FINAL DRAFT
SUMMARY FOR THE HARBOR TEAM MEETING
January 24, 2019; 6:00 PM
2200 Broening Highway, Baltimore, MD

Attendees:
Angie Ashley Consulting: Angie Ashley
Baltimore County Department of Economic Development: Rick Johnson
Baltimore County Environmental Protection and Sustainability: David Riter
Baltimore Port Alliance: Rupert Denney
Carnegie Plat: Jack Charles, Bill Vitek
Citizen: Paul Rosenberger
Dundalk Renaissance Corporation: Tom Hickey
EcoLogix Group: Steve Pattison
Fort Howard Community Association & 7th District Civic Council: Scott Pappas
Greater Dundalk Alliance: Russell Donnelly
Living Classrooms Foundation: Lorraine Warnick
Maryland Department of the Environment: Matt Rowe
Maryland Department of Transportation Maryland Port Administration (MDOT MPA): Sergio Adantor, Dave Bibo, Chris Correale, Kristen Fidler, Kristen Keene, Holly Miller, Gannon Price, John Vasina
Maryland Environmental Service (MES): Jeff Halka, Christine Offerman
Moffatt & Nichol: Pete Kotulak
North Point Peninsula Council: Fran Taylor
Patapsco/Back River Tributary Team: Stuart Stainman
Ports America Chesapeake: Aamer Qureshi
South Baltimore Business Alliance: Mike McGeady
Straughan Environmental: Ingrid Bauer, Jeff Nelson
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.) None.

Statements for the Record:
1.) None.

1.0 Welcome & Introductions **Steve Pattison**
The Harbor Team was shown two "Eco-minute" videos that showcased the 2018 Arbor Day tree plantings in Cherry Hill and the implementation of Smart Start technology in the locomotives at the Canton Railroad to reduce emissions. Both projects were sponsored by the Maryland Department of Transportation Maryland Port Administration (MDOT MPA). Mr. Pattison welcomed the attendees, and everyone introduced themselves.

2.0 Approval of Summary from Last Meeting **Team**

The Harbor Team (HT) approved the July 26 meeting summary as written.

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

Ms. Keene stated that approximately 10,500 cubic yards (cy) of dredged material has been reclaimed from the Cox Creek Dredged Material Containment Facility (DMCF) and moved off-site for use in two demonstration projects. Approximately 4,500 cy of material has been used at Hawkins Point as engineered fill and 6,000 cy of material has been used as alternative daily cover at the Quarantine Road Landfill. The removal of dredged material from the Cox Creek DMCF reclaims capacity and helps to extend its lifespan, all while demonstrating viable options for innovative reuse. These projects show that innovative reuse has potential to be a productive and sustainable option for dredged material management in the Baltimore Harbor.

The Hart-Miller Island (HMI) North Cell habitat development demonstration project concept was developed through the 2017 *Design with Dredge* collaborative summer internship, in which the Port of Baltimore partnered with Mahan Rykiel Associates (MRA), a local landscape architecture firm. The interns were charged with looking at different ways that dredged material could be reused or repurposed in the region. There are four phases of the HMI North Cell Habitat Development project: concept design, design development, construction, and adaptive management and monitoring. Phase II, design development, is currently nearing completion. The pilot project will be located in a part of the North Cell that has been consistently dry, in this case the northwest corner. The location will also be readily accessible by people who visit the HMI state park. The area is approximately 23 acres, which will be large enough to study and to create viable habitat, but small enough to manage. The project goals include creating a diverse habitat to improve the environmental and ecological functions in the HMI North Cell, engage and educate the public on how dredged material can be reused as a valuable resource, and minimize the operations and management costs of the HMI North Cell.

The design team developed three different land topologies, (basic mound, surface mound, and habitat mound) with the goals of creating a diverse habitat, reducing the invasion of *Phragmites,* and accelerating the sediment ripening process (i.e. the transformation of marine sediment to terrestrial soil). Each mound will be about 90 feet in diameter and five feet high. The basic mound is a smooth surface mound. The surface mound is similar to the basic mound but has smaller mounds on top to increase sediment exposure to air to help accelerate the sediment ripening process. The habitat mound will have readily available habitat features such as rock structures and interior vernal pools. The mounds are designed in a pentagon shape, which was found to be the most time and cost-effective contour considering the equipment that will be used to construct the mounds. Over the 23-acre pilot area there will be a total of 21 mounds; seven basic mounds, seven surface mounds, and seven habitat mounds. Each mound type will include six treatment mounds and one control mound. Three of the six treatment mounds for each landform will be planted with vegetation at years zero, one and two; the remaining three treatment mounds for each landform with be planted with vegetation and also receive a soil amendment such as lime, compost, or biochar at years zero, one and two. All 21 mounds will be monitored for a three-year period.

The monitoring strategy includes sediment ripening monitoring which will document the physical, chemical, and biological changes in the soil. Mr. Donnelly asked if the salinity of the sediment

will be monitored. Ms. Keene replied that salinity content is being considered but the monitoring plan is still under development. Ms. Keene stated that habitat monitoring will focus on the diversity and abundance of vegetative and animal species present as well as the presence and abundance of *Phragmites*. Mound stability will be monitored via annual topographic surveys to evaluate consolidation of the mound structures. Based on the pilot project success there is potential to extrapolate this design to other areas of the HMI North Cell for habitat development.

Mr. Pappas asked if these types of experiments were being conducted elsewhere in the United States. Ms. Keene replied that there are other habitats being created but none that the Port is aware of that innovatively reuse dredged material in this exact manner. Mr. Stainman asked who would be performing the monitoring. Ms. Keene replied that Maryland Environmental Service (MES) will be performing the monitoring with support and guidance from MRA and the University of Maryland Center for Environmental Science. Mr. Donnelly asked if progress reports will be available to the public; Ms. Keene replied that updates would be provided on a regular basis throughout the duration of the pilot project.

Ms. Nelson asked if the HMI North Cell pilot project would be the only project implemented that was developed by the MRA design team. A conceptual design was created for the Fleming Park project and the Turner Station community is working with the Chesapeake Bay Foundation and MRA to refine the project design, which incorporates the beneficial use of dredged material. Ms. Keene replied that the MDOT MPA is very supportive of the Turner Station/Fleming Park project, but it is undetermined at this time if the Port would be able to assist financially. Ms. Fidler stated that MDOT MPA attended a workshop, where using dredged material to restore low lying areas in the Chesapeake Bay was discussed. At the workshop, the Turner Station/Fleming Park project was used as an example demonstration project. The Port can move forward with the HMI North Cell pilot project because it is on Department of Natural Resources property, which is currently managed by MDOT MPA. Support is needed for the Fleming Park project from many different sectors and MDOT MPA will need an update on the project development status. Ms. Nelson stated that the project has recently received support from the Director of Baltimore County Recreation and Parks as well as others. There have been meetings and fundraising for the project; however, the team is seeking support from the State of Maryland. Mr. Denny asked if any funding has been given to the project from other sources. Ms. Nelson stated that one company is providing funding for the project, but others are waiting to see the project design. There is currently enough funding to create/refine the design. Mr. Denny stated that there is an opportunity for mitigation offset for companies if they contribute to the Fleming Park project.

Mr. McGeady asked if the HMI North Cell Pilot project is located in a dry area; Ms. Keene replied yes. Mr. McGeady asked if stormwater runoff would be managed in any special way. Ms. Keene replied that the design includes a perimeter trench around each mound, which can hold water. It is anticipated that some of the trenched areas will hold water continuously or intermittently, and some will remain dry, but the design does not specifically target the management of stormwater runoff. Mr. Pappas asked how long it would take for the material to ripen. Ms. Keene stated that it is unknown how long it will take the material to ripen but it is expected to occur sometime within the three-year monitoring period.

Mr. McGeady stated that when material is placed in a DMCF there is a tipping fee and asked if a fee would be charged for taking material out of the DMCF for beneficial reuse. Ms. Correale stated that a long-term goal is that a fee will be charged for taking dredged material, but it could be a reduced fee due to the recovered capacity.

Ms. Keene briefly reviewed the potential future innovative reuse opportunities. This past fall the Morgan State University School of Architecture & Planning hosted a fall lecture series. One of the lectures was titled "Dredging the Future" and MDOT MPA and MRA attended to provide information to students and teachers. MDOT MPA is currently in discussions with a professor who would like to incorporate one of the DMCF sites in their studio class to investigate ways in which dredged material could be repurposed on-site through the lens of landscape architecture. There is also a potential pilot project with the MDOT State Highway Administration (SHA) enabled by the revision of the 920 Topsoil Specification which removed the term "dredged spoils" from the harmful materials provision.

Other potential innovative reuse opportunities include brownfield reclamation, bio-retention swales, anaerobic digestion, manufacturing of permeable pavers, and concrete alternative products. There have also been additional fill material requests. MDOT MPA is exploring business plans for large-scale innovative reuse and material processing. Since the Cox Creek DMCF is intended to be the work horse for innovative reuse, MDOT MPA is determining how to use the on-site space most efficiently for those operations.

Mr. Haid asked if the innovative reuse material could be used to cap brownfields. Ms. Keene replied yes. Mr. McGeady suggested that the MDOT MPA not limit themselves to MDOT SHA for pilot projects and to reach out to other state and local agencies. Mr. Pappas asked what the goal for reclaimed material volume was. Ms. Keene stated that the goal is to reclaim capacity at the DMCF at about 500,000 cy a year. The dewatered sediment reclaimed would be approximately 250,000 cy per year.

4.0 DMMP Education Outreach **Kristen Fidler, MDOT MPA**

Ms. Fidler stated that this year MDOT MPA would like to focus on the Port of Baltimore's positive impact on environmental education. The theme of the 2018 Annual Meeting was "Stewardship to Scholarship." One of the guest speakers was an educator from Cross Country Elementary and Middle School who remarked on the great impact the partnership with the Port of Baltimore has had on her students. MDOT MPA reaches students throughout the year by using the DMCFs as outdoor classrooms, which began at HMI in the 1990s. Since MDOT MPA began tracking data in 2010, there have been over 56,000 student interactions through in-class programs, presentations, and field experiences.

In order to meet the demand and provide a comprehensive and meaningful experience for the students, MDOT MPA's partner, MES, created an education and outreach team that supports MDOT MPA's efforts. They developed teacher guides and lesson plans for teachers to use with their students in advance of the fieldtrip or in-class program. Follow-up activities are included in the lesson plans as well. The guides and lesson plans align with the Maryland Department of Education standards. In addition, all of the activities at the DMCFs meet the required meaningful Chesapeake Bay experience. This is a great opportunity for MDOT MPA to be reaching new,

younger, and broader audiences, informing them on the importance of the Port of Baltimore, dredging, and the environmental efforts in which MDOT MPA participates.

Katrina Jones has served as the president of the Maryland Association for Environmental and Outdoor Education (MAEOE) for the past two years. MDOT MPA has been a proud partner with MAEOE since 2004. It is the organization that certifies Maryland Green Schools and Centers. Masonville Cove Environmental Education Center is a Green Center and can help schools become Green Schools by meeting their certification requirements. MDOT MPA assisted Benjamin Franklin High School to become a Green School.

MDOT MPA participates in two events hosted by MAEOE annually. The events provide another way for MDOT MPA to reach new audiences and the next generation of environmental stewards. The first event is the MAEOE Annual Green School Youth Summit, which is held every year at Sandy Point State Park; approximately 3,000 students attend each year. MES also attends and provides a hands-on activity for the students. The Governor and cabinet secretaries are invited to attend as well. The second event is the MAEOE conference, which attracts 500-600 educators each year. In 2005, the MAEOE conference was the location of the beginning conversation of the terrapin head start program. The terrapin head start program was developed in conjunction with Arlington Echo, which is the environmental literacy and outdoor education facility for Anne Arundel County schools. Many schools across the state participate in the program. The surprise appearance of terrapins at Poplar Island led to the development of the education program where baby terrapins are captured, tagged, cared for, and monitored in classrooms around the state, then returned to and released at Poplar Island by the students. About 200 terrapins are raised in the classroom and used in programs annually. To date more than 2,300 terrapins have been a part of the head start program. Teachers are provided training and equipment prior to receiving hatchlings. Ohio State University is part of the monitoring and research of the program. The program provides real-life science, monitoring, and data collection and is an amazing opportunity for teachers and students. Now the program is administered by Arlington Echo, the National Aquarium, and MES.

Another effort that MDOT MPA is an active participant in is the Project Green Classrooms Executive Order. MDOT MPA has a dual role in Project Green Classrooms. The first role is through MDOT, of which MDOT MPA is a part, which has been identified as one of the state agencies on the Project Green Classrooms steering committee. The second role is through MAEOE, who is a participating partner of the Project Green Classrooms. This effort, put forth by the Governor, is to create the future generation of environmental stewards by providing all students throughout Maryland an opportunity to connect with nature and have a sense of place in their natural environment. The committee is putting forward many recommendations, including access to nature and developing green space. One way in which MDOT MPA has participated is through "PARKing Day," an international event held on the third Friday of September. On PARKing Day, parking spaces are turned in to green spaces to help make the connection to nature in urban environments and for individuals to learn about the natural environment. MDOT MPA employees utilized a parking space on Commerce Street and had educational and environmental activities. Masonville Cove, which is accessible by land, is a public space and natural respite area and has been included in the recommendation for access to nature. Project Green Classrooms is spearheading a Geographic Information System (GIS) mapping tool that will allow individuals to identify parks and other opportunities to be in nature.

This year, 2019, is a big year for MDOT MPA and their Stewardship to Scholarship initiative. It is the 10th year for the MDOT MPA-sponsored Terrapin Education and Research on Poplar (TERP) program and the 10th anniversary of the opening of Masonville Cove. Also, Captain Trash Wheel turns one year old. Ms. Fidler advised the HT to be on the lookout for events and celebrations to promote these milestones and get more of the public out to the sites. Mr. Denny asked who funds the DMMP outreach programs. Ms. Fidler replied that it is funded by MDOT MPA. It is a part of the Harbor Development Program, which is building support, education, and awareness for the dredging program. Mr. McGeady asked if there was a range of grade levels that the teacher guides focus on. Ms. Fidler stated that the program is for kindergarten through 12th grade.

Mr. Pappas stated there is a lot of controversy over the Man-O-War shoal and asked if the students understood the impact it could have to their generation. Ms. Correale stated that the Man-O-War Shoal issue is not part of a MDOT MPA program, thus the public's knowledge on the issue is unknown at this time.

Mr. Donnelly commended the Port of Baltimore on their environmental and outreach efforts. Mr. Stainman asked if other groups or organizations picked up on the value of Masonville Cove Environmental Education Center and if MDOT MPA is working to increase accessibility. Ms. Fidler replied that at future Citizens Advisory Committee meetings there will be an update on the public access to Masonville Cove issue. MDOT MPA has been meeting with many different organizations from the community as well as other city and state groups. Those groups see tremendous value in Masonville Cove. Capitalizing on the 10th year of the opening of Masonville Cove gives MDOT MPA a great platform and opportunity to harness the momentum and spread the word. Ms. Nelson thanked the Living Classroom Foundation due to their assistance to the Turner Station Recreations and Parks Council summer camp program by hosting a day at Masonville Cove each year.

5.0 Seagirt Loop & Berth Project **Holly Miller, MDOT MPA**

Ms. Miller stated that the Seagirt Marine Terminal is a 284-acre marine terminal owned by MDOT MPA and operated by Ports America Chesapeake through a public-private partnership (P3) agreement. Seagirt is the Port of Baltimore's dedicated container terminal and handles up to 97% of the Port's container volume. Seagirt has four container berths, only one of which is currently at 50-foot depth. The terminal is supported by 11 ship-to-shore container cranes. The Seagirt Marine Terminal has impressive loading and unloading rates, so much so that it has the highest productivity rates of any terminal in the country. The Seagirt Marine Terminal is the industry leader in productivity which helps to drive increases in new business. Due to this, the terminal is reaching capacity. With only one 50-foot berth it lacks the capacity to handle the increasing number of Ultra Large Container Vessels (ULCV) that are calling on the terminal due to the ever-increasing size of container ships. The Seagirt Loop and Berth 3 Improvement Project will help to provide additional capacity for the Seagirt Marine Terminal in order to accommodate the ULCVs and will provide additional efficiencies and navigation safety. These improvements are needed at the terminal to keep pace with the growing population and accompanying cargo volumes as well as remaining competitive with other ports.

The navigation improvements include deepening existing Berth 3 from 45 feet to 50 feet as well as widening portions of the Seagirt-Dundalk connecting channel and turning basin. This will provide additional safety clearances for the ULCVs which call on Berth 3 to enter, turn around, and exit. This portion of the project is estimated to remove 45,000 cy of dredged material, which has been included in the long-range capacity planning for the Baltimore Harbor. The navigation improvements to the Seagirt West Loop includes deepening the remainder of the loop to 50 feet, including the wideners, which will help provide safety clearances for the ULCVs. The estimated volume of dredged material to be removed is 1.5 million cy. MDOT MPA has requested that the US Army Corps of Engineers (USACE) perform a feasibility study for this portion of the project, which is currently pending availability of funding.

To support the navigation improvements, in spring 2018 MDOT MPA, conducted a full ship simulation study to determine if, with channel improvements, the ULCVs could safely transit to and from the Seagirt Berth. The study was conducted at the Maritime Institute of Technology and Graduate Studies (MITAGS) with their simulation modeling team and expertise from the Association of Maryland Pilots (AMP). The study was conducted to refine and minimize the amount of dredging that would be needed to provide safety for the ULCVs. The modeling took into consideration a variety of factors including bathymetry, wind, waves, currents, time of day, etc. Geotechnical investigations and chemical analyses are also being conducted to help inform the dredging design and suitability of material placement. The field efforts began December 2018 and were completed in January 2019. MDOT MPA is currently awaiting the results. There were 17 sampling locations for Seagirt Berth 3 and 39 sampling location for the Seagirt Loop. Mr. Donnelly asked if the samples for the geotechnical and chemical analyses were taken at a depth of 50 feet and if the results would be made available to the public. Ms. Miller replied in the affirmative to both questions and stated that the material is being tested to determine the suitability for placement in the DMCFs.

Ms. Miller stated that improvements to infrastructure and cargo handling are also required. MDOT MPA's partners, Ports America Chesapeake, will be responsible for the infrastructure portion of the project. The infrastructure improvements include installation of a toe wall to accommodate deeper dredged depths, repairs to the wharf structure, pavement replacement, installation of hardware to support the new ship-to-shore cranes to service ULCVs, and extension of concrete runways in the container yard for new efficient rubber tire gantry (RTG) cranes. These improvements will help increase the efficiency of cargo handling as well as provide environmental benefits such as a reduction in pollutant emissions. The ULCVs are significantly more fuel efficient, per unit, than the vessels that are currently calling on the Seagirt terminal. A conservative analysis reported that there will be a 50% reduction in carbon dioxide emissions and a 25% reduction in other pollutants, including particulate matter, nitrogen oxides, volatile organic chemicals, and sulfur dioxide. In addition to these reductions, the ship-to-shore and RTG cranes will be equipped with latest technology in fuel efficiency. The new RTG cranes will be electric, replacing the diesel run cargo handling equipment in the container yard, which will further reduce emissions.

The project is underway and MDOT MPA has completed the preliminary planning and ship simulation components. The Berth 3 infrastructure design is underway and expected to be completed soon. MDOT MPA has completed the field portion of the geotechnical investigations

and chemical analysis and is awaiting results. MDOT MPA has already applied for the dredging permit and as the process proceeds with public comment period, all committees will remain informed. In February, MDOT MPA will be initiating the dredging with completion expected during summer 2019. Infrastructure construction will begin in October 2019 and is expected to be completed in March 2020, in time for dredging to begin in May 2020 and be completed by October 2020.

Mr. Donnelly asked if any other harbor channels, such as Brewerton, would be widened. Ms. Miller replied that no other harbor channels would be widened. Mr. Denny asked where the funding for the feasibility study is coming from, since funding from the USACE is currently pending. Ms. Miller stated that the geotechnical investigations and chemical analysis study is being conducted by MDOT because it was less expensive to mobilize once and perform sampling for the geotechnical investigation and chemical analysis simultaneously for Seagirt Berth 3 and the remainder of Seagirt Loop. Ms. Miller stated that MDOT MPA will be receiving $6.6 million in federal funding from the US Department of Transportation Better Utilizing Investment to Leverage Development (BUILD) Grant program to contribute to the Seagirt Berth 3 Improvement Project. The grant will help to significantly reduce the overall cost that MDOT MPA has to pay and provides a 20% offset.

Mr. Haid clarified that Ports America Chesapeake assumed the cost for the original dredging of the 50-foot berth between the Federal channel and face of wharf, but not for the new project. Ms. Miller agreed and stated that Ports America Chesapeake will be responsible for the landside improvements on the new project as well as the dredging between the Federal channel and face of wharf.

Mr. Stainman asked if the air emissions from the landside equipment and the increase of traffic due to the expected increase in containers was included in the emission reduction estimates. Ms. Miller stated that emission reductions were investigated for the cargo handling equipment but is unsure if the truck traffic was investigated. Ms. Miller stated that MDOT MPA is working with the Maryland Department of the Environment (MDE) and the US Environmental Protection Agency (EPA) for Diesel Emission Reduction Act (DERA) funding which helps to replace dray trucks for newer models, which in turn reduces emissions for truck traffic. Ms. Pappas asked if the emissions would remain the same rather than a reduction. Mr. Denny stated that if the Howard Street tunnel construction moves forward, then most of the containers will be placed on a train, which would reduce emissions. Many factors should be taken in to account to make a determination on emission reductions.

Mr. Denny suggested discussing the DERA program and the benefits to the community at a future meeting. Mr. Pattison stated that MDOT MPA was awarded over $2.4 million in DERA funding, which is close to the maximum amount of $2.5 million that can be awarded. The funding will go to dray truck/cargo handling equipment replacements and re-powering marine engines.

Mr. McGeady asked if dredging restrictions conflict with the estimated schedule for this project. Ms. Miller stated that there are not dredging restrictions on the side of the harbor in which the project is being conducted, thus it is currently not a concern for MDOT MPA.

Mr. Qureshi stated that Ports America Chesapeake is working on capacity and they will be adding 8.5 acres to the site for a container yard. Future planning includes an increase in stacking area, which reduces the density and decreases the truck turn time. This action could potentially decrease emissions.

6.0 Harbor Development Update **Chris Correale, MDOT MPA**

Ms. Correale provided a brief update on the Cox Creek DMCF expansion. Upland remediation is underway. The project is modestly affected by the federal government shutdown as EPA approval is needed to move forward with some aspects of the remediation however, this delay should not affect the overall construction schedule. Building 201 demolition is ongoing. The base dike widening and construction of the Operations and Maintenance complex is occurring. The Operations and Maintenance complex building will house MES, who manages the site for MDOT MPA, and will include offices, an equipment bay, and a conference room. Ms. Correale provided photos of the ongoing work.

Ms. Correale stated that a Cox Creek site visit will be held for the Cox Creek Citizens Oversight Committee in 2019. HT members will be invited if there are any spaces remaining.

Mr. Stainman asked if the Maryland Senate and Congressional Delegation knew of the issues experienced by MDOT MPA due to the federal government shutdown. Ms. Correale stated that MDOT MPA has all the required permits, but there are some modifications to the remedial action plans being requested. MDOT MPA received a query from MDOT requesting impacts of the federal government that state agencies are facing; this issue was submitted to MDOT.

Mr. Pappas commended the MDOT MPA and others for addressing emissions and air quality issues. He added that the power generation industry has made tremendous strides in the past 10 years in reducing emissions. There is a huge effort across industries to address the air quality issues. Mr. Haid stated that a contributor to the emission reductions is the abundance of natural gas, which produces less emissions than coal.

7.0 Upcoming Meetings **Steve Pattison**

Mr. Pattison stated that the next HT meeting is scheduled for April 25.

8.0 Adjourn