

**FINAL DRAFT
SUMMARY FOR THE HARBOR TEAM MEETING
October 25, 2018; 6:00 PM
1000 Frankfurst Ave
Baltimore, MD**

Attendees:

Angie Ashley Consulting: Angie Ashley

Baltimore County Department of Economic Development: Rick Johnson

Baltimore County Department of Environmental Protection and Sustainability: David Riter

Baltimore City Planning Department: Bruna Atilla

Dundalk Chamber of Commerce: Paul Rosenberger

Dundalk Renaissance Corporation: Tom Hickey

EA Engineering, Science, & Technology (EA): Peggy Derrick, Mike Powell

EcoLogix Group: Steve Pattison

Living Classrooms Foundation: Lorraine Warnick

Maryland Environmental Service (MES): Jeff Halka, Christine Holmburg

Maryland Department of Transportation Maryland Port Administration (MDOT MPA): Sergio Adantor, Dave Bibo, Chris Correale, Kristen Fidler, Jennifer Guthrie, Katrina Jones, Kristen Keene, Holly Miller, Gannon Price, John Vasina

Moffatt & Nichol: Pete Kotulak

Patapsco/Back River Tributary Team: Stuart Stainman

North Point Peninsula Council: Fran Taylor

Straughan Environmental: Justin Haynes

Terracon: Nancy Straub

Tradepoint Atlantic: Pete Haid

Turner Station Conservation Teams: Gloria Nelson

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

Action Items:

- 1.) Mr. Powell will investigate the number of standard deviations used for the Baseline Control Limit (BCL).

Statements for the Record:

- 1.) None.

1.0 Welcome & Introductions

Mr. Steve Pattison

Mr. Pattison welcomed the attendees, and everyone introduced themselves.

2.0 Approval of Summary from Last Meeting

Team

Ms. Correale reviewed staff changes within Maryland Department of Transportation Maryland Port Administration (MDOT MPA) Office of Harbor Development. Mr. Shawn Kiernan has transferred to the MDOT MPA Office of Safety, Environment, and Risk Management (SERM). Ms. Holly Miller is now Chief of Project Development. Mr. Gannon Price has joined Harbor Development and is the new Cox Creek Expanded Senior Project Manager.

In regards to the July Harbor Team (HT) meeting action items, Ms. Keene provided the contact for solar installation at the MDOT MPA terminals, Mr. Ed Klingenstein of the MDOT MPA Engineering Department. Mr. Pattison stated that all other action items have been completed. The HT approved the July 26 meeting summary as written.

3.0 Innovative & Beneficial Use Progress Report Ms. Kristen Keene, MDOT MPA

Ms. Keene stated that dried dredged material from the Cox Creek Dredged Material Containment Facility (DMCF) is almost ready to be hauled for two of the innovative reuse demonstration projects. The first demonstration project is with the Quarantine Road Landfill, which is owned by Baltimore City. The material will be used as alternative daily cover (ADC). The agreement between MDOT MPA and Baltimore City has been finalized, and once Baltimore City has implemented their erosion and sediment control (ESC) measures at the site, the hauling of material can begin. The project is expected to commence within the next 30 days. The second demonstration project is using the material as engineered fill in the Hawkins Point DMCF south cell to help with the grading and filling efforts before constructing an algal flow-way. Hauling will begin on October 30.

The dredged material test nursery results remain the same. The plot with 100% dredged material and lime is performing the best, while the 100% dredged material is performing second best, in terms of vegetative cover. The project began in October 2017, followed by a full year of monitoring. The weekly observations will be completed at the end of October 2018. The soil will be tested in each plot for the same parameters as were tested at the onset of the project. Grass clippings will also be taken to test for metals uptake. The results will be shared with the HT when available.

The newest demonstration project is the Hart-Miller Island (HMI) Design with Dredge project. The project arose from a conceptual level design developed by interns who participated in the Design with Dredge program, for which MDOT MPA partnered with Mahan Rykiel Associates. The pilot project will be approximately 23 acres and located in the upper northwest corner of the HMI north cell. This area has remained consistently dry over the years. It will be readily accessible by the public through the Maryland Department of Natural Resources (DNR) park and be large enough to study and create a viable habitat but small enough to manage. Habitat mounds will be created using on-site material; various soil amendments and planting activities will be applied to the mounds. Over a three-year period, the mounds will be monitored to evaluate their success. The project goals include creating habitat using dredged material, educating and engaging the public, and minimizing operational and maintenance costs.

MDOT MPA has been working with the MDOT State Highway Administration (MDOT SHA) regarding the revision of the 920 Topsoil Specification. The harmful materials provision of the 920 specification states, "Topsoil shall not contain substances in concentrations that are harmful to human health, water quality, or plant growth. Industrial waste such as ash, slag, raw sludge, dredge spoil, or similar materials shall not be soil components." MDOT SHA will be updating the 920 Topsoil Specification by removing the words "dredge spoil" from the harmful materials provision. By removing the term "dredge spoils" it detaches the long-standing stigma associated with dredged material and sends a positive signal to industry and other state agencies. The revision contributes to Governor Hogan's Waste Reduction and Resource Recovery Executive Order,

which specifically calls for the reuse of dredged material. Additionally, the revision allows for the reuse of dredged material from all sources, including sediment from behind Conowingo Dam and freshwater lakes. The MDOT SHA specification book is the standard used across the state by MDOT SHA as well as local road departments and contractors/developers on a myriad of development projects. This change thereby allows for vast reuse potential.

Ms. Keene stated that the American Society of Landscape Architects Honor Award was presented to the Design with Dredge: Resilient Landscape Infrastructure in the Chesapeake Bay project. This award received national attention, which brings widespread awareness to the Port's Dredged Material Management Program (DMMP) and highlights how dredged material can be used as a resource. Also, the Morgan State University School of Architecture and Planning hosted a recent lecture series that included a discussion on 'Dredging the Future,' which was led by Mahan Rykiel Associates, who gave a presentation on the collaborative Design with Dredge program. This allowed MDOT MPA to participate in the lecture and connect a broader audience to the DMMP.

4.0 Cox Creek Expanded Project

Mr. Gannon Price, MDOT MPA

Mr. Price gave an overview of the activities occurring at the Cox Creek Expanded site, which include the dike design and construction, demolition, the operations and maintenance complex construction, and soil remediation. The base dike widening construction began August 2018. Material used in the base dike widening construction will be excavated from the upland borrow area. The base dike widening will allow the existing dikes to be raised to an elevation of +60 feet Mean Lower Low Water (MLLW). The 100% plan submittal for the +60 ft dike design is expected in summer 2019 with construction expected to begin in winter 2020. For the base dike widening construction, a loader will drop off the clay and a scraper will push it out into the DMCF cell, completing 8-inch lifts at a time.

Building 201 is the last remaining building within the project footprint. Building 201 is the former Kennecott Copper Refinery casting facility and was found to have elevated polychlorinated biphenyls (PCBs) due to legacy industrial operations, delaying its demolition. MDOT MPA coordinated with EA Engineering, Science, & Technology (EA) to develop a Remedial Action Plan, which was approved in October 2018 by the US Environmental Protection Agency (EPA). Building 201 demolition is expected to begin the week of October 29. The expected completion date is July 2019.

On the western side of the property, construction began on the operations and maintenance complex the week of October 15. The building will feature a laboratory, office space, and an equipment maintenance garage and will include stormwater biofiltration best management practices. Completion is expected in September 2019.

Remediation is still ongoing to remove PCB and petroleum impacted soils from the upland remaining from legacy industrial practices. Some impacted soils have been removed and disposed off-site while other areas are under further delineation for PCB and petroleum impacted soils. Once delineation is completed the remedial action plan will be submitted to the EPA. Removal and off-site disposal of the remaining impacted material is anticipated to occur in November 2018 and is expected to be completed by December 2018 or January 2019.

Mr. Haid asked what the slope requirement was for the berms. Mr. Price replied that the slope was 3:1. Mr. Bibo asked when the base dike widening would be completed. Mr. Price replied that the base dike widening is expected to be completed in summer 2021. Mr. Bibo asked who the contractor was for both the base dike widening and the demolition. Mr. Price replied that Bowen and Kron won both the base dike widening and demolition bids and will therefore be completing the work.

5.0 Bulk Sediment Analysis

Ms. Peggy Derrick, EA
Mr. Mike Powell, EA

Ms. Derrick presented on sediment characterization in the Baltimore Harbor channels as well as MDOT MPA's application and review process for private applicants to use its DMCFs. MDOT MPA, the US Army Corps of Engineers (USACE) Baltimore District, and private applicants/entities work collaboratively on dredging and placement activities. Sediment quality information for material that is dredged and placed is important for the management of MDOT MPA DMCFs.

Harbor channel sediment quality data exist for the Federal navigation channels or for other navigation features (i.e. access channels, berths, marinas, turning basins, etc.). Federal navigation channel data are collected by the USACE for channel maintenance material. The federal navigation channels located west of the North Point/Rock Point line are designated as harbor channels.

Mr. Taylor asked how channels become designated as federal navigation channels and if the channels by the Tradepoint Atlantic terminals could become federal navigation channels. Ms. Correale responded that the federal navigation channels are authorized by Congress in the Water Resources Development Act (WRDA). If a public terminal is created, a feasibility study can be conducted with the USACE to obtain authorization under a WRDA. Once authorized, the project would become eligible for federal funding for construction and/or maintenance. If it is not authorized under WRDA, then any proposed dredging activity requires a permit through the USACE. Dredging projects permitted by the USACE would not receive federal funding. Ms. Derrick stated that the federal channels are maintained with federal funds. Non-federal channels are maintained with funds from elsewhere. Ms. Correale stated that currently, the access channel to the Tradepoint Atlantic turning basin cannot be made in to a federally authorized channel because the channel serves a single property owner.

Ms. Derrick stated that the USACE receives federal funds for maintenance material testing approximately every 3-4 years. Periodic bathymetric surveys are conducted to determine where shoaling has occurred, as shoal areas are typically what will be dredged/sampled. On average each channel is dredged every 3-4 years, which is why sampling does not occur every year. Surficial material is sampled because the shoaled areas are usually 1-2 feet deep. Sampling has occurred in 1995, 1998, 2002, 2005, 2008, 2012, and spring 2018.

Mr. Stainman asked why there was a 6-year gap in sediment sampling (from 2012 to 2018) when sampling on average occurs every 3-4 years. Ms. Derrick responded that although the USACE requested funding in their budget, they did not receive the federal funding to conduct testing. Mr.

Stainman asked when the next sampling would occur. Ms. Derrick replied that the next sampling would be conducted in 2021 (provided that funding is received).

Both discrete and composite samples have been collected within the harbor channels. Discrete samples are samples collected from a single location and then tested. Composite samples are samples taken from multiple locations, combined, and then tested as a single sample. Water quality samples are also collected, and effluent elutriate testing is conducted. When material is placed in a DMCF, water separates from sediment and is discharged. The effluent elutriate testing mimics the dewatering process. In the analytical laboratory, the channel sediment and water are mixed, and the mixture is placed into a column to allow the sediment to settle and water to separate. The overlying water is tested, and the results can help MDOT MPA manage their facility discharges.

The sediments are tested for a variety of constituents, but due to lack of any detection, some constituents have been removed from the testing program over time (i.e. volatile organic compounds, and organophosphorus pesticides). In addition, testing of PCB congeners have replaced testing of PCB aroclor. Of the constituents tested, some are naturally occurring, while others are man-made. Some of the constituents persist in the environment; however, some break down readily in the environment.

Toxicity characteristic leaching procedure (TCLP) testing is utilized to determine if the material would be considered hazardous waste, which would occur if any constituent exceeds the federal regulatory thresholds as defined by the Code of Federal Regulations. Mr. Haid asked if any of the sampled sediments have exceeded the TCLP thresholds. Ms. Derrick responded that the Harbor Channel material has never exceeded the TCLP thresholds.

Mr. Stainman asked if the sediments have been tested for nutrients throughout the years, Ms. Derrick confirmed the nutrients have been tested. Mr. Stainman asked if the sediment data were given to the EPA Chesapeake Bay Program Office. Ms. Derrick replied that the information is stored in a database that is used for the management of the dredged material. Mr. Rosenberger asked if the sediment is considered hazardous if any individual component exceeds the level for the TCLP testing. Ms. Derrick replied that the constituents are measured individually, and any individual instance of exceedance will cause the material to be deemed hazardous. Ms. Attila asked if there was a difference in sediment toxicity between different sample locations. Ms. Derrick replied that sediment toxicity testing is not conducted, only chemical testing. Ms. Derrick noted that sediments are difficult to analyze (chemically) because of the composition (solid and water). The high water content can make it difficult to achieve low analytical detection limits.

Ms. Derrick gave an overview of MDOT MPA's dredged material placement permit application. The formal application process includes: a request letter, application form (where project information is provided), sampling and analysis plan, operations plan, copies of applicable permits, results of material testing, and pre- and post-dredging hydrographic surveys. On average MDOT MPA receives 2-3 applications a year. Private applications comprise approximately 20% of the material placed in to MDOT MPA DMCFs. The application process can take 3-6 months.

Dredging project information required for the application process includes: project location, volume of material, dredging method (i.e. hydraulic versus mechanical), dredging schedule, and proposed sampling locations for material testing. Ms. Derrick stated that MDOT MPA is not currently accepting material from new work projects, only maintenance projects. Maintenance material is material from maintaining an existing channel or navigation feature that has been permitted to a certain depth. Any material outside of the permitted depth or width would be considered new work.

The sampling and analysis plan needs to include the sampling locations and depths representative of material proposed for dredging, sample collection and compositing methods, analytical laboratory testing methods, detection limits, and quality assurance/quality control procedures. Regarding collection methods, a grab sampler is used for shallow locations, usually six inches to one foot, while a sediment core is used for deeper samples. MDOT MPA now requires a minimum of two composite samples per project; three discrete sampling locations are required to create a composite.

Mr. Stainman asked who is responsible for conducting the sampling. Ms. Derrick stated that the applicant is responsible for having the material tested in a commercial testing laboratory. It is now a requirement to have a certified laboratory perform the testing. The material must be tested for a comprehensive list of physical and chemical parameters. New MDOT MPA testing requirements include total petroleum hydrocarbons, TCLP, ammonia, sulfide, cyanide, and tributyltin. MDOT MPA uses the data to provide a record of quality of the material placed in MDOT MPA facilities and ensures that it is non-hazardous, and to facilitate future reuse of the material. The testing data are also important for effluent and discharge management associated with discharge permit limits.

There are many key updates to the DMCF placement permit application. The application form is now electronic. A timeline will be supplied to applicants for submittals and other requirements. The laboratories used for testing must be certified by the National Environmental Laboratory Accreditation Program (NELAP). As stated previously, a minimum of two composite samples are required per project. Physical and chemical testing data is only valid for three years and must also include the new analytical testing requirements. Web links are provided to applicants regarding testing methods, target detection limits, and guidance manuals as well as electronic data submittal and upload instructions. There is also a requirement for a pre-construction meeting and a new data screening process.

Mr. Hickey asked if there would be outreach to the private sector regarding the changes to the application process. Ms. Correale stated that outreach to the private sector can be implemented. There is also a requirement for a pre-construction meeting and a new data screening process.

EA has been working with MDOT MPA on a new screening process for the data received from private applicants. The first step is a comparison between the sample chemical concentrations and TCLP regulatory limits. The second step is comparing the chemical concentrations with a numerical screening value, which represents the baseline concentration that currently exists in the DMCFs. The numeric values are statistically derived using the channel maintenance data, which

represents 80% of the material which has been placed in the DMCFs. This allows MDOT MPA to determine if the constituents are greater than regulatory limits and/or the screening values and if the material is chemically similar to what has been previously placed in the facilities. Mr. Halka asked when the last time new work dredging was placed in a currently operating DMCF. Mr. Bibo stated that material was placed at Cox Creek for the deepening of the Seagirt Berth 4 for Ports America, about five years ago. Ms. Correale stated that the restrictions for new work placement only applies to the private sector. MDOT MPA and the USACE can inflow new work material, but it is subject to the same rigorous testing requirements.

The screening process is being implemented to allow MDOT MPA to monitor what is entering the DMCFs. It allows MDOT MPA to document that no hazardous material has been placed and helps identify materials with chemical concentrations that differ from those previously placed. Management practices (for the material when placed) would be implemented as appropriate based on the results of the screening process, which will also assist with early identification of materials suitable or not suitable for future innovative reuse. The baseline concentration was developed through review of the historical dredging data from the USACE Harbor Channel Sediment Data. The Baseline Control Limit (BCL) represents a statistically-derived upper concentration limit where the expectation is that 95% of future data from the harbor will fall below the BCL. Future Harbor sample results that exceed the BCL warrant further evaluation. If sediments exceed TCLP regulatory criteria, then the material cannot be placed at a MDOT MPA DMCF. If the material passes the TCLP, then the data for other constituents are compared to the BCL. If the results are greater than the BCL, then the exceedances will be investigated and either appropriate DMCF management practices will be implemented or the material will be rejected. If the results are less than the BCL, the sediment will be deemed similar to the existing material and suitable for placement at a MDOT MPA DMCF. Ms. Derrick noted that all the other steps in the application process still need to be completed to receive MDOT MPA approval in order to place in a MDOT MPA DMCF.

Mr. Powell presented an example slide illustrating the BCL for copper using a quantile-quantile plot, which characterizes the distribution of a data set and identifies possible outliers. The goal is to develop a single number that represents an upper range of the baseline data that future maintenance material data will most likely be below. The 95th percentile of the baseline data is computed with a 95% upper tolerance limit (UTL) with 95% coverage. For copper, the BCL is approximately 450 milligrams per kilogram. It is a rapid screening level, which helps MDOT MPA focus on data sets that warrant further examination. Mr. Powell noted that the recent private applicant submissions have been below the BCL for copper. Mr. Hickey asked how many years of data was used to determine the BCL. Mr. Powell replied that the data used was from 1996 through 2012. Ms. Straub asked if the data could be used to segregate the material within DMCFs, based on potential future uses. Ms. Correale stated that the sizes of the DMCFs are not conducive to segregating the material. It would be under very limited circumstances in which MDOT MPA would be able to provide an area to segregate material.

Mr. Stainman asked if the BCL was based on a 95% significance level. Mr. Powell replied that non-parametric statistics are being used on the data set. It is the 95th percentile with a 95% confidence, which is developed by using a binomial distribution. Mr. Stainman stated that there

were a few outliers that went above the BCL, but there were also a few other data points which, unweighted, could make the BCL even lower. Mr. Powell stated that the nonparametric BCL is insensitive to the potential outliers. Ms. Derrick stated that the expectation is that 95% of future Harbor sediment data would be below the BCL. Mr. Powell stated that the confidence level of 95% built in to the 95th percentile adds additional conservatism to the BCL to account for the BCL being estimated from 152 samples. Mr. Haid stated that there was a large spread of concentrations among the samples. Mr. Powell stated that non-parametric statistics were used, which are insensitive to the potential outliers; and therefore, the outliers do not adversely impact the BCL. Mr. Stainman asked how many standard deviations there were. Mr. Powell will investigate the number of standard deviations. Ms. Attila asked if the BCL would be revised in the future. Mr. Powell replied that the BCL would most likely be updated every 5-10 years after the additional data has been reviewed and determined to be representative of the baseline data.

Ms. Derrick stated that the goal is to finalize the updates to the application process by the end of 2018 and to provide website access by the end of January 2019. Mr. Bibo stated that outfalls close to areas of dredging that may influence the quality of the material is required to be disclosed as part of the application. Ms. Derrick stated that a sampling location may be required to be placed by the outfall location. Ms. Correale reiterated that the sampling results can be no older than three years and added that if there is any issue (i.e. oil spill) that gives MDOT MPA reason to believe that the material could have been affected, retesting would be required. Mr. Taylor asked if a severe weather event could cause MDOT MPA to require resampling. Ms. Correale stated resampling would be requested only if there was a reason to believe there were toxic releases or releases of contaminants that would influence the sediment quality.

6.0 Harbor Development Update

Ms. Chris Correale, MDOT MPA

Ms. Correale provided an update on Masonville. Ms. Correale stated that the dikes are being raised around the Masonville DMCF. The dikes, currently +8-10 feet (ft) Mean Lower Low Water (MLLW) in elevation, will be raised to +18 ft MLLW with the intention to raise the dike incrementally to +42 ft MLLW, the designed final elevation. Construction projects occurring at this time include: cofferdam berm construction and fill, Kurt Iron Slip (KIS) cross dike construction, filling of the KIS, and removal and placement of the Mercedes Hill material in the KIS.

The cofferdam berm construction began in June 2017. The first phase, which included bringing the berm to an elevation of +6 ft MLLW, was completed in August 2018. The cofferdam berm will serve as the base for the perimeter dike in that area. The KIS cross dike was constructed and currently has an elevation of +9 ft MLLW. Eventually, the cross dike will be raised simultaneously with the surrounding perimeter dike. The KIS has been partially filled to date; an estimated 26,000 cubic yards of additional material is required to complete the filling. A majority of this fill material will be taken from Mercedes Hill, which is a mound of dredged material in the adjacent terminal used by Mercedes. Mr. Bibo stated that the material was most likely placed in the 1970's and 1980's."

Ms. Correale stated that MDOT MPA has a Memorandum of Understanding with the City of Baltimore in which MDOT MPA will fund placement of 190 solar compacting trash cans, 20 of which will contain recycling units. The trash cans will be located by schools, libraries, and other

public locations in the Brooklyn, Curtis Bay, Cherry Hill, and Lakeland neighborhoods. Installation has already begun. The HT then reviewed the inner workings of the solar compacting trash can. Ms. Correale noted that the solar trash cans are one of the mitigation projects for construction of the Masonville DMCF.

Ms. Correale then shared an image of the walking paths in Access Zones 1 and 2 of Masonville Cove. Final plantings and fencing must be completed before the Consent Order with MDE can be closed. The Consent Order was enacted when elevated levels of material of concern were discovered during the restoration of Masonville Cove. Closure of the Consent Order is expected in early 2019. Once the Consent Order is closed, the area will be placed under a conservation easement, which will be jointly held by the Maryland Environmental Trust and Baltimore Green Space.

Mr. Hickey asked if the new terminal space would be privately owned. Ms. Correale stated that MDOT MPA owns the terminal space, but it is leased to others. Mr. Hickey asked if it would become part of a public terminal. Ms. Correale explained that there is roughly a 15-acre area that will become public terminal space. Masonville Cove and the Environmental Education Center will remain public space.

7.0 Upcoming Meetings

Mr. Steve Pattison

Mr. Pattison stated that the HT meeting schedule for 2019 will be available at the DMMP Annual meeting on November 2. Mr. Pattison reminded the HT members to RSVP for the DMMP Annual meeting if they plan to attend.

8.0 Adjourn