

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

August 28, 2018, 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: David Riter

Baltimore Port Alliance: Rupert Denney

Maryland Department of Commerce (MDOC): Paul Spies

Maryland Department of the Environment (MDE): Matthew Rowe

Maryland Department of Natural Resources (DNR): Paul Petzrick

Northeast Maryland Waste Disposal Authority (NMWDA): Andrew Kays

Turner Station Conservation Team (TSCT): Larry Bannerman

Stancills, Inc: Chris Siciliano

United States Army Corps of Engineers (USACE): Kevin Brennan

IRC Support Staff and Observers:

Facilitator: Steve Pattison

Baltimore City DPW: Joana Pei, Kristyn Oldendorf

Cox Creek Citizens Oversight Committee (COC)/North County Land Trust (NCLT): Bill Jones, Laura Jones

HarborRock: Jeff Otto

Harvest Mid-Atlantic: Erin Young

Kurtz Bros., Inc: Jason Ziss

MDE: Mark Mank, Jim Carroll

DNR: Jackie Specht

Maryland Department of Transportation Maryland Port Administration (MDOT MPA): Sergio Adantor, Chris Correale, Bertrand Djiki, Kristen Fidler, Jennifer Guthrie, Margie Hamby, Katrina Jones, Kristen Keene, Holly Miller, Gannon Price

Maryland Department of Transportation - Secretary's Office (MDOT TSO): Eddie Lukemire

Maryland Environmental Service (MES): Jeff Halka, Dallas Henson, Lauren Mentzer

Northgate Environmental (NGE): Nancy Leitner

Terracon: Nancy Straub

University of Maryland Center of Environmental Science (UMCES): Elizabeth Price

Action Items:

1. MDOT MPA will provide Mr. Bannerman the web address for the Maryland Department of Natural Resources Community Resiliency Grant Program. (Complete)

Welcome & Introductions

Steve Pattison, Facilitator

Mr. Pattison welcomed the meeting attendees and the attendees introduced themselves. Mr. Pattison requested comments on the May meeting summary; no comments were shared, and the Committee accepted the May 22, 2018 summary as final.

Mr. Pattison informed the Committee that Mr. Paul Spies is a new member of the Innovative Reuse Committee (IRC) representing the Maryland Department of Commerce (MDOC). Additionally, Mr. Chris Siciliano has replaced Mr. Terry Stancill in representing Stancills, Inc. on the IRC.

Innovative Reuse and Beneficial Use Progress Report

Kristen Keene, MDOT MPA

Innovative Reuse Demonstration Projects

Ms. Keene stated that Maryland Department of Transportation Maryland Port Administration (MDOT MPA) is working with several partners with a goal to execute meaningful demonstration-scale projects that will help further the innovative reuse program. There are currently four demonstration projects that are being pursued by MDOT MPA, which Ms. Keene discussed with the Committee.

The first demonstration project will utilize dried dredged material from the Cox Creek Dredged Material Containment Facility (DMCF) as alternative daily cover (ADC) at Baltimore City Department of Public Works (DPW) Quarantine Road Landfill. MDOT MPA and Baltimore City DPW are working to finalize a memorandum of understanding (MOU) for hauling associated with transporting the material. MOU finalization is expected in the next 30 days.

The second project involves the test nursery planted at the Cox Creek DMCF to determine if dredged material could sustain grass growth. The test nursery was planted in October 2017 and undergoes routine monitoring, which is scheduled to occur through fall 2018. In lieu of a photo of the Cox Creek test nursery, MDOT MPA has developed a travel size test nursery. The travel size nursery consists of three plots: 100% topsoil, 100% dredged material, and a mixture of dredged material and lime. Ms. Keene shared the travel nursery with the Committee and explained that both the test nursery at Cox Creek and the travel nursery display similar results, with the dredged material with lime test plot having the highest percentage of vegetative coverage, 100% dredged material having the second highest coverage, and the 100% topsoil having the least coverage.

The third demonstration project will utilize dried dredged material from the Cox Creek DMCF as engineered fill material to facilitate the development of the Hawkins Point DMCF South Cell to support the installation of an algal flow-way at the site. The hauling of material from Cox Creek DMCF to Hawkins Point is expected to begin within 60 days after erosion and sediment controls at Hawkins Point are installed.

The fourth project is the Hart-Miller Island (HMI) North Cell habitat development. This project is in the data collection phase to support preliminary design scenarios, which include micro-landforms for diverse habitat creation. MDOT MPA will discuss next-steps and implementation for this project at a future IRC meeting where Mahan Rykiel Associates (MRA), the design firm for the project, will present aspects of the conceptual project design.

Outreach

Recently, MDOT MPA conducted several innovative reuse presentations and discussions at local conferences. On May 2-3, 2018 MDOT MPA, Maryland Department of the Environment (MDE), and MRA were members of a panel for innovatively reusing dredged material at the American Conference Institute's 2nd North American Dredging Summit. On June 20, 2018 MDE presented on behalf of MDOT MPA regarding the innovative reuse program at the Maryland Recycling Network (MRN) and Solid Waste Association of North America (SWANA) Mid-Atlantic Annual Conference. Although the attendees were primarily solid waste managers, there were constructive questions regarding the use of dredged material as construction materials and along shorelines for coastal resiliency projects. Additionally, on July 19, 2018 MDOT MPA, MDE, and Kurtz Brothers Inc. (Kurtz Bros.) were members of a panel at the MES

Environmental Business Leadership Conference, which included discussions on innovatively reusing dredged material.

In July 2018, the *Bay Journal* featured an article written by Mr. Tim Wheeler regarding beneficial use of dredged sediment and the proposed Turner Station/Fleming Park project. Mr. Wheeler's interest in this topic stems largely from a community requesting the use of Harbor channel dredged material; this shows a paradigm shift in how communities previously viewed Harbor dredged material. Mr. Bannerman, a community leader for Turner Station, stated that seven support letters have been received for this project and the community is 80% in support. Mr. Denney asked for an update on obtaining funds for this project. Mr. Bannerman responded that funding through Baltimore County is at a standstill until the county can determine if nitrogen credits will be generated, as it is a beneficial use project. TradePoint Atlantic has promised the community full budgetary support, or as much as they are able, once project costs have been determined. Additionally, Mr. Bannerman informed the Committee that the Turner Station community is actively researching possible grants for the project.

MDE Guidance Document

Ms. Keene informed the Committee that MDE has considered updates to the Innovative Reuse and Beneficial Use of Dredged Material Guidance Document based on recent opportunities. Mr. Rowe added that MDE and the National Park Service have recently discussed dredging sections of the Chesapeake and Ohio Canal and placing the dredged material onto farmland. This discussion then initiated conversations between MDE and the Maryland Department of Agriculture and led to drafting new guidance for the agricultural use of dredged material. MDE is also internally discussing setting procedures and guidelines for dredged material processing sites. Additionally, St. Mary's County DPW has an interest in innovatively reusing dredged material from a containment area previously maintained by the United States Army Corps of Engineers (USACE), which has a high concentration of *Phragmites australis* growth. Therefore, MDE will develop guidance for the control of *Phragmites australis* when it is present in dredged material.

Innovative Reuse Request for Proposals

Ms. Keene informed the Committee that, on behalf of MDOT MPA, MES cancelled the Innovative Reuse Request for Proposals (RFP) on Friday, June 22, 2018. There were four proposals received in response to the RFP, one of which was deemed unresponsive. While the proposals were encouraging and demonstrated the feasibility of innovatively reusing 500,000 cubic yards (cy) of MDOT MPA Harbor channel dredged material, the proposals were too costly. MDOT MPA had been optimistic that even with the space constraints on site at Cox Creek DMCF, that the costs would be within a range that MDOT MPA's funding capabilities could accommodate; however, that did not prove to be the case.

MDOT MPA is actively pursuing the acquisition of additional property adjacent to the Cox Creek DMCF facility to provide the ability to conduct larger scale innovative reuse activities. In addition, MDOT MPA is focusing on advancing demonstration projects, collaborative efforts, and alternative funding opportunities. MDOT MPA is participating in the Sustainable Materials Management Maryland (SM3) committee, which is a private-sector led group supported by a coalition of businesses from multiple sectors, committed to working collaboratively with MDE, other state agencies, and other public-sector leaders across Maryland to meet the goals outlined in Governor Hogan's Waste Reduction and Resource Recovery Executive Order. The group has established three Working Groups to date: (1) Materials Marketplace; (2) Innovative Technologies; and (3) Metrics & Measures. While discussions will ensue within the framework of these three workgroups, information and results will be shared among them. Additional work groups will

focus on topics such as Energy Efficiency, Dredged Materials, Education, and Communication; however, these groups will begin after sufficient progress with the three initially defined work groups.

Innovative Reuse Strategy

MDOT MPA continues working to meet IR Strategy - Item 6: Explore potential alternative means of funding and financing for IR (e.g., MEDCO, Corps feasibility study, etc.) and ensure that incentives are considered; and Item 7: Investigate opportunities designed to foster research and innovation, such as tax credit programs, incubators, and university programs, such as the Maryland Industrial Partnerships (MIPS) program at the University of Maryland (UMD). These efforts could support opportunities that will not only bring jobs to Maryland and increase state revenue, but also sustainably account for a portion of the long-term IR program goal of reusing 500,000 cy per year of dredged material. One-way MDOT MPA is working to achieve IR Strategy Item 6 is participating in the previously mentioned public-private collaboration, SM3. MDOT MPA is also exploring possible grant funding opportunities for IR projects.

Next Steps

Ms. Keene explained that MDOT MPA has been working with MDOT SHA and Dr. Ahmet Aydilek, UMD, on environmental studies for blended dredged material. This project consists of two studies, (1) a study regarding an embankment fill material blend (*complete*) and (2) a topsoil blend to be utilized in highway slope applications (*ongoing*). MDOT MPA received the preliminary results of the embankment fill study, and in August, UMD gave a presentation of the embankment study results to MDOT MPA and MDOT SHA Office of Materials Technology. Once the final reports for both studies have been completed, MDOT MPA will schedule presentations for the DMMP committees as well as briefings with MDE and MDOT SHA. These test results will be critical components to revising the MDOT SHA Landscape Materials specification and developing a demonstration project in coordination with MDOT SHA. Mr. Rowe informed the Committee that MDOT SHA is in the process of revising the Landscape Materials specification.

Ms. Keene informed the Committee that MDE hosted a public meeting in June 2018 for Solid Waste Managers to discuss the Innovative Reuse and Beneficial Use of Dredged Material Guidance Document and procedures for obtaining approval to use dredged material, or other potentially impacted soil, at a landfill location. To aid in this effort, MDE has developed a Category Calculator Tool, which will assist environmental professionals in evaluating the nature and probability of adverse human health effects from the exposure of contamination in soil and assigning the material to a category for use as fill material. The calculator is not currently available online but can be provided by MDE upon request. Mr. Mank stated that Baltimore City has been in contact with MDE regularly regarding the use of dredged material and encouraged state, local, and private industries to contact MDE to assist in material reuse projects.

Mr. Denney asked if Cox Creek DMCF dredged material is being processed on an *ad hoc*/conservative basis for small scale projects. Ms. Keene responded that MDOT MPA is actively removing and drying dredged material within the limited space at Cox Creek DMCF for demonstration projects and other requests. MDOT MPA is working towards improving this process to generate larger quantities of dried dredged material. Ms. Fidler stated that MDOT MPA could accommodate a material request, within the current limited space, if advanced planning takes place. Mr. Denney stated that this conversation should be developed as a lot of construction is occurring within the vicinity of the Port. Ms. Pei asked how the category calculator accounts for multiple samples. Mr. Mank responded that the maximum value for each analyte should be used in the calculator to determine the material's category and stated that further questions can be communicated to Mr. Mank directly.

**The United States Army Corps of Engineers
North Atlantic, Baltimore District (CENAB)**

Kevin Brennan, USACE

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

Mr. Brennan reminded the Committee of the 2016 WRDA, Section (§) 1122, Beneficial Use of Dredged Material Pilot Program, which requires the USACE to establish a pilot program to conduct 10 projects throughout the United States for the beneficial use of dredged material for certain purpose(s) (e.g. reduces storm damage to property and infrastructure, promotes public safety, protects, restores or creates aquatic ecosystem habitats, stabilizes stream systems, enhances shorelines, promotes recreation, supports risk management and adaption strategies, or reduces the cost of dredging or dredged material placement). The proposals may incorporate one or any variation of these purposes. Mr. Brennan stated that over 100 proposals were received nationwide, and that there were 10 projects recommended and submitted to USACE Headquarters for final approval. A final decision is anticipated in the near future.

Exploring Beneficial Use at DNR

Jackie Specht, DNR

DNR and NOAA Coastal Management Fellowship

Ms. Specht introduced herself to the Committee as a National Oceanic and Atmospheric Administration (NOAA) Coastal Management Fellow with the Maryland Department of Natural Resources (DNR) Chesapeake and Coastal Service (CCS). She will be with DNR for a two-year long project investigating the beneficial use of dredged material. August 30, 2018 will mark the one-year anniversary of this project. The mission of CCS is to help the millions of coastal residents in Maryland, and the businesses and governments that serve them, prepare for a future of economic growth and environmental change. CCS will accomplish their mission through an integrated program of science, technical, and financial services built upon collaborative partnerships with federal, state, and local agencies, the private sector, and citizens. The goals of CCS are to enhance resilience to coastal hazards and climate change, update coastal policies to reflect new uses, and use data to make more informed decisions. CCS is within the same DNR unit as the restoration, coastal planning, and waterways/dredging groups, and Ms. Specht's role is to enhance coordination between these groups regarding beneficially using dredged material, which is inherently a multidisciplinary issue.

Beneficial Use

Ms. Specht reviewed an example project that captures the impetus of the fellowship. The 2014 Ferry Point Park shoreline restoration pilot project used dredged material obtained from a channel adjacent to the project to construct a living shoreline. Using the adjacent dredged material, DNR saved \$1.4 million through reduced transportation and fill costs. With apparent financial incentives in the beneficial use of dredged material, DNR was interested in closely evaluating beneficially using dredged material to ensure that the most environmentally-sound practices are being used. Additionally, Ms. Specht was brought on to develop mechanisms that will allow DNR to take proactive actions for future projects and develop long-term plans for coastal resiliency of communities and habitats.

Currently, DNR is pursuing the following beneficial use projects: marsh creation/living shorelines, beach nourishment, potential thin-layer placement (TLP), and island restoration, though on a much smaller scale than Poplar Island. To pursue these beneficial uses, DNR is using several avenues to increase understanding on beneficial use practices, developing new tools to increase the feasibility of implementing these practices within DNR and across the state, and developing protocols and regulations for ensuring environmental responsibility when implementing these restoration techniques.

DNR Draft Policy

Through intra-departmental collaboration, DNR is working to finalize the policy/process by which DNR will plan and regulate the placement of dredged material on state lands and to clearly identify the steps that need to be taken to implement a successful and environmentally friendly beneficial use project. DNR is developing an internal guidance document that outlines specific steps, tools, and units that should be considered in the planning process for developing a beneficial use of dredged material project, as well as developing an overall communication plan.

Pilot Projects

Ms. Specht reiterated that DNR has conducted beneficial use pilot projects and explained that these pilot projects are being used to inform future beneficial use projects. Currently DNR is pursuing beneficial use opportunities through a new initiative, the Community Resilience Grant Program. This program uses state funds to design and implement coastal restoration projects that are designed to create resilient coastlines and protect coastal communities using nature-based features. Each proposal submittal is evaluated for potential nearby beneficial use opportunities to decrease project costs.

The 2018 Franklin Point State Park and Hurst Creek projects, located in Anne Arundel and Dorchester County, respectively, are proposing the use of dredged material in the construction of living shorelines that will enhance natural buffers to protect the adjacent residential communities and wildlife. The 477-acre Franklin Point State Park project will strengthen natural shoreline buffers, stabilize the existing peninsula which buffers the town of Shady Side, and promote green infrastructure. Shady Side is home to over 5,000 people and a low elevation and wave energy makes the community vulnerable to coastal storm impacts. A monitoring program is being developed in coordination with the Franklin Point State Park project to determine if the use of dredged material in shoreline projects impact local environments. The Hurst Creek project will enhance natural buffers that protect the Bonnie Brook community infrastructure and facilitate natural adjustment following storm events. The Bonnie Brook community contains 108 homes and Hurst Creek is utilized for boating access, fishing, hunting, and wildlife viewing.

DNR is developing an online mapping tool, Beneficial Use – Identifying Locations for Dredge (BUILD). The tool will populate a map with dredging projects identified in orange, and restoration projects identified in blue. The dredging projects are given a two and four-mile (mi) radius for distances that dredged material can be reasonably hydraulically unloaded. If a restoration project falls within the radii of a dredging project, then there is a potential beneficial use opportunity. This tool is currently internal-facing only. DNR piloted the tool with the 2018 Community Resilience Grant Program proposals to assess if any of the incoming project proposals might qualify to be incorporated in a beneficial use project. Over the next year DNR intends to continue developing the tool with the intent of making it available to the public and local, state, and federal agencies to assist with planning the placement of dredged material. The tool is being optimized by adding additional points such as the location of wetlands and waterways permitted by MDE. Ms. Specht requested suggestions on how to increase the usability of the tool.

External Coordination

In an effort inspired by MDOT MPA and the collaboration with Mahan Rykiel Associates Inc. (MRA) and Cornell University to develop a beneficial use site suitability model in Baltimore Harbor, DNR requested MRA and Cornell University to develop a beneficial use site suitability model for Lower Wicomico and Kent Narrows. Through a summer internship, two interns, along with the guidance of Isaac Hametz of MRA, developed a beneficial use site suitability model for these two regions. MRA parameterized the

model based on landforms to ensure the placement sites would be in the coastal region and near the dredging locations, as DNR is limited financially by the distance material can be moved. Ms. Specht further explained that the "Beneficial Use Parameter" considers positive and negative environmental impacts and prioritizes public land and the sites ability to provide resiliency to a coastal community.

Ms. Specht explained to the Committee, that Thin-Layer Placement (TLP) is a marsh restoration technique that sprays a thin layer of dredged material over the top of an existing marsh to raise the elevation to combat processes such as sea-level rise, erosion, and subsidence. While DNR is actively looking for their first TLP project, they have coordinated with the National Estuarine Research Reserve System (NERRS) Science Collaborative project to research how the depth and quality of dredged material impacts the marsh's ability to recover at eight NERRS. DNR is also working to build a national network of TLP practitioners and through information provided by those involved with TLP projects, DNR has been drafting an "Elevation Enhancement Planning Considerations" document, which will be used to inform DNR's initial TLP project. The document will contain information on how to perform a desktop analysis of potential TLP sites, a pre-planning checklist to help structure planning efforts, and a collection of key lessons-learned.

Mr. Phipps asked if DNR would permit large scale TLP projects. Ms. Specht responded that DNR is not a permitting agency but could fund a TLP project through their Community Resiliency Grant Program. Mr. Mank inquired about the costs of TLP as it relates to the volume of material applied. Ms. Specht responded that costs varied widely and stated that most TLP projects were funded by the 2013 Hurricane Sandy Relief fund. Mr. Dave Riter asked if the green areas in MRA's model were state or private property. Ms. Specht responded that the green areas are locations identified as "best" placement sites for beneficial use; further investigation would need to be performed to determine property ownership. Mr. Brennan stated that the USACE performs testing for TLP projects and has previously coordinated with DNR regarding TLP sites in the Lower Wicomico. Site consideration is important as TLP project sites become state property, therefore this process could land-lock private landowners. Mr. Bannerman asked if information regarding the Community Resiliency Grant Program is online. Ms. Specht responded that information regarding the Community Resiliency Grant Program is on DNR's website. MDOT MPA will provide the website link to Mr. Bannerman.

Kurtz Bros. and Innovative/Beneficial Use

Jason Ziss, Kurtz Bros.

Mr. Ziss provided a presentation on Kurtz Bros., Incorporated, a Port of Cleveland case study on innovating the reuse of sediment beneficially. As background, Kurtz Bros. is a family-owned waste-to-resource company with 70 years of experience operating throughout Ohio and the Midwest. Kurtz Bros. manages and distributes over half a million yards of bulk landscape supplies annually and is the largest organics recycler in Ohio. Annually, Kurtz Bros. recycles over 350,000 yards of construction and demolition debris. Additionally, Kurtz Bros. operates waste-to-energy anaerobic digesters for the City of Akron and operates the largest sediment recycling center in the Great Lakes.

Mr. Ziss discussed the Ohio ban on open lake dumping of dredged material in Lake Erie to be implemented by 2020. The open dumping ban was due to water quality issues occurring in Lake Erie, and Ohio is seeking alternative uses for dredged materials to assist in meeting the deadline. In 2014, the Kurtz Bros. established sediment management solutions to help mitigate excessive sedimentation and water quality issues in lakes and waterways throughout the United States with a focus on reducing dredging and employing beneficial reuse for captured sediment. Kurtz Bros. uses the following techniques: beneficial reuse, sediment collectors, green infrastructure, reduction of nutrients in the Agricultural sector, developing and implementing sustainable reservoir solutions, and performing regional sediment management (RSM).

Partners include the Port of Cleveland, the Ohio Environmental Protection Agency (EPA), the Ohio DNR, and Streamside, LLC.

Each year, up to 250,000 cy of sediment (20% sand, 50% silt, 30% clay) must be dredged from the Port of Cleveland. Due to urban run-off and associated latent toxicity of the sediments in the Port of Cleveland, the dredged material is required to be placed in confined disposal facilities (CDFs), which are nearing capacity. The construction of additional CDFs is cost prohibitive, currently estimated at \$300 to \$500 million, so the Port of Cleveland developed a case study to convert Port of Cleveland CDFs into RSM centers. The Port of Cleveland investigated reducing sediment loads entering the port and treating sediment as a commodity with value to harvest and market as usable material. Kurtz Bros. was tasked with preserving and sustaining current CDF capacity for 20 years and commoditizing recycled sediment. The CDF was reengineered to accommodate sediment reuse, with simple physics employed to separate sediment. The material was tested to verify reuse suitability, and a product development and sales/marketing plan was developed.

Kurtz Bros. is currently in their fourth year of operating the RSM center and have repurposed 80,000 cy of dredged material for beneficial use in their 2018 spring cycle. Current site operations and management consist of material sorting, recycling, and dewatering, sediment beneficial reuse, marketing and distribution, and environmental compliance. Some of the sediment reuse applications include topsoil/agricultural applications, construction aggregate for pipe bedding, sub-grade, and structural fill, and land redevelopment. Current Ohio Department of Transportation (ODOT) projects include embankments, bridge mechanically stabilized earth (MSE) wall, low strength material (LSM), and engineered fill. Kurtz Bros. is an ODOT certified supplier of sediment.

In 2018, Kurtz Bros. managed over 60% of dredged river sediment from the Cuyahoga River in Cleveland. In 2018 due to the annual royalties to the Port of Cleveland from the material sold, Kurtz Bros. is targeting to increase the Port of Cleveland's royalty revenue to the highest point of their time operating the site. The 20-year economic analysis of constructing a new CDF versus recycling material shows that the lifetime cost per cubic yard to the Port of Cleveland was decreased from \$46 to \$8.90. Port of Cleveland successes includes an implemented 20+ year sustainable solution for dredged river sediment, development of a model for congested underserved CDFs around the country, and deployment of environmentally conscious and friendly solutions to water quality issues and raw material demands. The Port of Cleveland provides a common sense, workable regulatory framework for other Ports around the country and is the largest sediment recycling center in the country.

Mr. Mank asked if the quality of the material limits the other 40% of dredged river sediment from being reused. Mr. Ziss responded that the quality of the material is the biggest issue and that being able to separate the material is very important. Mr. Mank asked if the cost of constructing an RSM center increases if built elsewhere. Mr. Ziss responded that Kurtz Bros. is working with other ports in the Great Lakes area to develop RSM centers and that costs will depend on who owns the property, if the property would need to be purchased, and current infrastructure available. Mr. Carroll asked what level of effort Kurtz Bros. and partners needed to convince entities to accept these recycled materials. Mr. Ziss responded that convincing entities to accept the material was not difficult due to the issue surrounding Lake Erie and the ecosystem services the lake provides. Mr. Mank asked if any studies have been conducted on the effects of maintenance dredging on water quality and what evidence was used to validate this. Mr. Ziss responded that while no studies have been conducted on water quality, Kurtz Bros. has seen improvements in the quality of dredged material removed from the river. Mr. Phipps asked if phosphorous was an issue since they are primarily retained by silts. Mr. Ziss responded that phosphorus is the biggest issue with Lake Erie water quality and

that reductions in nutrient loadings from nonpoint sources are the only real solution. Mr. Phipps asked if Kurtz Bros. produces any blends with waste energy byproducts, if blending increases the value, and the percentage of waste energy byproducts in the final product. Mr. Ziss responded that Kurtz Bros. produces waste energy byproducts including a dried pellet. These products are used in some sediment blends but are also used in a plethora of other product lines including composts, soils, and mulch. Mr. Price asked what the biggest challenges were when switching from a disposal facility to an RSM center. Mr. Ziss responded that the biggest challenges were the amount of time the public sector takes to make decisions in addition to performing multiple iterations to refine the model. In the Port of Cleveland, they also had to account for working next to an airport.

DMMP Outreach – DMMP Annual Meeting Feedback

Katrina Jones, MDOT MPA

Ms. Jones thanked those who participated in the Dredged Material Management Program (DMMP)'s Annual Meeting survey and stated that the results will help plan the next annual meeting on November 2, 2018.

Upcoming Meetings

Steve Pattison, Facilitator

Mr. Pattison informed the Committee that the next IRC meeting will be held on November 27, 2018. The DMMP Annual meeting will be held on November 2, 2018.

Meeting adjourned at 7:00pm