr. Phipps stated that the four beneficial use sites used by the Anne Arundel County DPW are beach nourishment projects located at Fort Smallwood Park, Bay Ridge Community Beach, Franklin Manor Community Beach, and Beverly Triton Nature Park. The current available combined capacity of these beaches is approximately 70,000cy. Mr. Myers asked how the dredged material is transported to the DMP sites as they are not near water. Mr. Phipps responded that the dredged material is transported by truck to the DMP sites.

In 2014, Anne Arundel County DPW developed a DMP Strategic Plan to address the gap between the 20-year dredging program requirement of 600,000cy and the current capacity of active DMP sites of 34,000cy. The plan also sets forth a pathway for Anne Arundel County DPW to sustain the number one ranking for recreational boating and associated state grant acquisitions, maintain and restore navigation access to the Chesapeake Bay, maximize economic, environmental, and citizen benefits and develop solutions for the challenges faced by the Anne Arundel County DPW. These challenges include: County dredged material being composed primarily of fine-grained material, the vast distances between dredging projects and DMP sites, constrained land availability for material placement, and the lack of public understanding regarding the economic and environmental importance of dredging projects. In order to address these issues, Anne Arundel County DPW developed the following recommendations: manage material as a resource, not a waste; expand material use and re-use to benefit a broader spectrum of citizens, not just boaters; continue aggressive dewatering and material re-use at existing DMP sites; develop a new South County DMP site; and educate and enlist County waterway interest groups to the economic, environmental, and public benefits of dredging.

Mr. Phipps discussed the completed beneficial use projects in Anne Arundel County and reviewed a list of projects that included direct placement of material. Direct placement occurred for beach nourishment in Annapolis at the Alpine Beach, Bayside Beach, and Bay Ridge Beach and in Mayo at Beverly Triton Beach, and for marsh and beach protection in Severn River at Brewer Pond Shoreline. Sand from the Grays Creek dredging project was used for wetland restoration at the North Grays Bog. Mr. Phipps also reviewed a list of completed beneficial use projects in which indirect placement of material occurred. Indirect placement of material included reclaiming dredged material from the Idlewilde DMP site and the privately-owned Herrington Harbour DMP site to use as fill material at the Sudley landfill borrow pit; using dredged material from the privately-owned North County Regional DMP site as construction fill; constructing a landscape berm/buffer using dredged material from the Rock Creek DMP site for an adjacent golf course; and closure of the Town Point DMP site. During the construction of the Town Point DMP site, opposition was raised

by the Advocates for Herring Bay due to the dangers associated with the transportation of material in and out of the facility on the narrow winding roads. An agreement was reached and stipulated that the Town Point DMP would be entombed, amended, graded, and left as farmland. Mr. Phipps stated that, historically, 40% of the County dredging volume has decreased due to the beneficial use or re-use of dredged material which means that approximately 250,000cy of DMP site capacity is reclaimed.

Mr. Phipps outlined the recent/upcoming beneficial use projects in Anne Arundel County. The first is the no-cost September 2019 Fort Smallwood Park swim beach nourishment and breakwaters project which will use 3,300cy of dredged material from Bodkin Creek. The corollary benefits include DMP site capacity management, transportation savings, sea-level rise resiliency, shoreline protection, marsh creation, and recreation. The second is the 2020 no-cost Bay Ridge Beach nourishment project will use 9,000cy of dredged material from Lake Ogleton. The corollary benefits of this project include DMP site capacity management, transportation savings, sea-level rise resiliency, shoreline protection, and a public-private partnership. The third project is the 2020 no-cost Franklin Manor Shoreline beach nourishment and breakwaters retrofit project which will use 6,000cy of dredged material from Deep Cove Creek. The corollary benefits include DMP site capacity management, transportation savings, sea-level rise resiliency, shoreline protection, and public-private partnership. The last beneficial use project is the June 2019 Jack Creek Park improvement project which will use 70,000cy of dredged material from the Idlewilde DMP site and cost \$1.9 million. This project will include land reclamation, coastal protection/living shoreline, a canoe/kayak launch, and improved park access. The corollary benefits include DMP site capacity management, sea-level rise resiliency, water quality/habitat improvement, and Municipal Separate Storm Sewer System (MS4)/Total Maximum Daily Load (TMDL) credit.

Mr. Denney inquired about the cost of transportation to the landlocked DMP sites. Mr. Ghatineh responded that the average cost for mechanical dredging is between \$50 and \$100 per cubic yard and the average cost for hydraulic dredging is between \$20 to \$25 per cubic yard. Mr. Ghatineh further explained that hauling costs can double or triple the cost of the project. Ms. Fidler asked if the material is transported by truck wet or dry. Mr. Ghatineh responded that wet material is transported using sealed trucks. Regarding MDOT MPA's innovative reuse program and the limited drying space available at Cox Creek DMCF, Mr. Denney speculated about the possibility of drying the dredged material at the end use location. Mr. Berg stated that Biohabitats was able to haul material after a few days of windrow drying on Board of Education property in Annapolis. Mr. Haid asked how Anne Arundel County DPW dewater their material. Mr. Phipps responded that the material is decanted using weir boards while adhering to the site's water quality certification. Mr. Ghatineh added that handling the material dries it through evaporation.

Fleming Park Shoreline Restoration Project Update

**Doug Myers, CBF
Larry Bannerman, TSCT**

Mr. Bannerman and Mr. Myers presented a narrated virtual reality (VR) tour of Fleming Park at Turner Station. The VR tour demonstrated 3 and 6 feet of sea-level rise and provided project updates regarding the Fleming Park shoreline restoration project developed in partnership with the Turner Station Conservation Team (TSCT), Chesapeake Bay Foundation (CBF), MRA, and The Nature Conservancy. Mr. Bannerman stated that the project is steadily progressing and obtaining new partners along the way. Mr. Myers stated that the sea-level rise model will be used to develop a restoration project that will be more resilient to the effects of sea-level rise. Based on this model, the construction of best management practice (BMP) wetlands in the upland portion of the site to feed the beneficial use marsh would be effective. Some of the site's facilities may need to be moved to obtain enough space for the BMP wetlands. The project partners are in

the process of obtaining funding and are developing scopes of work. The project is expected to have 100% design plans completed within 2.5 years.

Ms. Fidler stated that when the Fleming Park project occurs it will be the first beneficial use project using Baltimore Harbor material within the Harbor and will begin a new era for the use of Harbor dredged material.

Group Discussion

Conowingo Dredging Update

Mr. Rowe provided an update regarding the Conowingo dredging project. The project is underway, and a contractor has been selected. The sampling and analysis plan to characterize the sediments behind Conowingo Dam per the beneficial use parameters was developed and approved by MDE. Once the material is characterized, dredging and the innovative reuse/beneficial use pilot project will commence. Mr. Rowe stated that an update regarding the project can be provided for the Committee at a later date. Mr. Rowe added that DNR and a State agency team is working on the project. MDE expects the project to be completed by mid-2020.

Mr. Denney expressed a concern from the private sector regarding the possibility that dredged material from above the Conowingo Dam might, for fiscal and political expedience, have to be placed in existing DMCFs thereby skewing long term projections and reducing capacity for maintenance dredging in the harbor. Mr. Rowe responded that the scalability of the Conowingo dredging has not been determined at this time, therefore its competitiveness is unknown.

Harbor Development Update

Mid-Bay Update

Ms. Fidler stated that the USACE and MDOT MPA signed a design agreement to move forward with pre-construction, engineering, and design for the Mid-Bay project. Ms. Fidler reminded the Committee that Poplar Island will reach capacity by 2032. The final design for Mid-Bay is expected to be completed within 4 years. The Barren Island portion of the project will be conducted prior to the James Island portion of the project.

Tronox Property Acquisition Update

MDOT MPA is continuing to hold discussions with Tronox, the owners of the property adjacent to the Cox Creek DMCF. This property was formerly known as Cristal USA.

South Baltimore Gateway Partnership

Mr. Rogers stated that the South Baltimore Gateway Partnership is working to reinvent the Patapsco River Middle Branch as Baltimore's next great waterfront with 11 miles of parks, trails, and connections through various neighborhoods. The project will also include a significant amount of wetland restoration projects which could utilize dredged material beneficially and innovatively. West 8, the lead designer for the project, has extensive experience with shoreline restorations, sustainability, and resiliency. Ms. Fidler thanked Mr. Rogers for inviting MDOT MPA to be included in the design team's visits to the sites surrounding the Middle Branch. MDOT MPA is invested in the Middle Branch project as Masonville Cove, owned by MDOT MPA, is located at one endpoint of the project.

Upcoming Meetings

Mr. Siciliano noted that the next IRC meeting is scheduled for November 26, 2019. This is the same week as the Thanksgiving holiday and requested an alternate meeting date. Mr. Pattison stated that MDOT MPA will investigate the feasibility of rescheduling the November IRC meeting.

Meeting adjourned at 7:00pm