Bookcase

PROJECT MANAGEMENT PLAN

BALTIMORE HARBOR AND CHANNELS DREDGED MATERIAL MANAGEMENT PLAN

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DRAFT

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SECTION 1- PROJECT MANAGEMENT PLAN

1.1 Introduction

The U.S. Army Corps of Engineers, Baltimore District (Corps) is committed to environmentally sound dredging and management of dredged material as defined by applicable laws, regulations, and policies. Dredging is necessary to maintain waterways and harbors used for commercial and recreational navigation. Appropriately, the Corps is developing a long term, environmentally acceptable, cost-effective dredged material management plan (DMMP) to address dredging needs and placement opportunities for the Port of Baltimore. The DMMP will identify, evaluate, screen, prioritize, and ultimately optimize alternatives resulting in the recommendation of a specific viable plan of action for the placement of dredged materials for at least the next 20 years. The DMMP will be developed in conformance to all relevant Corps regulations and policy guidance, and within the framework of all-applicable laws, regulations, and Executive Orders.

As defined by Engineering Regulation (ER) 1105-2-100 (22 April 2000), management plans are prepared in two phases: Phase I - initial and Phase II - final. The initial phase is to be completed in 12 months and is to produce a Scope of Work (SOW) for the final phase of the study. This Project Management Plan (PMP) incorporates the SOW and identifies the work tasks, milestones, negotiated costs, and responsible parties in the development and preparation of the DMMP. It is the result of the recommendations provided in the *Baltimore Harbor and Channels, Dredged Material Management Plan, Preliminary Assessment*, dated July 2001, approved by North Atlantic Division in September 2001. A preliminary assessment (PA) establishes whether more detailed study is required to establish a DMMP, and if so, provides information to justify the study and permit its prioritization in the budgetary process. The PA documents the continued economic viability of a project and determines whether there is dredged material placement capacity sufficient to accommodate 20 years of maintenance and new work dredging. If the PA determines that there is insufficient capacity to accommodate dredging for the next 20 years, then a dredged material management plan study is recommended.

In summary, the *Baltimore Harbor and Channels, Dredged Material Management Plan, Preliminary Assessment*, dated July 2001, concluded that 1) there is insufficient capacity for dredged material placement (approximately 8-10 years of existing placement capacity); 2) there is insufficient time to develop new placement site(s) before existing sites are filled (implementation would take approximately 9-12 years); 3) existing sites will not be efficiently managed due to the dredging demand and insufficient placement capacity (overloading sites reduces capacity/increases costs); and consequently, 4) a DMMP study is warranted.

Therefore, based on the conclusions of the PA, the report recommended 1) commencing a Phase I SOW or PMP that identifies the scope, resources, and schedule for conducting a management plan; 2) conducting the Phase II - Baltimore Harbor and Channels DMMP following approval of the PMP; and 3) beginning concurrent investigations of placement options at Poplar Island, Mid-Chesapeake Bay islands, and Eastern Neck utilizing existing authorities (more information is provided in Section 7).

1.2 PMP Purpose and Policy

The purpose of this PMP as defined by ER 5-1-11 is to act as a roadmap for timely and quality project delivery. It is a SOW used to define the scope of the study, to identify the resources necessary to accomplish the tasks, to identify the responsible team members to accomplish the tasks, and to identify the tools necessary to ensure project implementation success. To better define the purpose and tasks of the DMMP, three public scoping meetings were held in June 2002 at various locations around the upper Chesapeake Bay, Maryland area (Appendix A). At these meetings, the public was requested to provide comments, issues, and concerns to be considered in the DMMP. Meeting summaries are included in Appendix A. In addition, a resource agency meeting was held within the District to explain the general focus of the study and solicit input from the agencies into the development of the scope of study (see Memorandum for Record, dated 23 April 2002, Appendix A). This PMP includes public and agency issues identified as a result of the scoping meetings. In addition, it summarizes the purpose and need of the plan, the detailed steps, tasks, and resources involved in developing the plan, and the schedule for conducting the plan. This PMP also establishes the process for preparing the report and conducting a programmatic environmental impact statement (EIS) in conformance with the National Environmental Policy Act (NEPA) of 1969, as amended.

The PMP has been developed in accordance with:

- Engineer Regulation (ER) 5-1-11, U.S. Army Corps of Engineers Business Process,
- ER 1105-2-100, Guidance for Conducting Civil Works Planning Studies (22 April 2000),
- ER 1165-2-501, Water Resource Policies and Authorities, Environmental Policies, Objectives, and Guidelines for the Civil Works Program (30 September 1999),
- Engineer Pamphlet (EP) 1165-2-1 Digest of Water Resources Policies and Authorities
- EP 1165-2-502 Ecosystem Restoration – Supporting Policy Information
- North Atlantic Division Regulation 1110-1-8

1.3 DMMP Policy and Authority

Corps policy (ER 1105-2-100) requires each Corps District to prepare a DMMP for maintaining Federal navigation channels when it is demonstrated in a PA that there is insufficient dredged material placement capacity to accommodate 20 years of maintenance and new work dredging.

ER 1105-2-100 further directs the Districts to conduct a management plan study that results in a management plan report that recommends implementable solutions to identified management problems. The plan is to identify how much material has to be dredged to maintain the Federal channel(s) and how that dredged material will be managed in an economically sound and environmentally acceptable manner. The plan is intended to ensure that Federal navigation projects can be maintained in an environmentally acceptable, cost-effective manner, thereby justifying continued investment of Federal funds. The plan will also consider non-Federal, permitted dredging within the related geographic area, as placement of material from these sources will affect the size and capacity of placement areas required for the Federal project.

It is the policy of the Corps of Engineers (ER 1105-2-100) that all dredged material management studies include an assessment of potential beneficial uses for environmental purposes that include but are not limited to fish and wildlife habitat creation and restoration and storm damage reduction.

The DMMP will be prepared in accordance with NEPA, the Clean Water Act, the Endangered Species Act, the Marine Protection, Research, and Sanctuaries Act of 1972, in addition to the following:

- ER 200-2-2, Environmental Quality: Procedures for Implementing the National Environmental Policy Act (4 March 1988),
- ER 1105-2-100, Guidance for Conducting Civil Works Planning Studies (22 April 2000),
- 33 Code of Federal Regulation (CFR) Part 320 Engineers Corps General regulatory policies,
- 33 CFR Part 335 Operation and maintenance of civil works projects involving discharge of dredged or fill material into U.S. or ocean waters,
- 33 CFR Part 336 Dredging projects involving discharge of dredged material into U.S. and ocean waters, factors considered in evaluation,
- 33 CFR Part 337 Practice and procedure, and
- 33 CFR Part 338 Corps Activities involving discharge of dredged material or fill into U.S. waters.

1.4 DMMP Goals and Objectives

The overall goal of the DMMP is to develop a plan to maintain, in an economically and environmentally sound manner, channels necessary for navigation to the Port of Baltimore, conduct dredged material placement in an environmentally sound manner, and maximize the use of dredged material as a beneficial resource. As one of the first tasks associated with the initiation of the DMMP, the dredged material placement quantities and needs will be defined and the study goals and objectives will be clearly defined by the project delivery team.

To meet the overall goal of the DMMP, the preliminary objectives are:

- The DMMP study will give full objective consideration of all dredging and dredged

material management alternatives, or combinations of alternatives. No option will be ruled out prior to the initial plan formulation process.

- The DMMP study will consider the use of innovative techniques, partnering policies, and non-traditional placement options to maximize the use of dredged material that may include but is not limited to: wetland creation, habitat creation, use in upland landfills, creating shallow water areas, bird/shellfish/oyster/submerged aquatic vegetation (SAV) habitat restoration, agricultural application, abandoned mine land reclamation, upland placement, and diked placement sites.
- The DMMP study will contain detailed assessments of dredged material that in some cases (Inner Harbor – west of the North Point/Rock Point Line, see Figure 1) may be considered to be contaminated, and provide consideration to alternatives for placement of such materials including decontamination technologies (physical, chemical, thermal, and biological treatment) that would be applicable in treating and placing such dredged material currently and in the future.
- The DMMP will utilize and incorporate appropriate data and information from other relevant Corps studies and projects, as well as, information and results from the State of Maryland's Dredged Material Management Program.
- The DMMP study will include an economic analysis of the viability of maintaining the existing channels.
- The DMMP will include a website dedicated to the study and that will be available to the public. The website will post all current documentation available on the DMMP, including meeting minutes, plans, maps, discussion of options, etc. The website will be linked to other related websites including the sites established for existing dredged material placement sites.
- The DMMP will include an extensive public and agency campaign for participation into the study plan formulation. The team will widely publicize the study through at least two newsletters, notice of availability of the draft and final EISs, newspaper and public announcements, letters to resource agencies, as well as notices to the various restoration efforts within the Chesapeake Bay.

SECTION 2 - DMMP SCOPE AND PROCESS

2.1 Project Area

The project area encompasses the channels and navigational features that serve the Port of Baltimore, including channels and anchorages in Baltimore Harbor, the approach channels from Cape Henry, Virginia to Baltimore Harbor, and the Chesapeake and Delaware Canal approach channels south of the Sassafras River (see Figure 1). This assessment does not include the C&D Canal proper; however, the upland placement sites along the Canal will be documented and considered.

2.2 DMMP Scope

The scope of the DMMP is comprehensive in nature and will identify primary and contingency options needed to meet the dredging requirements of the Port through the year 2025 giving special consideration to beneficial uses of the dredged material. The DMMP will consider dredging needs based upon potential new projects and existing operation and maintenance dredging from Federal navigation projects, and will factor in State and local dredging placement needs into the formulation of alternatives, where appropriate. The PA, as discussed in Section 1.1, concluded that the channels that serve the Port of Baltimore that are within Virginia waters have sufficient capacity for the 20-year planning horizon. This assumption will be revisited in the DMMP; however, since the conclusion is unlikely to change, the Virginia channels are not highlighted in this PMP.

State of Maryland Dredged Material Management Program

The data developed and prepared by the State of Maryland's Dredged Material Management Program will be included in the study. The Baltimore District is an active participant in the preparation of the State's plan. The District has team representation at the Bay Enhancement Workgroup, and the Citizen's Committee (see Appendix B). In addition, the Corps has vital management roles in the State's Management Committee and Executive Committee (see Appendix B). Corps representation into the State's plan has encompassed attending highly-frequent meetings, providing direction into placement options and alternatives, providing direct guidance into screening criteria, providing information on placement alternative costs and quantities, and providing input into the State's recommended plan of placement options. More information is provided in subsequent sections of this document.

It is not the intent of this study to duplicate efforts conducted by the State. The Corps will use all information that is meaningful and appropriate to this plan including engineering data and designs and agency input. However, the Corps DMMP will follow the NEPA process. The plan will thoroughly identify the problems, needs, and objectives, evaluate current conditions, develop and evaluate options and alternatives, recommend a plan to meet the study goals while incorporating public comment and agency input into all aspects of the plan.

Public Scoping Meetings and Agency Meeting Comments

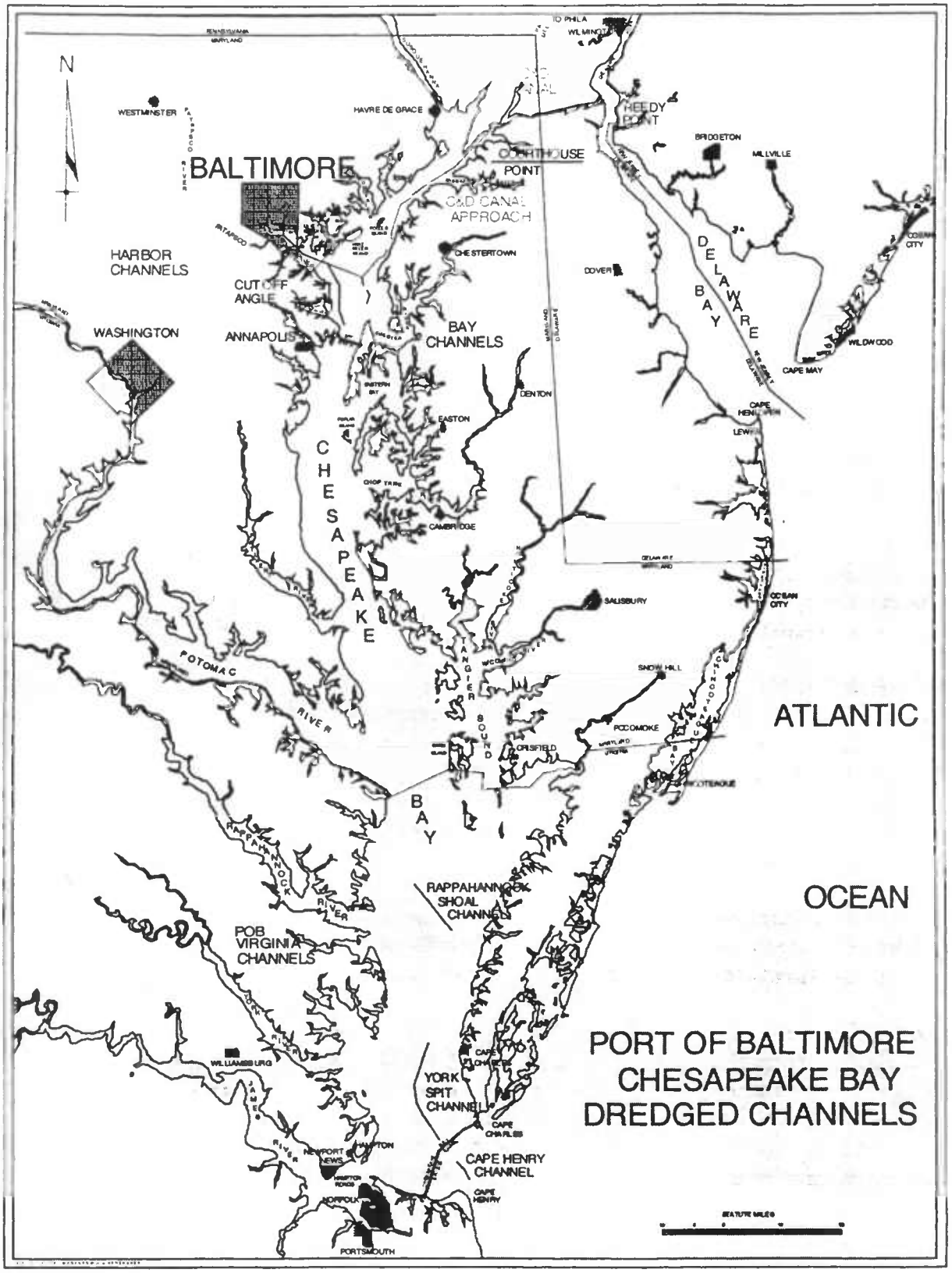
As previously stated, three public scoping meetings were held in June 2002 in the upper Chesapeake Bay area to solicit public input into the plan and scope of the study. Meetings were not held near the C&D Canal or in Virginia since those areas are unlikely to be impacted by the study recommendations. Meeting summaries are provided in Appendix A. In addition, a resource agency meeting was conducted at the Baltimore District to outline the preliminary plan of the DMMP and seek agency input into the plan. The public and agencies concurred with the Corps' plan to incorporate an analysis of the dredged material needs for the Port of Baltimore, an economic analysis of the channels being maintained, conduct an analysis of restoring deteriorating island habitat, and requested public input into the development of the base plan. However, based on public concern and agency consensus, the study will consider but not likely recommend sites of island creation, only island restoration.

2.3 DMMP Process

As defined by ER 1105-2-100, dredged material management planning of all Federal harbor projects is conducted to ensure that dredging activities are performed in an environmentally acceptable manner, use sound engineering techniques and are economically warranted. The DMMP will address dredging needs, placement capabilities, existing capacity of placement areas, environmental compliance requirements, potential beneficial use of materials and an assessment of continued economic justification. The DMMP will identify, evaluate, screen, prioritize, and ultimately optimize such alternatives resulting in the recommendation of a specific viable plan of action for the placement of dredged materials over the next 20 years. The plan will also consider non-Federal, permitted dredging within the related geographic area, as placement of material from these sources will affect the size and capacity of placement areas required for the Federal project.

The DMMP will follow the NEPA and planning processes, and be performed in the following sequential phases: I) Evaluate and Quantify Placement Needs and Existing Management Options; II) Formulate Alternative Placement Options with Special Emphasis on Beneficial Uses; III) Evaluate, Analyze, Compare, and Screen Alternatives; IV) Recommend Management Plan; and V) Periodically Update the DMMP. Integrated throughout these phases is the preparation of an EIS to address the programmatic implementation of the DMMP.

Figure 1: DMMP Study Area



SECTION 3 – PLAN REQUIREMENTS

This section defines the general tasks necessary for project success. It defines the process and effort by which the plan will be developed and prepared. A detailed scope of work is included in Appendix C.

PHASE I: EVALUATION OF EXISTING PLACEMENT NEEDS AND EXISTING MANAGEMENT OPTIONS - ESTABLISH STUDY GOALS AND OBJECTIVES

Determine Dredged Material Placement Needs

As part of the Preliminary Assessment, an evaluation of the existing dredging volumes and available placement options was conducted. Results concluded that 1) there is insufficient capacity for dredged material placement (approximately 8-10 years of existing placement capacity); 2) there is insufficient time to develop new placement site(s) (implementation would take approximately 9-12 years); 3) existing sites will not be efficiently managed due to the dredging demand and insufficient placement capacity (overloading sites reduces capacity/increases costs); and consequently, 4) a DMMP study is warranted. As part of the DMMP, a detailed evaluation of these conditions will be undertaken. All appropriate databases of historical dredging, including permits and placement records from the Corps, Maryland Port Administration (MPA) and other Federal, State and local governments will be obtained. Relevant historical dredging information related to management and regulation within the DMMP area, in terms of dredged material placement by location, quantity, and timing will be obtained. All relevant physical and chemical characterization data relating to dredged materials within study area, by channel source, will be considered.

Economic Analysis - Needs

An economic analysis of the existing and projected maintenance dredging needs for the Baltimore Harbors and Channels project will be conducted. The purpose of the analysis will be to evaluate the transportation cost savings produced by maintaining various project depths. If the benefits of continuation of maintenance dredging of the project depths over the 20-year DMMP analysis period exceed the estimated costs of maintenance dredging, the DMMP dredging needs would be based on maintaining the project depths.

Data collection will include interviews with channel users and port officials and examination of historic Waterborne Commerce Statistical data to identify actual usage patterns of the various channels. The analysis will factor in estimated usage of the channels through 2025.

Existing Placement Options

An analysis of the existing placement options, conditions, and available capacity will be undertaken. Current placement sites for Maryland channels include Hart-Miller Island Containment Facility, Pooles Island open water site, Poplar Island environmental restoration, and soon to be rehabilitated upland Cox Creek site. It has been determined that the Virginia channels and the C&D Canal proper have adequate capacity for 20 years, though these assumptions will be rechecked.

The State of Maryland has passed several laws that severely restrict the placement of material. These laws define any material taken from the inner harbor areas of the Port, which includes the Patapsco River west of a line drawn between North Point and Rock Point (Figure 1) to be contaminated and require the material to be placed in a confined site; prohibit the open water placement of material in the Chesapeake Bay, except for limited placement at Pooles Island; and prohibit the vertical or horizontal expansion of Hart-Miller Island or the construction of a dredged material placement site within 5 miles of Hart-Miller Island.

Currently, only the Hart-Miller Island Containment Facility can accept contaminated material. This containment facility has an estimated 18 million cubic yards (mcy) remaining capacity and State law requires the site to stop accepting material after 31 December 2009.

Cox Creek site is planned to be brought on line by the State of Maryland in 2003 and will be reserved for this inner harbor material. The upland Cox Creek site will have an estimated capacity of 6 mcy and would last for 12 years at an average fill rate of 500,000 cy per year.

Poplar Island Environmental Restoration Project (more than 1,100 habitat acres) is available for approximately 32 mcy of capacity for dredged material placement. The site, in its current configuration is expected to have enough placement capacity to last 9 to 10 years at the current inflow rates.

The only active open-water site, Pooles Island, is used for placement of material from the approach channels to the C&D Canal south of the Sassafras River that are the responsibility of the Philadelphia District. Pooles Island has an estimated 6 mcy of capacity remaining and due to a State law passed in 2001, cannot accept any more material after December 2010.

Data Collection

It is assumed by the team that the following data will be available and accurate for the study and EIS.

Water Resources Studies

Coastal data for wind, tides, currents, storm propagated and ship generated waves, sediment depositions, shoaling rates; hydrodynamic characterization, compilation of wave analysis including wave heights, frequency, periods, run-up and overtopping; erosion and sediment control measures, hydrodynamic modeling and digital bathymetric surveys and information using NOAA charts.

Environmental Studies

Water quality (temperature, dissolved oxygen, pH, conductivity); benthic community structure and sampling; SAV historical surveys; currently existing SAV surveys; shallow water habitat issues; finfish surveys; essential fish habitat and habitat of particular concern; fisheries: recreation, commercial, spawning; licensed oyster bars, designated beds, fossil shell area; rare and endangered species; ichthyoplankton; groundwater; avian

and terrestrial species and habitat, upland community types; wetlands; rookeries; and aesthetic resources.

Socioeconomic
Historical and current social, demographic, economic conditions, and land pattern and use data.

Establish Study Goals and Objectives
Once the dredging needs and placement options are quantified, the preliminary study goals and objectives shown in Section 1.4 will be refined and approved by project delivery team members. The team will seek input and participation from other interested Federal and non-Federal parties on establishing the goals and objectives. These goals and objectives will be used to measure plan implementation success.

North Atlantic Division Study Initiation Meeting (P-6 Meeting)
A study initiation meeting is planned with North Atlantic Division (NAD) to review the study plan and conduct, and for the Division team to provide the District with technical, managerial, and/or policy assistance.

Meetings and Team/Agency Coordination
It is important to note that from the initiation of the study and continuing throughout the process, numerous formal and informal meetings with the MPA, local and regional officials, resource agencies, watermen, local dredging operators, interested parties, and the public will be conducted. These meetings are necessary and important in focusing the DMMP, obtaining valuable data, developing the range of alternative options that could be considered, and ultimately meeting the goals of the study.

PHASE II: FORMULATE PLACEMENT ALTERNATIVES WITH SPECIAL EMPHASIS ON BENEFICIAL USES

Phase II involves formulation and identification of a list of viable long-term dredged material management options, and includes conducting technical studies and investigations of the options and conditions to support the options. If appropriate, alternative plans would not be limited to those that only the Corps could implement, but plans that could be implemented under the authorities of other Federal agencies, state and local entities and non-government interests (ER 1105-2-100).

Layout specific plans or options to attain the DMMP goal
The DMMP will lay out placement option alternatives that attain DMMP goals and objectives. Options that could be proposed include wetland restoration, habitat restoration (bird/shellfish/oyster/SAV), channel placement, use of upland areas, recontouring land in shallow water, innovative uses, and use of a confined placement sites. A list of the 27 sites being considered by the State of Maryland (see below) has been used for budgetary purposes in scoping this effort.

Critical to the DMMP process will be the integration and consideration of the full range of management measures required to manage dredged materials including various placement methods, management considerations, placement locations, periods of use, and an assessment of potential beneficial uses of dredged materials. Part of the process will also include the potential use of new technologies that may affect the placement of contaminated and non-contaminated dredged material.

In determining all possible options for placement, consideration will be given to the use of new and innovative techniques, and other non-traditional options to maximize the beneficial use of dredged sediments. Investigations and reviews of new existing technologies may be undertaken to determine the feasibility of placement options.

The non-federal, permitted dredging within the DMMP study area will also be considered in formulating alternatives to the extent that placement of material from these sources affects the size and capacity of placement areas required for the Federal project. Placement is to be consistent with sound engineering practice and meet all Federal environmental standards including the environmental standards established by Section 404 of the Clean Water Act (CWA) of 1972 and Section 103 of the Marine Protection, Research and Sanctuaries Act (MPRSA) of 1972, as amended.

Economic Analysis – Assessment of Plan Benefits

During this task, an economic assessment of the expected benefits and costs of each of the dredged material placement alternatives or combinations of alternatives under consideration for the DMMP will be conducted.

State of Maryland DMMP

As stated above, the Corps has been actively involved in the State of Maryland's, *Dredged Material Management Program.* District staff at all management and staff levels have participated in the development of placement options for the State. Included in Appendix B is the list of 27 placement options and related analysis developed for consideration in the State's plan. This information will serve as input to the District's DMMP, and all aspects of the State's plan will be utilized where appropriate.

Meetings and Team/Agency Coordination

Meetings with the team members, MPA, local and regional officials, resource agencies, watermen, local dredging contractors, interested parties, and the public will be regularly conducted to discuss the range of alternative projects based on dredging requirements. These meetings enable a dialogue with the interested parties and the Corps pertaining to the complex physical, chemical, biological, and socio-political processes involving dredged material placement options, and importantly, to clearly understand public concerns. The Baltimore District will make an extensive effort to publicize these formulation meetings in order to enlist wide participation into the plan development. In addition, with the creation of the DMMP website, day to day information will be made available to the public to allow a constant stream of information to and from the public. The team will meet with the public and agencies frequently, both formally and informally.

PHASE III: ANALYZE AND COMPARE ALTERNATIVES

In Phase III, evaluation consists of four tasks. 1) Forecast the most likely with-project conditions expected under each alternative plan. Criteria to evaluate the alternative plans include all significant resources, outputs, and plan effects. 2) Compare each with-project condition to the without-project condition (No-Action) and document the differences between the two. 3) Characterize the beneficial and adverse effects by magnitude, location, timing and duration. 4) Identify the plans that will be further considered in the study, based on a comparison of the adverse and beneficial effects and the evaluation criteria.

Alternatives will be evaluated to determine the degree to which each would: 1) present potential environmental impacts or risks, as well as offer environmental benefits; 2) improve agency coordination, predictability for dredging project sponsors, and environmental protection; and 3) affect the dredging-related economic conditions.

Use of screening process to evaluate alternatives

In selecting potential viable solutions to meet the forecast volumes of dredged material in the future, potential screening criteria as developed in the DMMP process will be utilized to evaluate, screen, prioritize and recommend alternatives. Factors to be considered in screening criteria relate to technical feasibility, emphasis on need, beneficial use, cost effectiveness, environmental acceptability, capacity, and ease of implementation. The criteria and factors used to screen the alternatives are required to consider the physical composition of the respective dredged material, and factor in all Federal statutory constraints upon the placement of such materials, as well as the environmental acceptability of such alternatives to the relevant committees, workgroups and stakeholders. Included in the screening will be the input of the general public and interested local, State, and Federal agencies. Estimates of the potential volumes of dredged material, and the associated characterization of such material as clean or contaminated for potential placement options will be part of the DMMP process.

Once the range of potential projects has been established by location and timeframe, the next step in the DMMP process will be to determine the appropriate values and weight to be given to the screening criteria. This information will be used in determining options for the placement of material. The appropriate criteria and factors for judging placement options will be based upon results of the public scoping meetings and through a consensus process and interaction using information obtained from the State of Maryland DMMP, as well as any new available information obtained through this Federal DMMP.

Additional Data Collection/Review

During the analysis phase, it may be necessary to collect additional data on placement alternatives. Information will be used to best screen options for plan recommendations. An assessment will be made as to the applicability of a regional sediment model to future study efforts. Such a model could potentially help to analyze the effectiveness of dredged material placement sites and help to predict shoaling patterns.

State of Maryland DMMP

As stated above, as part of the State of Maryland's, *Dredged Material Management Program,* criteria have been developed by resource agencies, MPA, District staff, academicians, and special interest groups for the screening of potential placement options (see Appendix B). The Corps study will use these criteria and others to follow the NEPA process. Information gathered and criteria developed by the State of Maryland DMMP will be incorporated into the District's DMMP.

Qualitatively compare options or alternatives plans

The DMMP will analyze and weigh the viability of implementing various alternative strategies for the placement of dredged materials. Alternative plans that qualified for further consideration will be compared in order to identify the plan to be recommended for implementation. A comparison of the effects of various plans must be made and tradeoffs among the differences observed and documented to support the final recommendation. The effects include a measure of how well the plans do with respect to planning objectives including the outputs and costs. The DMMP will consider the effect upon the system of existing and future Federal, State and local navigation projects and their respective projected dredging requirements. Effects required by law or policy and those important to resource agencies and the public will be considered.

National Economic Development Evaluation (NED)

The purpose of the NED evaluation is to identify the alternative or suite of alternatives that meet the dredged material placement needs for the Port of Baltimore for the next 20-year period of analysis that maximizes the difference between project benefits and costs. Assuming each alternative provides the requisite level of dredged material placement capacity, the analysis will analyze all the NED costs associated with an alternative over the period of analysis and identify the alternative that provides the requisite capacity with the most net NED benefits. The costs evaluated will be only the NED costs, specifically, the costs will be limited to the cost of dredging and placement of materials.

National Ecosystem Restoration (NER) Analysis

An NER analysis will be conducted to identify the alternative that meet the needs of the Port of Baltimore that maximizes the difference between ecosystem habitat benefits and NER implementation costs.

Economic Risk and Uncertainty Analysis

The economic risk and uncertainty analysis involves studying the variables that impact technical requirement, costs, and schedule for maintenance dredging. The risk analysis will be incorporated into the evaluation of the DMMP.

Trade-off Analysis

Once NED and NER benefits are determined, a trade-off analysis will be conducted to identify the alternative that maximizes the cumulative NED and NER benefits over implementation costs. This analysis requires trading off the NED benefits and costs against NER benefits and costs to arrive at the alternative that maximizes the difference between total benefits and costs.

Optimize Plan

Once benefits, costs, capacities and placement options have been identified and agreed to, the plan will be optimized for economic efficiency. A systems analysis approach will be used to assure the plan will maximize dredged material capacity for each option and maximize the potential environmental benefits. Such an analysis could recommend a suite of options be available simultaneously to allow for proper consolidation and drying times, as well as to create a balanced variety of habitat types. The timing of project implementations should be determined and compared to budgetary realities. Plan optimization can also be part of the trade-off analysis discussed above.

North Atlantic Division Plan Formulation Meeting (P-7 Meeting)

A meeting will be held with NAD to discuss the plan formulation process and present the District's evaluation and screening of alternatives to narrow down the plans that best meet the study objectives (NADR 1110-1-8).

Establish Base Plans – Inner Harbor and Approach Channels

The base plan for navigation purposes is defined as the plan that accomplishes the placement of dredged material associated with the construction or maintenance dredging of navigation projects in the least costly manner, consistent with sound engineering practices and in compliance with all applicable Federal environmental standards, including those established by Section 404 of the CWA of 1972, as amended, and Section 103 of the MPRSA of 1972, as amended. When the placement option chosen is not the least cost, environmentally acceptable method for placement, the incremental cost of the placement option over the base plan will be cost shared with a non-Federal sponsor.

As part of the DMMP, at a minimum a base plan for Inner Harbor material and a base plan for approach channel (east of the North Point-Rock Point Line, Figure 1) material will be defined (ER 1105-2-100, ER 1130-2-250). It is possible that various base plans will be determined based on channel reach, including Virginia channels.

Project justification is determined by considering whether the costs of dredging are worth the economic benefit of the channel in question. The base plan is used to determine the dredging and placement costs for dredging operations. Any expense over the base plan is charged to the placement project, not to the navigation project in question. Therefore the determination of the base plan affects not only the cost-share responsibilities and amounts for any placement options, but also the justification of the existing navigation projects.

PHASE IV: RECOMMEND MANAGEMENT PLAN

The DMMP will ultimately recommend a plan of action that may recommend island or habitat restoration, innovative uses, traditional placement options, and/or enlargement of existing placement sites, development of new placement options, and management recommendations. The DMMP will provide a complete presentation of study results and findings; indicate how compliance with applicable statutes, executive orders and policies is achieved; recommend a list of viable Federal and non-Federal actions; and include implementation measures for long-

term placement including a schedule of these implementation actions. In essence, this DMMP functions as an umbrella plan with an EIS from which individual beneficial or placement options will be studied subsequently and separately from this report.

Preparation of DMMP Report and Integrated EIS

The DMMP report will identify applicable Federal and non-Federal mechanisms for project implementation, and identify specific measures necessary to manage the volume of material likely to be dredged over the next 20-year time frame. Specifically, the DMMP report will be a complete decision document that will provide:

- A sound and documented basis for decision-makers at all levels to judge the recommended DMMP. The report will identify all necessary agreements (Federal, sponsor, real estate, etc.) and procedural requirements (appropriate NEPA documentation, long-term permits, certifications, etc.) to cover at a minimum the next 20 years of project maintenance and planned new work. The report will include executed copies of all such agreements or schedules for obtaining the information.

- All plan requirements as defined by ER 1105-2-100, Table E-14 (Appendix D).

- The full range of measures for dredged material management including management of existing placement sites to extend their life, and various combinations of new placement sites involving different placement methods, placement area locations, and periods of use.

- Any technical and informational reports regarding dredging and dredged material placement options.

- An EIS that will also function as supporting documentation for implementation studies of placement options. Implementation of any DMMP recommendation will be subsequent to approval of the DMMP and is assumed to require supporting site-specific NEPA documentation.

- Recommend a suite of placement options or option categories that are to be studied subsequently and separately of this DMMP.

- The uses of developing technologies (for placement and decontamination) will be integrated, as appropriate, into the DMMP as such technology may impact dredged material placement options. The DMMP study may include conceptual design and layout of recommended plans.

Report Reviews

An independent technical review team of District staff will be involved during the study and will review the findings, plan formulation and documentation of the study. The technical reviewers will also review the environmental, economic, engineering and public involvement matters.

The technical review of the report focuses on compliance with established policy, principles, and procedures using clearly justified and valid assumptions. The technical review team is comprised of experts throughout all Corps divisions (Planning, Programs and Project Management, Engineering, Operations, Real Estate, Counsel, etc.) not involved in the day-to-day activities of the project. The technical review will include verification of the following:

- Assumptions;
- Methods, procedures, and material used in analysis;
- Alternatives evaluated;
- The appropriateness of data used and level of data obtained; and
- The reasonableness of the results including whether the product is consistent with the law and existing public policy.

It is expected that all in-progress review actions, study and review team meetings, and other significant review-related actions will be documented in the form of a written memorandum. A quality control review report consisting of a summary of major issues and resolutions will be provided.

Submittal of Draft Report and EIS to North Atlantic Division (P-8 Milestone)
The District will provide to North Atlantic Division (NAD) the District technically reviewed and approved report and EIS. During the NAD review, the District may be requested to provide a briefing to the Division office regarding the draft report (NADR 1110-1-8).

Quality Assurance
NAD will be responsible for overseeing the District's quality control process relating to the development of decision and implementation documents. In its quality assurance role, NAD will assure that the Baltimore District has the mechanisms and procedures in place to produce quality products that comply with established criteria, methods, policies, laws, and procedures, and apply competent technical resources in execution and review. NAD's quality assurance responsibility will include the following:

- Assess and provide feedback to the Baltimore District's quality control process;
- Evaluate the District's quality control plan for the study;
- Assure compliance with the quality control plan;
- Attend jointly selected District meetings in accordance with NAD guidance (NAD-ET-P memorandum dated 28 March 96, subject: Planning Program Management);
- Conduct spot checks of District products and technical review documents; and
- Facilitate and/or assist in the resolution of policy and technical issues.

Report Revisions
The Planning Division study team leader will coordinate all technical and policy comments and determine what Division should provide responses. A revised report will be provided to NAD prior to public review distribution.

Draft EIS Public Hearings
In conformance with NEPA, a series of at least three public hearings presenting the draft recommended plan and EIS will be conducted in the Bay areas potentially affected by the plan. Effort will be taken to make interested parties aware of the hearings through a variety of public announcements including mailing lists, newspaper and media advertisements. Planning Division will take the lead on coordination and preparation for the meetings. Project Management, Operations, Planning and Engineering Divisions will participate in these meetings.

Final Report/EIS (P-9 Milestone)
Following the 45-day public comment period, Planning Division will revise the reports as appropriate, provide a comments and response report, and finalize the documents. The District will submit the final report and EIS in addition to a draft Division Engineer's Notice announcing the 30-day EIS public waiting period.

Record of Decision
As defined by ER 1105-2-100, following the 30-day waiting period and barring receipt of any significant public or agency comments, the Division Engineer will approve and sign the Record of Decision.

Team/Agency Coordination and Management
It is imperative for study implementation success that internal and external team meetings be conducted regularly to attain team cohesion and a free exchange of information and ideas. Planning Division will coordinate and lead formal study team meetings. Other technical meetings with team members will also occur as necessary to exchange and discuss technical information and issues.

Coordination of study efforts (Planning study team leader), oversight and guidance of technical work performed (Planning study team leader, Operations team leader, and Engineering design team leader), oversight of the preparation of reporting information (Planning study team leader, and Project Manager), response to study inquiries (Planning study team leader, and Project Manager), and oversight of schedule and budget (Project manager) will be performed throughout the study phase.

PHASE V: PERIODIC PLAN REVIEW AND UPDATE

Phase V of the DMMP will include recommendations for periodic re-evaluation of dredged placement based on changing regulations, economic and environmental conditions, and technological advances as they occur. The intent of this section of the DMMP will be to assure that decision-makers maintain a viable implementation strategy, reflecting changing project conditions and technology. This process will allow the dredging manager to anticipate and accommodate changes in dredged material management needs and to document the validity of the technical, economic, and environmental long-term management decisions.

SECTION 4 – TEAM ESTABLISHMENT AND MANAGEMENT

To ensure successful execution of the DMMP, the PDT is comprised of multi-disciplinary, multi-District team members from all Divisions within the Corps. Team members will work together cohesively and collaboratively to produce a plan that will recommend implementation solutions to the dredged material placement needs. The team establishment and management organizations are presented as follows:

Project Review Board

The overall study management is the responsibility of the District Project Review Board (PRB), which is comprised of the Baltimore District Engineer, Deputy District Engineer of Civil Works, Chief of Operations, Chief of Programs and Project Management, Chief of Planning, Chief of Engineering, Chief of Contracting, Chief of Real Estate, Office of Counsel, Chief of Construction, and the Chief of Resource Management. The PRB will resolve any disputes that are not resolved by the study team.

Project Delivery Team

The PDT team is comprised of representatives from the Corps, Baltimore District, Programs and Project Management Division, Planning Division; Operations Division; Engineering Division; Office of Counsel; Contracting Division; Public Affairs Office; and Real Estate Division. In addition, the PDT will also have members from the Corps' Norfolk and Philadelphia Districts. The team will consult and partner with other relevant Federal, state, local citizen and interest groups, in particular the State of Maryland DMMP workgroups. The PDT will report directly to the PRB on any issues that cannot be resolved at the working level.

Technical Review Team (TRT)

The Technical Review Team (TRT) for the study will, at a minimum, include representatives from Programs and Project Management, Engineering, Counsel, Operations, Real Estate, and Planning Divisions. They will be responsible for ensuring that all technical products of the study team meet Corps regulations, standards, and current guidance. The TRT will provide in-progress review and technical guidance throughout the planning process to facilitate compliance and participate in essential team meetings and product development. The TRT will be responsible for documentation and certification of the review process, and coordinating and signing of the quality control review report by the technical division chiefs.

Maryland Port Administration

As the non-Federal sponsor for the Port of Baltimore navigation system and an active participant, the MPA will be coordinated and consulted with throughout the study. It is anticipated that the MPA will be the non-Federal sponsor for many of future projects recommended for implementation by this DMMP.

Workgroup
Members of the Federal DMMP workgroup will be drawn from Federal, State workgroups, and local and private agencies/organizations. The workgroup will be comprised of technical experts including engineers, biologists, geologists, oceanographers, chemists and other disciplines to be defined. Participation by other agencies and interest groups that can contribute expertise will be encouraged. The results of completed studies and ongoing data collection that are applicable to the Federal DMMP will be solicited and used by the Federal DMMP

SECTION 5 – RESOURCE ESTIMATE DEVELOPMENT

The DMMP budget was developed in coordination with all members of the PDT, with costs broken down to the study task level. A summary of the DMMP budget is presented in Appendix E.

SECTION 6 - SCHEDULE

A detailed schedule for the DMMP is presented in Appendix F. All schedules will be monitored and updated periodically as the DMMP progresses.

SECTION 7 – OTHER STUDIES

7.1 EARLY START INITIATIVES

As recommended by the *Baltimore Harbor and Channels, Dredged Material Management Plan, Preliminary Assessment*, dated July 2001, due to immediate capacity constraints and the length of time to implement a placement option, several placement option site-specific studies are currently under scoping procedures. At this time, the expansion of Poplar Island environmental restoration site, and an island restoration site within the Mid-Chesapeake Bay are under study scope development. These studies, if pursued, will be conducted under other existing authorities including the Eastern Shore, Maryland and Delaware, and Poplar Island project authorizations. Project implementation will be contingent upon the completion of the necessary NEPA documentation. Another project for acceptance of inner harbor material, Cox Creek, Maryland Confined Disposal Site, is under construction by the State of Maryland. The Baltimore District has coordinated with the State on designs and permits and has proposed to cost share the site under Section 217 of the Water Resources Development Act (WRDA) of 1996 in a recently submitted decision document (Appendix H).

7.1.1 Poplar Island Environmental Restoration Site

Raise Existing Upland Dikes
A PMP is under development for a General Re-evaluation Report (GRR) of raising the existing upland dikes to provide additional capacity. This study will be investigated through the existing Poplar Island authorization. The project modification could be implemented without further Congressional authorization, subject to Section 902 of WRDA 1986 and completion of a favorable GRR and the necessary NEPA documentation. The MPA is the project

sponsor. The draft PMP is scheduled for completion in October 2002. It is anticipated the GRR will be completed within 2 years.

Expand the Footprint
It is also anticipated that the GRR PMP will lay out the scope of effort for expanding the footprint of Poplar Island by 300 to 400 acres. This study can be investigated through a GRR under the existing authorization and may likely require Congressional authorization for the modified project. This GRR is expected to be completed within 3 years.

7.1.2 Mid-Chesapeake Bay Island Environmental Restoration Study

The Mid-Chesapeake Bay island environmental restoration study is a proposed island restoration site similar to the Poplar Island restoration project. The goal of the study is to restore valuable aquatic and terrestrial resting, nesting, foraging, and nursery habitat that has been lost in the Chesapeake Bay for many migratory birds, fish, and wildlife species through the beneficial use of dredged material. Through the beneficial use of dredged material, a restored island can be constructed to replace hundreds of acres of wetland and upland habitat. This habitat will afford improved productivity to the surrounding area, while providing an environmentally sound method for the use of dredged material removed from Bay channels. The PMP is currently under negotiations with the study sponsor, the MPA. The feasibility study is expected to be initiated in November 2002 and be completed by early fall 2005. A copy of the draft PMP and letter of intent from the MPA are included in Appendix G.

7.1.3 Eastern Neck, Maryland

A PMP will be developed to study the U.S. Fish and Wildlife Service's Eastern Neck, Maryland National Wildlife Refuge as a beneficial use project for island restoration/shoreline protection. The refuge is a 2,285-acre island at the mouth of the Chester River. The refuge bird list contains 243 species recorded on the refuge. Numerous marsh and shore birds migrate through in spring and fall. Mallards, black ducks, wood ducks, great blue herons, and green-backed herons nest at the refuge. Bald eagles have fledged young each year since 1986, and blue birds, ospreys, and woodcocks are regularly fledged. Part of the island's western shore has been protected by the Corps of Engineers in the past. As part of the maintenance dredging of the Chester River project, dredged material was placed behind geotextile tubes and the area was planted with 10,000 *Spartina* plants. The scoping process will begin in fall 2002 with the MPA.

SECTION 8 – OTHER PLANS

8.1 COMMUNICATION STRATEGY

Throughout the DMMP study, the PDT will meet regularly (bi-monthly to monthly on a formal and informal basis) to ensure the team is operating together and that there is a free exchange of information and ideas. The Project Manager is responsible for the overall management and is the primary point-of-contact with Congressional interests, and Corps Higher Authority. The

Operations Division leads in Baltimore, Norfolk, and Philadelphia Districts are responsible for providing technical expertise in dredging operations and maintenance. Planning Division is the lead in coordinating and directing study team meetings. Documentation of major study team meeting findings and conclusions will be the responsibility of the Planning Division study team leader.

8.2 ACQUISITION STRATEGY

At this time it is anticipated that the DMMP study process will rely heavily on private firms who are contracted through existing IDTC contracts and academicians. The District is currently working with Weston Solutions, Inc. on scoping and public involvement support. As the DMMP study is proceeding, the acquisition plan will be formalized in greater detail to document how the study will be executed and what and how many contracts will be required. This will be coordinated with Contracting Division as appropriate. This acquisition strategy will allow the PDT to maintain the project schedule and to document contracting and workload decisions made throughout the life of the project. Study aspects that are likely to be contracted include the economic justification of continued maintenance, the economic peer review, web site development and public involvement, and study consultation. Furthermore, it is anticipated that dredged material placement optimization studies (both to maximize capacity and environmental benefits) will be contracted to Dr. Dennis King of the University of Maryland who specializes in environmental economics.

8.3 RISK AND UNCERTAINTY

The purpose of this DMMP is to develop a programmatic plan that establishes general guidance for future lower tier, project specific studies. Considering the volume of information available and the recent efforts associated with the State of Maryland's DMMP process over the last two years, the risk of exceeding the schedule or budget for the DMMP is not large. With few exceptions, there is sufficient information, once compiled and analyzed, to reach sound and reasonable recommendations. The known risks associated with this effort are:

Base Plan
The current base plan for the "Bay" material is the "Deep Trough" open-water placement site. Since the State of Maryland has passed a law forbidding open water placement, potentially identifying it as the base plan is controversial. Guidance received so far on base plan selection has been minimal. Coordination will continue with higher authority as well as State and Federal interests during the DMMP process.

Economic Re-Evaluation
Due to recent scrutiny of the Corps' navigation economic analyses across the country, and in Baltimore Harbor, there is uncertainty as to the level of analysis that will eventually be necessitated. Should more in depth studies than are scoped herein be required, additional time and funding may be needed.

Public Involvement
The use of dredged material in Chesapeake Bay has always been controversial. Experience with Site 104 indicates that some issues have the potential of escalating and impacting study schedules and budgets. This level of scrutiny is unlikely until specific sites are investigated during future feasibility efforts, however.

GIS Databases
Incompatibility of electronic data layers produced by other organizations may require extra time to rectify. It is unlikely that this would pose a scheduling problem since the data can be used, albeit less efficiently, in other forms.

State Laws
There are a few laws past in recent years by the State of Maryland that limit potential dredged material placement options in which they can participate. Specifically, open water placement in Maryland waters of the Bay has been outlawed, and the Pooles Island site cannot accept material after December 2010. Hart-Miller Island must close by December 2009. No new placement sites may be developed within a five-mile radius of Hart-Miller Island. Recent bills have been introduced to preclude the creation of dredged material islands versus the restoration of islands and limit the use of farmland for placement. Such restrictions could lead to study complications thereby increasing the cost or extending the schedule of the DMMP.

8.4 COMMITMENTS TO CUSTOMERS

As the non-Federal sponsor for the Baltimore Harbor and Channels projects, the Maryland DOT and the MPA must be viewed as the eventual customer of the DMMP product. This plan will be completed to respond to the needs of the customer, in a timely fashion, to provide placement capacity for the ongoing function of the Port of Baltimore. The product must be implementable by the Corps and the MPA as well as being responsive to the environmental community, the interested agencies, the State of Maryland, the Federal Government and the general public.

8.5 CHANGE MANAGEMENT

This Project Management Plan is a living document, and will be revised to accommodate changes in project implementation created by progress, new information, changes in policy, and other occurrences. The project delivery team, the public, contractors, regulatory agencies, and the Corps of Engineers can make requests for changes in project scope, schedule, cost, or budget. Requests for significant changes must be submitted in writing. The PM, through consultation with technical staff, will respond to change requests by identifying technical comments, funding, and schedule impacts, which will result from the change. If the change is warranted, the PM will adjust the schedule and will seek additional funding, as necessary.

Revisions to the PMP will be coordinated with the Baltimore District elements. Concurrence from the Baltimore District Project Review Board will be obtained prior to implementation of significant changes.

8.6 QUALITY MANAGEMENT PLAN

A quality management plan will be developed to formally document in comprehensive detail, the necessary Quality Assurance/Quality Control, and other technical activities that will be implemented to ensure that the results of the work performed satisfy the stated performance criteria.

SECTION 9 – APPROVALS

The parties to this PMP after completing their review hereby endorse this PMP, which will become effective upon the date that it is approved by the Baltimore District, Corps of Engineers, Project Review Board as indicated by execution of the Quality Control Plan.

Project Manager

Scott Johnson

Port of Baltimore Team Leader

Daniel Bierly

Operations Division Technical Manager

Jeffrey McKee

Planning Division Study Leader/
Environmental

for Michele Bistany

Economics

for Dennis Klosterman

Chief, Civil Projects Branch
Real Estate Division

Nina Kelley

Engineering Division, Design Team Leader

Mark Chalecki

Geotechnical Engineering

Michael Snyder

Hydrology and Hydraulics

Karen Nook

Cost Engineering

Oliver Leimbach

Civil Design

Barry Cortright

HTRW Branch

Mark Noblett P.E.

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DRAFT

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Walter DePrefontaine

Baltimore Harbor and Channels
Dredged Material Management Plan

Project Management Plan

Appendix A

Public Scoping Meetings and Agency Meeting Summary

October 2002

Bierly, Daniel M NAB02

From: Powell, Stephen J NAO02
Sent: Friday, August 30, 2002 11:14 AM
To: Bierly, Daniel M NAB02
Cc: Klein, Richard L NAO02
Subject: RE: Baltimore Harbor DMMP

Dan,

I have reviewed the information attached to your e-mail message, and the costs allocated for the Norfolk District effort seem reasonable. From the spreadsheet, I am assuming that Baltimore District will be performing all construction cost estimates with your Cost Engineering team. If this is correct, you have my permission to sign for me.

Many thanks...

Steve

US Army Corps of Engineers

Notice of Public Scoping Meetings

Dredged Material Management Plan

The [illegible] initiation of a dredged material [illegible] placement needs and opportunities [illegible]

The scoping meetings have been scheduled as follows:

Wednesday, June 12, 2002	Tuesday, June 18, 2002	Thursday, June 20, 2002
7:00 p.m.	7:00 p.m.	7:00 p.m.
Queen Anne's County Library – Kent Island	The Community College of Baltimore County,	Anne Arundel Community College
200 Library Circle	Dundalk Campus	Lecture Hall 101
Stevensville, MD	Dining Area,	Florestano Building
	College Community Center	(West Arnold Campus)
	7200 Sollers Point Road	101 College Parkway
	Baltimore, MD	Arnold, MD

The U.S. Army Corps of Engineers, Baltimore District, invites all interested parties to attend one of the three public scoping meetings. The purpose of the scoping meetings is to solicit input to the plan from any and all interested parties. The input generated at these meetings will be used to help establish the goals and objectives of the DMMP, issues to be considered, and potential placement options.

The purpose of the plan is to develop a long-term strategy for providing viable placement alternatives to meet the dredging needs of the Port of Baltimore channels, including State and local dredging needs, for a minimum of the next 20 years. The DMMP study will evaluate how the dredged material can be managed in an environmentally and economically acceptable manner, with emphasis on beneficial uses of the material. Beneficial uses may include, but are not limited to, ecosystem and habitat restoration, innovative uses, shoreline stabilization, and upland use. A tiered Environmental Impact Statement (EIS) will be prepared in accordance with the National Environmental Policy Act (NEPA) to document this process. It is anticipated that this study will conclude in late 2004. Any alternative recommended in the DMMP will not be implemented without additional detailed study and appropriate site-specific NEPA documentation.

Displays regarding the history of the Port of Baltimore, information on dredged material and beneficial uses, potential alternative dredged material placement options under consideration, and the current placement sites at Poplar Island and Hart-Miller Island will be available for review at 6:00 p.m., approximately one hour prior to the scoping meetings. The meetings will also include a presentation by the Corps and allow for open discussions and public comment on the DMMP study.

Oral or written comments may be provided for determination of the scope of the study at the public scoping meetings. Written comments may also be submitted to the Corps up to July 19, 2002. Written comments may be mailed to the U.S. Army Corps of Engineers – Baltimore District, CENAB-PL, Attn: Michele A. Bistany, P.O. Box 1715, Baltimore, Maryland 21203-1715 or e-mailed to michele.a.bistany@usace.army.mil.

If you have questions concerning the scoping meetings, please contact Ms. Michele A. Bistany at (410) 962-4934 or e-mail at the above address.

Robert W. Lindner
Chief, Planning Division

U.S. Army Corps of Engineers
Baltimore District

Dredged Material Management Plan
Public Scoping Meetings
Summary Report

Contract No. DACA31-00-D-0023

Delivery Order 0022

August 2002

Prepared for:

U.S. ARMY CORPS OF ENGINEERS
10 South Howard Street
Baltimore, Maryland 21201

02P-0711-3

Prepared by:

Weston Solutions, Inc.
West Chester,
Pennsylvania 19380-1499

Draft Summary Report
Public Scoping Meetings – June 2002
Dredged Material Management Plan
U.S. Army Corps of Engineers – Baltimore District (CENAB)

Table of Contents

1.0 Introduction to Public Scoping Meetings

1.1 Purpose of the Public Scoping Meetings

The purpose of the meetings is to solicit input to the Dredged Material Management Plan (DMMP) study from any and all interested parties. The input generated at these meetings will be used to help scope the DMMP and begin to establish the goals and objectives of the DMMP, issues to be considered, and potential placement options. CENAB welcomes ideas and suggestions and believes the meetings will produce a list of comments and concerns that can be incorporated into the study.

1.2 Public Meeting Agenda

Each of the three meetings followed the same agenda:

7:00 Welcome and Introductions – Daniel Bierly, CENAB
7:05 Study Purpose and Overview – Daniel Bierly
7:30 Public Comments – facilitated by Daniel Bierly

A copy of Mr. Bierly's PowerPoint presentation is presented in Attachment A of this summary report. For an hour prior to each meeting, CENAB hosted an open house consisting of various topics, handouts, and displays. The following topics were covered at the open house:

- History of the Port
- Hart-Miller Island Dredged Material Management Facility
- Poplar Island Environmental Restoration
- CSX/Cox Creek Containment Facility
- Dredged Material Placement Options
- Environmental Monitoring
- Restoring the Chesapeake

The following handouts were provided:

- Public Scoping Meeting PowerPoint Presentation
- USACE Environmental Operating Principles
- DMMP Project Summary
- History of the Port
- Baltimore Harbor Chronology
- Hart-Miller Island
- Hart-Miller Island South Cell Restoration Project
- Hart-Miller Island Environmental Monitoring
- Restoring Poplar Island . . . A National Model for Beneficial Use of Dredged Material
- Poplar Island – A Brief History
- Poplar Island Restoration Project
- Poplar Island Environmental Monitoring

- CSX/Cox Creek Dredged Material Containment Facility Project
- Examples of Placement Options of Dredged Material
- Restoring the Chesapeake ... working to meet the goals of the Chesapeake 2000 Agreement

A court reporter attended each meeting and prepared verbatim transcripts. Comment cards (prepared as a self-mailer) were distributed at the sign-in table for interested parties to submit their ideas and concerns in writing. The deadline to submit comments regarding the DMMP study was Friday, 19 July 2002.

1.3 Purpose of the Dredged Material Management Plan

The DMMP is a study conducted to develop a long-term strategy for providing viable placement alternatives that meet the dredging needs of the Port of Baltimore Federal Channels and includes consideration of state and local dredging needs. The study area encompasses the Baltimore Harbor and the Chesapeake Bay approach channels, which extend from the mouth of the Bay in Virginia to the Chesapeake and Delaware Canal in the upper Bay, Maryland/Delaware. The DMMP study will be evaluated through the preparation of a tiered Environmental Impact Statement. The DMMP will identify the quantity of material to be dredged from the Federal channels and how the dredged material can be managed in an economically and environmentally acceptable manner, with emphasis on beneficial uses of the material.

1.4 DMMP Schedule

- September 2001 Preliminary Assessment
- May 2002 Notice of Intent
- June 2002 Public Scoping Meetings
- July 2002 Comments for Inclusion into the Public Record
- September 2002 Finalize DMMP Project Management Plan
- September 2002 Initiate DMMP Study
- June 2004 Draft DMMP/Tiered Environmental Impact Statement to Public
- September 2004 Final DMMP/EIS

2.0 Public Scoping Meeting – 12 June 2002

2.1 Meeting Overview – 12 June 2002

The first public scoping meeting for the DMMP was held on Wednesday, 12 June 2002 at the Queen Anne's County Library – Kent Island in Stevensville, MD. Sixteen citizens attended the meeting. The meeting was adjourned at 8:10 p.m.

2.2 Oral Questions and Responses per Transcripts – 12 June 2002

MR. SOSSI: Dick Sossi. On the slide it says in the Port of Baltimore. Should that be to the Port of Baltimore?

MR. BIERLY: The Port of Baltimore is considered the entire system, so it's all the channels that service the Port of Baltimore. That's a good question. Baltimore Harbor would be sort of the proper area where the commerce is. The Port of Baltimore is the entire system.

MR. GILL: Who is paying for this study?

MR. BIERLY: This study is 100% funded by the Federal Government. That's an important point, very important point. This is purely a federal study. This is a study that we are conducting because we have a responsibility to maintain channels.

MR. COALSON: Bruce Coalson. When you said "local dredging projects," where do you solicit that information from? I mean do you go to the state for that? Say in Dorchester County we have several creeks that need some dredging work. They have been submitted to the RCD group as being projects identified. Where do you get this information from so you know what local problems, what local dredging needs to be done?

MR. BIERLY: The DMMP is conducted for any harbor that pays into the harbor maintenance trust fund. So Dorchester County projects would likely not be included; however, let me point out that should we build a project down near Dorchester County and the locals there come up to us and say we would like to put some local material in here, too, that's probably not going to be a problem.

MR. BRODERICK: Jack Broderick. The option of open water placement and you mentioned Pooles Island –

MR. BIERLY: Pooles is closing, but it's active right now.

MR. BRODERICK: When is that supposed to close?

MR. BIERLY: On the 22nd.

MR. BRODERICK: Is that still a future viable option after Pooles Island closes? Is that placement option still something that –

MR. BIERLY: Do you mean the concept of open water placement?

MR. BRODERICK: The concept of open water placement in the bay.

MR. BIERLY: I'll make a broad statement here. This is the federal dredged material management plan; therefore, state law will not impact what this plan says; however, if something is against state law, it's not very likely we're going to be able to do it. That's when the plan hits reality because the state is involved, maybe not in the Inner Harbor dredging, but certainly the outer harbor dredging.

MR. COYNE: My name is Joe Coyne. I'm just curious if you could explain how you bring in the data that is being gathered by the FDA people in their process, citizens committees and management committees. How do you bring that into your consideration?

MR. BIERLY: You notice I didn't mention the state process. The reason I didn't mention the state process is because I want everyone to understand that our process is fully independent. Having said that, we would be pretty foolish if we threw away all that hard work. We sit on the committees, the state DMMP. We still call it DNPOP just because otherwise we would drive ourselves mad. But we sit on those committees. We have all of their data. We have all of the data that they distribute, and we will get more when it's ready. The engineering studies, for example, that they've done, we're definitely going to use all of that. The input that has come from the agencies, we'll definitely use that, too.

We're not out to reinvent the wheel, but by the same token we must do our own independent evaluation because, A, we're supporting a NEPA document; B, we need to take the national perspective, whereas the state takes the state perspective naturally, and there was probably a C there, but I've forgotten it. No one's hard work will be lost, but we are a separate entity, a separate process.

MR. SOSSI: About five years ago I decided to run for the House of Delegates, and we pay attention when a current delegate will make comments or pronouncements of various things, and, to be honest, I started paying attention to the issue about the dredged spoils as a result of one of those comments where he thought it was a great idea to dump these 18 million cubic yards of dredged spoils because he was going to get a whole dollar a yard for oysters. So, at any rate, as a result I went to one of the first meetings. It was held over in Anne Arundel County in a school over there, and I have to say I'm always amazed by the state's -- and you're not the state, of course, and maybe that's the difference, but they still outnumbered us, but it was only by one or two, and you guys can take us on easily with one hand behind your back.

But there were three people there, the head of the local Chamber of Commerce, myself, and a gentleman by the name of Pipkin, the father. At any rate, the whole idea didn't smell very good to me, and I have to say I was one of the people to write in in opposition. Dredged spoils means silt, and that's not good for the bay. It's bad for grasses. Of course, E.J. Pipkin got riled up about

it and was able to bring new sources and grass roots organizations there. I personally mailed out in my campaign about 20,000 pieces of mail objecting to the project.

What I'm getting at with all of that is there are a lot of us who have a lot of memory of this whole issue, and we're not the lambs that we were when it first started. One of the things that came out clear to us in that process -- a couple of things. One was that it seemed pretty clear to us after a while that it was a done deal. All the protestations to the contrary, we were proven right. It was basically a done deal from that standpoint. Fortunately, people weren't going to put up with it, and they kept fighting, and it was changed.

The other thing I have to tell you is that the Corps did not fare very well in terms of the research concerning the deepening of the C & D Canal. They were proven wrong a couple of times. Their report on the toxicity of the dredged spoils was found to be grossly in error. So it worries me when you say things like probably toxic. I challenge you to go to the Patapsco, catch a fish, and eat it. You won't have to put it on the stove. You can just leave it on the plate. It will cook itself.

MR. BIERLY: People do. I've seen them fishing.

MR. SOSSI: All I'm saying is that any talk or considerations -- I'm not asking about reinventing the wheel. I just don't want you to ignore the wheel. We have been there, and we don't want any type of dumping in the Chesapeake Bay. It's just a bad idea.

MR. BIERLY: Thank you for your comment. Anyone else?

MR. GILL: John Gill, U.S. Fish and Wildlife Service. A real quick question: Is this study just looking at mainstem shipping channels or are you going to consider any of the smaller federally authorized channels?

MR. BIERLY: Do you mean like the local marinas?

MR. GILL: I'm talking like the Knapps Narrows, the Kent Narrows, the Congo River.

MR. BIERLY: No. Once again, like I said before, if we have a project constructed close to those and it becomes an economically viable thing, then potentially they can use the project. For example, Poplar Island right now, only material from certain channels can go to Poplar, but that's because that's the way the cooperation agreement was written. We could write an agreement that says this will also accept from such and such a county or from such and such an area. If appropriate, we may do that. Most of the small projects can't really afford the distance that it would likely be from there.

MR. GILL: And that's why I'm asking because, as you know, the islands which make up my refuge are a long way from the central area where you're dredging, and it's really the smaller channels that often lend themselves, but the smaller channels don't generate the dollars that your effort is going to generate. Hence, the question.

MR. BIERLY: That's true. I refer you to the thin layer placement discussion we had earlier. If it is considered a good idea by enough people to use some mainstem material, then that can be done.

MR. GILL: That's a long way to haul it.

MR. BIERLY: That is a long way to haul it, which is why I'm not going to say yes, we'll do that. If enough people think it's a good thing to do, and obviously we're not going to get huge capacity out of these either, and then the corollary to that is, are you going to lose the material from the small channels to play with.

MS. AIOSA: Jennifer Aiosa with the Chesapeake Bay Foundation. I just had a question. The question that I want to ask is you have repeated on a couple of occasions that this process is independent from the state's process, and that while you will use input from the state's process, you need to make an independent decision on a variety of factors, and so what I wanted to know is how does the Corps go about determining what the dredged material need is?

MR. BIERLY: One of the first tasks of the DMMP will be to establish the need. What I presented to you this evening was the maintenance need. We've taken that from the historic dredging data, and so we felt pretty comfortable with that and confident in that. We also will do an economic reevaluation of the port. Having said that, we're currently out there building a project which took an economic evaluation of the port. If the port is viable enough to improve upon, certainly it's viable enough to maintain if it can be maintained relatively cheap to do it; however, that will be done.

What I know you're more concerned about is but what new projects lie out there in the future? We're not naive. We understand that the Corps can't sit still. We've got some really cool pictures back there of the port, and we've got a chronology laid out of what is happening. If you go back far enough, the port had a 22 foot channel, and by golly that was enough in 1830. It's fine. You have 20 feet of water now and you will get sailboats and that's about it. So we know there is going to be something out there. What we are going to do -- I can't say that because I don't know what we're going to do. We've floated around some concepts of what we're going to do. Do we take an average number and apply it per year? Do we make some sort of projections? Are there projects that we know about? Maybe.

We don't have any federal projects on the burner right now. The last ones are being done right now, so we know what that's going to be. The state is talking about improvements. Are they going to tell us exactly what they're going to do? No. Competitively that will kill them. They're running a business. We've got to understand that. They're running a business; however, we're going to need to make some estimates and we're going to need to decide what is reasonable and not reasonable. Yes, it's going to have to be considered. I just can't tell you how yet. We need to work on that.

MR. SOSSI: You seem to poo-poo the idea of the recycling -- my comment is it seemed like it was downgrading the importance of recycling material into bricks and other things.

MR. BIERLY: No. In fact, I've heard some really interesting concepts about that, people who think they can get substantial yardage and do something like that with it. On the one hand, I'm all for that. On the other hand, depending on the process, what is the process going to generate? Is it a chemical process with a waste product? Is it an incineration with an air quality issue? So all of these things need to be worked together, but if the output from such a process was acceptably clean and we could take this material a million yards at a time and turn it into lightweight aggregate, which we would then do what we normally do with mined quarry material, I think that would be great. One thing I will say is you can't bet your future on something that may or may not be viable, so there is a cautionary side to that. If down the road such a thing is viable economically and physically, then that's great. Scott, do you want to pipe in here?

MR. JOHNSON: (Scott Johnson, CENAB) The bottom line right now is we are not aware of a proven technology out there. That's what we're hoping somebody will come forward and say here it is and here is an economically viable, environmentally acceptable, innovative use of the process that you can apply at our port. Great.

MR. SOSSI: As a delegate, the mayor has been pushing that plan and it is an economically viable operating system for years in Germany.

MR. BIERLY: I've heard a little bit about that.

MR. SOSSI: The real concern is the state is supposed to be doing something in the way of capacity, and it doesn't seem like you guys -- you don't like the idea or you seem not to like the idea or whatever. So there is really not a whole lot -- how long does it take to do studies to find out that there is a viable option?

MR. BIERLY: Economic viability is an interesting concept because it depends where you are. Economically viable in New York is $60 a cubic yard. That's not economically viable in Baltimore. Economically viable in Germany is extremely expensive because this is a land locked country with rivers flowing through it and the ports are developed all around. What are you going to do with the stuff? You kind of have to do something with it, and so if the price goes up, that's okay. It's worth it. That having been said, I don't want anyone leaving here thinking that any of these innovative uses are not being taken very seriously by us because I would love to see the future where we have to stop worrying about where we're going to put this stuff and just turn it into something useful and use it. That would be great.

MR. COYNE: In your plan are you taking into account what I've heard is a tremendous amount of siltation built up in Pennsylvania and the upper watershed in the dams of the Susquehanna? How are you dealing with that?

MR. BIERLY: We're struggling a bit with exactly how to quantify that. It's very difficult. For those who are not aware, although based on the questions I think I've got a presently well-informed crowd here, the hydroelectric dams on the Susquehanna River, the main branch, Conowingo in Maryland, and another one in Pennsylvania, effectively trap about half the sediment that comes down the Susquehanna River. The sediment, therefore, is not lined up in

the bay and potentially in the federal channels that needs to be dredged. There is only about 15 or 20, 25 years or so give or take of capacity left behind those dams before they fill up and reach a steady state, in which case all the material that comes down the Susquehanna will go into the bay, effectively doubling the sediment load. Don't take this as factual. Take this as theoretical.

Another big problem with the dams is you've got this huge slug of material sitting there. Another Agnes comes down, and a lot of that material gets resuspended and dumped down in one enormous slug. That is a definite problem. We currently are working -- this year in fact we **(MR. BIERLY, continued)** got the authority to study that problem separately from this effort, and we're currently working with some folks here in Maryland and in Pennsylvania about scoping out a study of what to do. That study, I've seen some preliminary concepts -- and nothing has been signed, nothing has been agreed upon -- I can say with some certainty that that plan is going to include thinking about ways to keep the material up on the land or at least not let it get down to the mainstem of the Susquehanna, and can we physically remove some of that material and maintain, if not increase, our capacity? As these dams come closer to the steady state or filled state, they will effectively travel a lower and lower percentage because of the less settling time.

So I haven't gotten to your question. That study should help us to determine what impact those dams in the Susquehanna have on what we're doing right here, but I've got to tell you that's some pretty tricky science, how much of that material ends up where it is. I've sat in a lot of meetings on this topic, and even the experts can't figure it out. There is a thing called a turbidity maximum, blah, blah, blah. Most of it drops out north of there. The sediment from the Susquehanna is generally not felt down to the Bay Bridge or even a bit north of there. So here is another nonanswer, but we're well aware of it. We're working on the issue, but how exactly to quantify it I'm not sure.

MR. SOSSI: So it's reasonable to say that part of the mission is preventative. In other words, if you could find a way to keep it from getting into the Susquehanna or coming into the bay --

MR. BIERLY: What I discussed there was just the dams issue. We also have a study, and Steve is heading this one up, to study shoreline erosion in the Chesapeake Bay proper and in fact all the tidal influenced areas and all the tributaries as well to determine what impact is that material having on the aquatic ecosystem and how can we keep as much of that material there as possible. Where are the worst areas? Maybe we can do something in those areas. This goes well beyond the dredging issue, of course. It's really -- it's a bad grasses issue. Turbidity cuts down on the grasses, et cetera. John can tell you all about a nice project we should have going at Smith Island fairly soon where we're doing just that. We are halting erosion of land for the express purpose of clarifying the water and allowing bay grasses to grow. We hope to get 1,900 acres out of that.

MR. BRODERICK: I do have a comment I would like to make. I live here on Kent Island. I'm the president of the Kent Island Civic Federation, which is made up of a number of communities throughout Kent Island. We speak out on various issues of concern to Kent Island and our quality of life here. We were frankly amazed and very disappointed a couple of years ago when we found ourselves here on the island in what seemed like a battle where we kind of

pitted the health of the Chesapeake Bay against the Port of Baltimore. and some of the big players here were the Port of Baltimore. the State of Maryland. and the Corps of Engineers. As Dick said. there really is a public trust issue here that is still hanging out there. So I just want to say I hope that we have better experiences this go-around than we did the last go-around on these issues.

I applaud your goal statement that mentioned twice that dredged spoils will be placed using environmentally sound measures or in an environmentally sound manner. Again, I think the **(MR. BRODERICK, continued)** devil is in the details, what is environmentally sound. I can recall the disappointment that we had several years ago when we read the Corps' environmental impact statement regarding the proposal for Site 104 when the major argument seemed to be to us the socioeconomic impact of not dredging the port. That really isn't something that I think ought to be part of an environmental impact statement, but that was a major thrust of it. So we go beyond all of that heartache and that frustration and we realize we have a state law right now that hopefully will prevent open bay dumping in the future, open water dumping, but let's hope that we can work together in the future in how we do this.

I want to say a couple of things very strongly in favor of the island restoration approach that you guys are doing. We think that's great. It just makes a lot of sense. Many of us have seen those islands get smaller and smaller, and in some cases some of them around here disappear certainly within our lifetime. Shoreline protection is also -- shoreline restoration is one that just makes a great deal of sense. In terms of whether or not the birds in the area like those islands and need those islands, I would ask anybody who would ever have the opportunity to go out and look at an existing tiny island not far from here down in Eastern Bay, Bodkin Island. My son and I were by there the other day, and there were somewhere between probably 500 and 1,000 birds on maybe less than an acre, a tiny island, and they are just crowded in nests on there like these seats are in here. Those islands are really popular with our birds in the bay. By restoring places like Poplar Island it can only benefit not only the bay, but can benefit the wildlife and habitat in the area. So we applaud that very much. We look forward to a very positive, solid working relationship with all of you in the future, and we appreciate this opportunity for public comment.

MR. BIERLY: Thank you.

MR. WEST: Doug West, president, Kent Conservation, and I'm a waterman from Kent County. I would just like to say that since the open water placement appears to be not an option anymore as far as the state is concerned, that I would like to see -- I would like to urge the Corps to make Poplar Island their base plan placement option, and I think in doing that it would really help encourage the restoration of other islands down the bay. If we had an island up here in the Upper Bay that was eroding as those are, I would be all for working on that, too. People say, well, it's not in your backyard. Well, if it was, I would be right there wanting to get it done. So thanks.

MR. BIERLY: We've actually heard from -- I cannot speak for people in Dorchester County, but there is interest down there in restoring some of those islands. So I certainly believe you when you say it's a it's not in my backyard situation. You bring up an extremely important point about this base plan, and I want to explain that a little bit. Once again you're a savvy group; you might know about this. As part of the study we will establish or re-establish the base plan for

dredging. The base plan is an economic tool. It decides where federal operation and maintenance funding stops and federal project funding begins. If the base plan is overboard dumping, then the government will pay based on that [illegible] slide I had up before -- will pay let's say [illegible] of what it would cost theoretically to do that.

If you're going all the way to Poplar Island, you have got transportation and construction and everything that goes on on the island, and that's a cost, and that cost is shared 75 25 in that case from then on. So it's federal O & M funding, which could well be 100%. In fact, when we maintain channels in Maryland waters, it is 100% federal O & M. That's just the way it worked out. So up to the base plan it's 100% federal funding, and then the cost sharing starts. So to change the base plan -- the biggest point to make is if you can change the base plan to something that's more expensive, the state cost share is less and that's a purely economic point of view, but that's what the base plan is all about. Of course, there are two. There is one for clean material and there is one for Inner Harbor material, and they're different base plans.

2.3 Written Questions and/or Comments – 12 June 2002

FRANCES FLANIGAN: Meeting had a nice, non-bureaucratic tone. Dan Bierly did a good job leading it. Still lots of questions about relationship between two planning processes and the fact that they seem to be on different timelines.

Frances Flanigan
6305 Blenheim Road
Baltimore, MD 21212-2206

JOSEPH COYNE: Strongly support restoration of islands! Wildlife and habitat need help. Anything you can do to help us in terms of stopping/slowing shore erosion (in Dorchester County). Provide on-going information via newsletter or similar communication. Sponsor a public meeting from time-to-time.

Joseph Coyne
913 Parsons Drive
Madison, MD 21648

3.0 Public Scoping Meeting – 18 June 2002

3.1 Meeting Overview – 18 June 2002

The second public scoping meeting for the DMMP was held on Tuesday, 18 June 2002 at The Community College of Baltimore County, Dundalk Campus (College Community Center Dining Area) in Baltimore, MD. Twelve citizens attended the meeting. The meeting was adjourned at 7:55 p.m.

3.2 Oral Questions and Responses per Transcripts – 18 June 2002

MR. WELSH: My name is Patrick Welsh. I just have a couple of questions. One, I noticed under the placement options example you have on here as a potential use open water placement.

MR. BIERLY: Yes. I'm glad you reminded me of that. It's something I didn't harp on, and Scott would have my head if I didn't mention it. The Corps of Engineers by guidance, by policy takes a national perspective on any problem we study, so when we come into a situation such as this, we have to open up to the whole world of possibilities. Understanding open water placement is currently ongoing at Pooles Island; however, that site will close in 2010, and it's currently against state law, that's correct; however, we can't rule it out yet just because it's against state law, and let me tell you why. To play devil's advocate, the state could say we make everything illegal except taking this material down to Norfolk and dumping it into their channels. Obviously that's ridiculous, but they could legislate us into a corner, if you will. Now, having said that, open water placement is in fact against state law, and therefore, it's not going to happen unless the law changes; however, we can put it out there theoretically and say it's a viable option. Norfolk does it. San Francisco does it. We could do that.

MR. WELSH: You stated earlier that in dredging the 500,000 cubic yards in the Inner Harbor –

MR. BIERLY: Annually.

MR. WELSH: -- that by law that must be contained.

MR. BIERLY: Correct.

MR. WELSH: Are you also looking at the potential open water placement for that?

MR. BIERLY: No, absolutely not. Somebody could easily say that line that separates contaminated from clean, that's a state law, too. Yeah, but it's also a convenient line, to tell you the truth. It's conservative, which makes it a good planning vehicle. Anywhere in the country we the Corps of Engineers or we anybody cannot anywhere in the country place material that is contaminated in an open water site. It goes through what is called the inland testing manual. It must pass an exhaustive list of criteria that has been established by the EPA and the Corps of Engineers. The Inner Harbor material, if you take some hot stuff right by the terminals, it

wouldn't pass. So, no; contaminated material would not under any circumstances totally regardless of state law be placed in open water.

MR. WELSH: So if you found clean material in the Inner Harbor --

MR. BIERLY: Then it goes back to the state law question.

MR. WELSH: So your view is that the Corps of Engineers could ignore Maryland state law.

MR. BIERLY: Most likely we could not. We still need to get permitted by the State of Maryland for anything we do, a water quality certificate. I'm looking to Scott to see if he wants to add anything on that. You think that's good? Okay.

MR. WELSH: Thank you very much.

MR. BIERLY: Thanks for your comments.

MR. STANCILL: My name is Terry Stancill. My wife and I live in Harford County near the Susquehanna River, and I've got a few questions. You've mentioned the term "economic" a number of times this evening. What does "economic" mean in connection with the whole dredging question?

MR. BIERLY: The Corps of Engineers needs to satisfy several criteria, and one of them is always the benefit-cost ratio. If you get more benefits from the project than it costs, then economically speaking it's a good project. In environmental restoration you're not necessarily talking monetary benefits. We still consider it an economic exercise because there are environmental benefits. When you're talking navigation, you're talking economic benefits. If a channel is 42 feet deep, what is the anticipated economic impact of that compared to 41, 43, or anything like that? So if we maintain a channel, it needs to be economically appropriate to maintain that channel. Does that answer your question?

MR. STANCILL: Yes. So the maintenance of the channel for shipping is the primary economic reason even though there may be economic benefits from environmentally improving an area or enhancing habitat or other less easily quantifiable areas of benefit.

MR. BIERLY: Correct.

MR. STANCILL: The next question is are there any plans or are there any discussions being considered to dredge above the Conowingo Dam to intercept the silt that's coming down the Susquehanna River in that catch basin?

MR. BIERLY: I could give you the long five-hour answer or the quick one. I'll do something in between. Yes, that's a big issue, and we're well aware of it. At the last meeting someone asked the same question, and so what I did was I gave a brief overview of it. I'll try to be a little less verbose than I was the last time. There are four hydroelectric dams on the Susquehanna River, for those of you who don't know, between Harrisburg and the bay, and each one of those

has been trapping material that naturally comes down the Susquehanna River. Of course, human development has increased the amount that comes down, but even naturally a lot of it comes down. Approximately half of that material, sand, silts, clays, whatever it is, gets trapped behind these dams before it hits the bay, and so speaking from the environmental point of view of sediments or the dredging point of view, this has been a good thing that we're not getting all that down here.

In about the next 15 or 25 years, depending on who you ask and when you ask them, the last dam of Conowingo, the one furthest to the south, will be filled, if you will, reach steady state is what the scientists like to say, so that as much material that is coming down the river will go over the dam and come down eventually into the bay. This is of great concern, not just from the dredging aspect, but from the environmental aspect. So the Corps currently has what we call a study authority. Congress has told us to undertake a study. What it is is a two-parter actually. One part of it, the part you're asking about, is for us to consider the material behind the dams and decide what to do with it. They are still, going back to the scoping word, they're still scoping that. The Susquehanna River Basin Commission, the State of Maryland, and some others are interested in partnering with us on this one because it's a very big issue.

There is about 200 million cubic yards as I understand it trapped behind these dams. The reason we care about material that's currently trapped as well as material that will be trapped is every time a big storm -- and I don't mean a couple of inches rain; I mean a big storm -- comes through it actually scours some of the material out and more material comes down the bottom than would **(MR. BIERLY, continued)** have naturally. So that's a big issue. But this study when it gets going, which hopefully will be fairly soon -- there was a big meeting in our office today actually -- will look at that issue and try to come to some tough conclusions such as do we dredge some of this material out to maintain some capacity, some trapping capacity, if you will? Is that the best way to go? Do we go up into the watershed and try to -- you know, you've got a vacuum cleaner, a sandy beach, and you try to hold the sand down there. Is that the best thing to do -- don't take that as an editorial comment -- or a combination, which makes sense to me. That's being looked at.

How does that refer back to our DMMP? The question at the last meeting was are you considering that material -- are you trying to hang a number on it? In other words, ten years out what is going to be the contribution or extra contribution from those dams into the channels? It is an amazingly difficult thing to determine. For a year and a half I sat on the task force which looked at this issue that's chaired by the Susquehanna River Basin Commission, and you get the smartest people in the world in the room, and the consensus was I don't know. The other consensus, by the way, was that sediment can't move upstream, but that wasn't real tough to agree upon. We have what we call a turbidity maximum. Where most of the material drops out, it's almost always above the Bay Bridge.

I know I'm skirting your question, but we're aware of it. We're trying to quantify it through another study. The best thing we can do right now over the course of the next two years my guess, unless they hit on something good in this other study, is for us to look at dredging from prior years and to see if we can notice a trend because the more full these dams become, the lower their trapping efficiency, and so if we see some patterns there, maybe we can see where

we're headed. So we're aware of it. We're going to try to deal with it, but I can't promise that we're going to hang a real number on it.

MR. STANCILL: Another related question is if the Corps' deliberations on at sediments upstream from Conowingo has the responsibility of the various utilities been considered, their responsibilities to share in the cost of maintaining those pools such as Conowingo Dam, Safe Harbor, Peach Bottom Atomic Plant, which needs water for cooling, and who else? But anyway those several utilities --

MR. BIERLY: Three Mile Island.

MR. STANCILL: Three Mile Island. It would seem to me that they should have some responsibility for sharing in finding a solution to and sharing in the cost of that problem because they need those pools to generate electricity or to provide cooling water.

MR. BIERLY: Right. The folks from Conowingo, Holtwood, and Safe Harbor were on the task force I alluded to before. The topic of who is responsible honestly didn't come up. What did come up was that there is a whole lot of coal trapped behind these dams, a whole lot of coal. In some places they think maybe 40% of it is coal, and there has been talk about actively mining that material. In fact, either Holtwood or Safe Harbor -- since I'm being recorded, I'm not going to choose one because I'm not sure -- but historically before Agnes did actually dredge and use coal from their pool. The president of one of the dams up there, he wants the mineral rights, but **(MR. BIERLY, continued)** honestly when it comes to responsibility and things like that or whether they will participate economically or financially hasn't come up.

MR. STANCILL: There may be something -- and I just want to put this in the record -- there may be something in the original licensing agreements for those facilities which speaks to the responsibility of maintaining the depth of the pools. I would think especially Peach Bottom Atomic Plant, which is the Nuclear Regulatory Commission, because that's a safety issue, but they have been hopefully making money all of these years off of the water that has been coming down the Susquehanna, and there may be something in some old agreements that speaks to their responsibility to maintain the depth of the pools.

MR. BIERLY: That's a good comment. I'm going to pass that on to Amy Geiss, who is our study manager on that effort. The one thing you said about -- another comment, I'm not sure I replied to it, but for the function of the hydroelectric dam they don't need to maintain a pool because the turbines are at the bottom of the dam and the scour keeps it clean. This might be tough to visualize, but if this is the dam and the original river went like that, the river now goes like this. The reservoir is filled up with sediment, but right next to the dam it's still deep because turbines are at the bottom and rushing water keeps it clean. So if it fills up, operationally it makes no difference, but I will bring up that point. That's a good one.

MR. STANCILL: How about Aberdeen Proving Ground? There are many thousands of acres. A lot of it not usable for much. I know Scott is aware of it.

MR. BIERLY: Yes.

MR. STANCILL: There is unexploded ordnance up there, but an awful lot of land that would seem to me would be an ideal location to consider for placement, especially in shallow lifts of dredged material.

MR. BIERLY: That one is on our list.

MR. JOHNSON: I can elaborate a little bit. It is on our list. Right now the discussions we have had with Aberdeen Proving Ground, we're kind of waiting on a national policy on how to deal with unexploded ordnance. Until that can get resolved -- I'm talking at the Department of Defense level -- the liability issues working with that are currently insurmountable.

MR. BIERLY: The location is very attractive, though.

MR. STANCILL: Thanks very much.

MR. BIERLY: Would anybody else like to say something?

MR. MENDELSOHN: On the economic use, how navigation channels were evaluated for economics, but the restoration projects are evaluated differently, can you provide a little bit more information? I think that's what you were getting at, wasn't it?

MR. STANCILL: Yes.

MR. BIERLY: Do you want me to expand on that a little bit?

MR. MENDELSOHN: If you don't mind. Thanks.

MR. BIERLY: When we maintain a channel, when we construct a channel, we need to do an economic evaluation of that channel. This includes determination of traffic, determination of the value of the goods, the tonnages, what have you, that go through this channel. We do it on large navigation projects such as the Port of Baltimore. We do it on small navigation projects such as the scores, if not hundreds we have around the State of Maryland, 6-, 7-foot channels that service watermen. How much cash do they bring in? If the channel shoals and they sustain damage to their engines or rudders or something like that, what is the value of that and how much money have we saved if that channel is cleaned?

It's the exact same thing on the large projects. If this channel is allowed to shoal in for maintenance or for construction if this channel is not constructed, what do we project will be the future situation economically? What tonnages would be lost? Conversely what tonnages will come? You can pretty accurately hang a value on that monetarily because these goods as they come in -- you can do it one of a few ways. You can either go -- well, you can probably do both.

What is the value of the goods and what is the value of the time? For example, the Baltimore anchorages project is currently under construction. We didn't deepen any channels. We deepened some anchorages, but the fact is we didn't deepen any channels. So it isn't just a matter

of what happens when you get to the port; it's wasn't getting to the port. What we did was since you can't assume that we're going to attract deeper ships because we didn't deepen anything, the channels anyway, what could you do? Well, you could save them a whole lot of time. You could make it more efficient, and you can hang a dollar value on that time, the value of their time. For example, when this project is completed, many, many ships that now anchor all the way down by Annapolis are going to be able to anchor right up in the harbor, a stone's throw from the terminal that they're going to call on. So if there is a ship at their berth that they need to get to, they're not going to have to wait anymore for that ship to chug all the way out of the Inner Harbor and all the way down past the Bay Bridge before they start to gear up because they probably can't time the pass.

There are a lot of different parts of navigation that cost money. Conversely, generate money. I'm no economist. I've seen the process happen, and it will give you a headache. It's really something. But that's what we'll do. So maintenance will say what if this maintenance isn't done? What if navigation as it now occurs cannot happen? What is that going to cost versus what does it cost to maintain that channel? Now, the basis of that is what is called the base plan. For example, what is the least expensive environmentally -- what is the word -- suitable, acceptable -- least costly environmentally acceptable way to dispose of that material or to place that material, and that is the cost of the project.

Poplar Island is an extra cost, which is why it's cost shared with the state, but the determination has been made that the environmental benefits that we get, the created habitat that we get from **(MR. BIERLY, continued)** constructing that island is worth that extra expense. Any Corps of Engineers environmental restoration project, and we're doing them all over the place right now, navigation is just one small area. We've got tons of them. They all go through the same process, very similar to the economic process that I vaguely stumbled through earlier, and that is what is the future condition if we don't do anything? Well, Poplar Island would have eroded away and been gone. That's it. There is no question about it. What is the future going to be if we do this project? Well, what the future is going to be is it's going to be some nice uplands, and Scott is our expert and he can tell us, but hundreds of acres of marshland as well, some great habitat. We've already got turtles laying out there. What is the cost of it? Is it worth it? It's a harder question because you can't hang a dollar on it. But it's a very similar process. I feel like I haven't said anything new, but just added more words. Have I clarified that? My number is on the first slide if you have insomnia. Anyone else?

3.3 Written Questions and/or Comments – 18 June 2002

No written questions or comments were submitted at the 18 June 2002 meeting.

third and final public scoping meeting for the DMMP was held on Thursday, 20 June 2002 e Anne Arundel Community College (West Arnold Campus, Florestano Building, Lecture 101) in Arnold, MD. Fourteen citizens attended the meeting. The meeting was adjourned 25 p.m.

Oral Questions and Responses per Transcripts – 20 June 2002

WILLIAMS: My name is John Williams. I'm from Elkton, Maryland, in Cecil County. I ere because of my general concerns about the dredging and dredged material placement in Chesapeake Bay. My comments have already been submitted in -- initial comments have inly been submitted in writing this evening to representatives of the Corps, but they arise my involvement over the past six years with a number of the projects and issues associated the navigation channels in the Chesapeake Bay.

ak as a private citizen tonight and not representing any particular group, but I have been an e member of both the C & D Canal Working Group, appointed to that task by Congressman urest, and the Citizens Advisory Committee of the MDHD program, appointed to that by the nissioners of Cecil County. In addition your record will show I have reviewed and nented on a number of the dredging projects undertaken by both the Philadelphia and the more Districts.

eneral comments this evening would be first when it comes to disposal options, to urge you oid creating artificial islands and focus your attention on the other options. I think there is a ficant distinction between the creation of a new island and the restoration of an historically ng island. With regards to the scope of the dredged material management plan that you're . **WILLIAMS, continued)** undertaking, I believe that you should clarify and enlarge the e of that activity to explicitly consider all of the access channels serving the Port of more, and by that I mean you should consider the full length of both the southern access nel coming up from Cape Henry and the northern access channel, which initiates at Ready in the Delaware River. So that when you do the analysis, you consider all of the dredging is necessary for both of those access routes as well as the commerce and the relative nerce to each of those waterways.

eve that when you consider the commerce and the dredging requirements for each of those ways, you will begin to see significant distinctions so that when you perform a more careful led economic analysis, I believe it will suggest to you that there are opportunities that need very thoughtfully examined which would enable reducing the demand and the need for the quantity of dredging that's currently projected for maintenance activity going forward.

rticular, I have found by looking at these matters that the net benefits at the current time to draft shipping vessels using the northern approach to the Port of Baltimore are in the range

of about a million dollars per year of net cost to those shipping companies compared to the alternative of using the longer route via Cape Henry, but more expensive in terms of the pilotage cost. The net on that works out to be about a million dollars a year. In exchange for that taxpayers are currently burdened with the expenditure of between 9 and 10 million dollars for dredging that or maintenance of that northern channel. If that channel were not maintained at the full authorized depth, but allowed to naturalize at a depth of about 22 feet or so, that would still provide for all of the barge commerce, which is indeed a significant fraction of it, as well as all the recreational activity.

It just strikes me that this is an opportunity that warrants consideration since well over half of the dredged material from the access channels is associated with the northern route. Indeed some of the analyses that I've seen suggest that two-thirds of the material that has its access in the channels that we have to cope with in some manner comes from that waterway. Comments with regards to the preliminary assessment that the District issued last year. I find in reviewing it that there was inadequate consideration of the northern access channel. It did not include all of the dredged quantities or the costs associated with that, and I believe that economic justification should be reworked.

Further, the particular economic justification used appeared to mirror that which had been used in the general design memorandum for the 50 foot project which issued in 1981, you will recall. That project was to deepen the southern route to a 50 foot depth. While the analysis appears to be similar, close scrutiny of numbers finds that the definitions for commodities were not consistent, and that needs to be rectified because that's a significant difference in total coal used and handled in the ports and export coal, which was the justification for the 50 foot project.

Finally, I would raise a question for you to ponder in that regard and it's also in my submitted comments is that it puzzles me as to how you can rationalize first with a set of benefits to deepening of the southern route to 50 feet and then come back and use the same economic justification now to rationalize the maintenance. It seems to say you're using the same benefits to accomplish two different objectives, and those benefits were already consumed in the **(MR. WILLIAMS, continued)** rationalization and justification of the 50 foot project. I think there needs to be some improved understanding in the public domain about the concept of a base plan, what that is, and how it plays out in your considerations because it is the subtlety that is lost on 99-1/2% of the populus, I believe. In particular, I think you should address such issues as to how the Corps utilizes that and who is responsible for what costs for what kinds of projects. For example, if you do a beneficial -- in this case, as I understand it, the base plan is dumping the material into the deep trough. Perhaps placing it is a more PC way to say that. Nevertheless, the question that occurs in my mind is if you consider one of these so-called beneficial use options, how are the costs then allocated between the federal and the nonfederal sources? Those are the sorts of things which I think cry out for some public consideration.

Finally I would ask that there be multiple opportunities for the public to participate in this process as you go forward over the next several years. I don't know what your plans are in the way of a newsletter or such to keep the public informed, but it would be a shame for you to wait until you reach the end of the DMMP and issue a document for review by the public and by agencies and then have people express all kinds of concerns. It seems to be more productive to

keep people involved in expressing themselves as you work yourselves through the process. Thank you.

MR. BIERLY: I totally agree with the public involvement comment. There is no question about that. I will discuss the base plan very briefly because I think most people probably don't know what it is. The base plan is defined as the least costly environmentally acceptable placement option. You have to understand that when the Corps does this type of study or any study really, we're looking from the national perspective; we're not looking from the local perspective. We have to apply the same criteria here that we do on the other side of the country because it all goes through our headquarters, and these are the same people looking at all the projects. So once a project is defined as the base plan, then that is the point of economic reference. The cost sharing is based on that.

So let's take Poplar Island for example. The Corps of Engineers I said pays 100% of maintenance dredging to the base plan, whatever that would theoretically cost. Additional cost is charged toward, if you will, the environmental restoration project of Poplar Island, and that is a cost shared project, 75% federal, 25% state. So the base plan, therefore, is the point where the project, the placement project, begins and, therefore, the cost sharing begins. So in a nutshell that's what the base plan is all about. I think you're very right, probably most people don't know that. There is much more to it than that, and, to be quite honest, we are going to be looking at the base plan in this DMMP, but first before I say anything more about it because I don't know what I can or cannot say -- I don't mean that from secrets; I mean we're trying to get guidance from headquarters on exactly how do you go about defining a base plan, what needs to be considered, et cetera. So if I was to say anything more than I probably already have, I would probably be speaking for headquarters. But the base plan is a very important issue. I agree with you.

MS. ROSSO: I'm State Delegate Mary Rosso, but I'm also an interested citizen from an area that has been designated as an artificial island, and I do appreciate your comments, Mr. Williams. Your expertise blows me away. I have been to a few meetings and followed some legislation on open dumping and artificial islands and where to put the dredged material since **(MS. ROSSO, continued)** our county is targeted, and we have been working with the Corps on the Cox Creek innovative use of dredged material. We do have some problems with other uses on the site that the Corps is using or leasing to a recycling facility that came up. We just found out this year, and that's a concern of ours, and it's local, but yet there was lack of communication between I think the local officials -- I know there was lack of communication, and so we were surprised to find out there was a facility on site down there at the Cox Creek plant. That's one thing I want to bring out for the record because I think it's important. We have had a meeting with the Corps on that. That's not my main purpose for being here. It's really to get educated. The base plan explanation, I'm glad you gave that because my feeling has always been it seems it's the least costly environmental plan. I mean that seems to be the way a lot of these decisions are made when locally the way we protect our bay we don't feel that the least costly environmental way is the way to go because to us it's the most expensive way to go if we lose the bay or if we lose our resources here. So I will just make that comment and I'll pass it on to No. 3, but that's my concern, and going to be following this as well as the citizens here that are interested.

MR. BIERLY: Thank you very much. Like I said, the base plan and everything else we do goes on a national perspective, and open water placement is common throughout the country. In other areas -- the Chesapeake Bay is not the only area that is tightening down on that. Maybe there will be some change nationwide and they will say no, we're not do that anymore. I don't know, but for right now it needs to be considered because it is out there as a base plan. Thank you.

MS. DRENZYK: I'm Marcia Drenzyk. I live in Pasadena. I am the chairperson of the Cox Creek Advisory Committee for the Cox Creek dredge disposal site, and I'm here as an interested party to hear what you have to say. I'm here to also tell you that the Corps of Engineers does not have a stellar reputation. You probably already know that. They have been caught with their finger on the meter one time too many pushing the scales to where they want the solution to be rather than analyzing where it should be. Also I would mention that you were saying about 25% of the base plan. 25% of it is federal, 75% of it is state. I would remind you 100% of it is tax dollars. So that I would say that Mr. Williams' comments about the necessity and the economics of what we should and should not be dredging should be the problem -- it should be part of the solution, and I'm not certain if the Corps is capable of making that decision because the Corps in and of itself is self-perpetuated by dredging. So therefore -- I mean this is not to get into an argument with you, but this is simply to make a statement that it's sort of like asking the fox to watch the chickens.

Your reason for being is dredging, and so therefore geez, we've got to dredge. Well, it may be that some of these channels do not require the level of dredging that they have been getting, and maybe we don't need as many placement sites and maybe -- there are like a whole lot of things out there, and I could say some nasty things about the Port of Baltimore. Maybe it's not that huge economic engine that they pretend to be. Everybody is a little overblown about what they are and how much good they're doing, and I think they need to have a serious reality check. So that would be the nasty portion of my comments. Then what I would like to say is that the Corps and the Port also have to think about the communities that they're asking to work with them.

(MS. DRENZYK, continued) As I said, I am the chair of the Cox Creek Advisory Committee. I was appointed by Governor Glendening. Well, right there in Northern Anne Arundel County we're already cooperating. You have the dredge cells there. The citizens are supportive. There are supposed to be innovative uses happening at that site, and so you have communities in Northern Anne Arundel County that are supporting you, and the next thing you know we hear you want to build an artificial island, too. Well, I would suggest that you don't look a gift horse in the mouth. Not that many communities are running around raising their hands going bring me dredged material. So you better think real carefully before you start inflicting one area with one thing after another or you may find that people just go, you know what? Take that dredge and get it all the hell out of here. So I would advise you to think very carefully before you start trying to push people around. You've got support for the Cox Creek dredge disposal site, but I would not push my luck any further if I were you, and I would say that very strongly. This lady who is taking the notes, put it in bold italics: Don't push your luck. So that's what I have to say. Thank you.

MR. BIERLY: I'm not responding to your editorial comments, but the first comment about the cost sharing, it's the total cost that is evaluated in the economic evaluation. Then when all is said and done, the cost sharing is broken out. So it doesn't matter if it's state or federal money. It's money. I will say that.

MS. KOLBERG: Hello. I'm Rebecca Kolberg, and I'm here tonight on behalf of the Greater Pasadena Council, and I am also co-chair of Citizens Against the Pasadena Dredge Island. I'll start with the specifics. Specifically the Greater Pasadena Council and Citizens against Pasadena Dredge Island are opposed to the concept of Site 170, an artificial island in the mouth of the Patapsco. We've received without even a major petition drive more than 2,000 signatures just without standing on the street corners, just community organizations. What I have been proud of the people I have been working with is we also don't say well, okay, build an artificial island down the road.

People are pretty much opposed to the idea of building an island where one has never existed I guess since European settlement and have been very supportive of island restoration in areas where citizens support island restoration. We have had communications with county commissioners in Dorchester County, you know, in areas where people are seeking islands to be restored, kind of working in partnership with them, and I think that's one thing citizens have problems comprehending is why the local economics aren't taken into account in the economic analysis. If you're protecting a shoreline in an area and saving a campground and saving an area that people want as opposed to building something that might cause increased flooding, increased erosion, damaged property values, any number of citizens have really advocated for inclusion of the local economics as part of the package because you're talking about impact on say ten marinas in each vicinity, positive in one area and negative on the another. Some of these costs might be almost -- you know, they're getting up there with the Port of Baltimore in terms of recreational use of the waterways in the Chesapeake Bay, which I think has risen in importance with each passing year.

I think the other thing -- this is just myself personally, not the group's -- I would encourage the Corps to rethink or relook at the base plan about open water dumping estuaries, which I think is **(MS. KOLBERG, continued)** becoming increasingly regarded as not desirable environmentally, at least I know in the Delaware River and some areas by New York that are more not open ocean placement. So I think environmental science does change with time, so using something that's perhaps 20 years old, it may be time to rethink that because doctors used to encourage patients to smoke. You know, before asthma, tobacco was regarded as therapeutic at one time. That has changed environmentally, so what was environmentally acceptable 20 years ago may not be environmentally acceptable today and maybe kind of artificially making better environmental options appear expensive. That's my comment.

MR. BIERLY: By the way, open bay dumping is against state law, so it's not going to happen, but the base plan in this case would still be an economic tool, and, yes, we're going to revisit the base plan. I'm not going to say we're going to change it. We're going to revisit it based on the ideas that we get, and we'll see what happens.

MR. WILLIAMS: It's against the state law to dump in Maryland. That does not preclude you from continuing to do open bay dumping in Virginia.

MR. BIERLY: Well, correct. There is a current open bay site in Virginia. That's correct.

MR. WILLIAMS: And you use it when needed.

MS. HAMILTON: First of all, let me tell you I've got this in writing for you. I'm Melinda Hamilton. I am the legislative assistant to Councilwoman Shirley Murphy, who represents the Pasadena Lake Shore Area where a lot of this goes on, the Cox Creek area, and I am very proud of the four or five people that spoke who work with us on almost a daily basis on this issue and are all constituents of Mrs. Murphy and Delegate Rosso. She wrote something because she's at an equally important meeting and asked me to read it, and if you will bear with me, that will be the fastest way to do this.

"To the Army Corps of Engineers: I am a member of the Anne Arundel County Council. Our council has gone on record two separate times opposing the dumping of dredge spoils at specifi sites in the Chesapeake Bay; namely, Site 104 and Site 170. In those resolutions we call for eliminating the creation of islands for dumping in the Chesapeake Bay.

"When I spoke before the House Environmental Matters Committee on behalf of House Bills 402 and 527 relating to the redeposit of dredge spoil in the Cox Creek area, I had the support of a number of colleagues whose districts also border the Chesapeake Bay. In fact, Dr. Thomas Flowers, chair of the County Commissioners of Dorchester County, gave me permission to offer both St. James and Barren Islands as repositories for dredge spoils from the Port of Baltimore." They are desperately looking for dredge spoils, as you probably already know.

"It may be that because of the distance to that area it is a little more expensive to deliver the spoils; however, we also have to look at the economic loss to a jurisdiction due to the creation of dredge islands. My district is much closer to the port, but we have some public safety issues with high rates of erosion, public health issues due to some very shallow drinking wells, concerns about protected spawning areas and other habitat, and our tourism and housing industries will suffer from shore erosion and siltation near restaurants and marinas.

"I would ask the Corps of Engineers to support dredge spoil placement only to build up existing abandoned islands in the Chesapeake Bay. I would like to see a ban on using such spoils to create artificial islands.

"Sincerely, Councilwoman Shirley Murphy, District 3."

MR. BIERLY: Thank you. I would like to state that the Corps of Engineers looks at any and all economic benefits or costs. We do as part of a thorough analysis. Sometimes it requires or certainly it's helpful for the locals to point them out sometimes, but any and all economic benefits can and are considered.

Now, on our smaller projects where someone tries to justify a project purely on recreation, we can't do that. The administration dating back several administrations said you can't do a project for the sole purpose of recreation; however, recreational benefits can be added on top of commercial benefits. So if there is an island proposed for restoration, creation, or whatever on any project, the engineering question will be asked, will this have impact to the shore? Is flooding, erosion, what have you, plus or minus. Down in Dorchester County, for example, they want those islands restored because they're sick and tired of losing shoreline. If those islands were back, that would offer them some protection. This is a benefit, especially since most of the shoreline is habitat, valuable marshland. So if we're protecting shoreline, that can be considered a benefit. If we're eroding shoreline, that's going to be considered a cost, and these things are factored in.

Does anybody else have a question or comment?

MR. BURTON: I didn't sign up to speak, but I have a question. My name is Don Burton. I live in Chesapeake City, Cecil County. I'm a member of the canal bank study committee appointed by the Cecil County Commissioners. I was a member of the working group appointed by Congressman Gilchrest that studied the C & D Canal project. I'm on the board of the Chesapeake Bay Yacht Clubs Association. So I am a little bit familiar with some of this.

On the DMMP, the dredged material management plan, it sounds like a very comprehensive type of program that you're instituting here. You go into great detail on the environmental acceptability of the various options, you look at the cost effect of the various options, but you leave out what several people have talked about here, the need to dredge. It's almost like it's a given, top dollar, top number, and you're forced to find a place that you can put it. Why doesn't a comprehensive plan include the need for dredging various parts of these channels that we're addressing? I guess it's more a question than a comment.

MR. BIERLY: It's the fourth and third to the last slides. Both mention -- the one mentions documenting it, factoring in need, and in one of them, the six-step planning process, it also says to identify it, but what that means is there is economic justification that is required as part of establishing the needs. Every channel before it's dredged undergoes an economic reevaluation.

(MR. BIERLY, continued) Now, Mr. Williams' contention was that flawed, old data would have -- you should take out a magnifying glass and redo that, but the justification of the needs is considered part of this analysis. I didn't hit upon it, however.

MR. BURTON: I know on the C & D Canal project the economic justification was several years old when it went into the system it seemed, and it was flawed badly and, of course, the whole project was reviewed and put in suspension because of the economic data. It had nothing to do with the environmental or the dredge costs or anything else. Is this group or the next tier up going to allow for public input on the economic justification?

MR. BIERLY: Public input is warranted at any and all steps throughout the process.

MR. BURTON: But is there a provision where we can do it, like a forum like this?

MR. BIERLY: Absolutely. NEPA requires it by law, and we will do it because it's good practice. So this is not the first and last meeting rest assured.

MR. BURTON: But when the public got involved in the C & D Canal project, it was through the auspices of the Congressman Gilchrest and several others that we went to the chief engineer of the Corps and had to get him to make a decision that the Philadelphia District and the New York District opened up their books, so to speak, to let us be involved, and when we did get involved, I think we came up with more accurate data and the results were what they were.

MR. BIERLY: Two things on the C & D Canal, and don't construe the first one as a cop out, but Philadelphia District did that study, and the reason I say that is because to tell you I don't know the details. I honestly don't. I didn't work on it.

MR. BURTON: I don't think I would be far from wrong to say that the Philadelphia District used the Port of Baltimore's numbers for economic justification.

MR. BIERLY: Sure. The other thing I was going to say is that the C & D Canal was an analysis for new construction deepening above and beyond the maintenance. The economic threshold, if you will, for maintenance is far less. It's like saying do I get the hole in my roof patched or rip it off and build a whole new one? Are you maintaining or are you building new?

MR. BURTON: I would compare that to the Arkansas River project. They're dredging one portion of the river for one barge a month. How much maintenance do you do for how much business?

MR. BIERLY: Right.

MR. BURTON: I don't look at that as a whole bunch different than the new project work.

MR. BIERLY: Well, a similar analysis has to be undergone, but the cost of the maintenance is much less than the cost of deepening. That's the big thing.

MS. KOLBERG: When there is only one barge, should you even be maintaining at all?

MR. BIERLY: I would say no.

MS. KOLBERG: Exactly. Does the Corps say never mind? This is hypothetical here. Just taking his example, if you find that there is one place where the amount of traffic on that channel does not justify it, are you going to go we shouldn't be dredging? Is that ever going to be the answer?

MR. BIERLY: We have deauthorized channels in the past. We have not deauthorized channels in the Port of Baltimore. We have deauthorized small channels in the past. It can be done.

MR. WILLIAMS: For the record, we're not talking in this particular case about one barge. The traffic through the northern access channel to the Port of Baltimore is one deep draft vessel per day each way.

MS. ROSSO: It's an interesting discussion on dredging and maintenance. What if you were to decide to look at maintenance-only dredging and not deepening of the channel; would you do an analysis based on how much placement you would need, how many cubic yards of dredged material would be required for -- do you have that figured out? Do we only maintain; we don't deepen?

MR. BIERLY: That's the 4-1/2 million yards I mentioned. For placement what we get is a cost per cubic yard of what it costs to place, and so you multiply the amount you're going to dredge and measure the project cost and do you have the economic benefits to justify the expenditure at that point then.

MR. WILLIAMS: You might want to mention this will be available if anyone has questions about this.

MR. BIERLY: The preliminary assessment? This preliminary assessment is an internal Corps document, but we're a public agency; therefore, we can provide it. It didn't hit the public because it's an internal document. All it did was to convince the Corps that we needed to go further, but if you want to see it, you're welcome to it.

MS. MARSH: Mary Marsh with the Maryland Conservation Council.

MR. BIERLY: I would like to thank you all for introducing yourselves, by the way. I neglected to say that, but that is very important.

MS. MARSH: We've done this many times. First off, I wanted to clarify that this dredging included Potomac River dredging?

MR. BIERLY: No.

MS. MARSH: So it does not. Secondly, on the base plan at the time when -- first off, when was the last environmental analysis done of the base plan at the deep trough?

MR. BIERLY: The last analysis that included the deep trough was the base plan, Scott, would have been Poplar? The last time we defined it as the base plan would have been during the Poplar Island study.

MS. MARSH: 1986 about?

MR. BIERLY: No; 1996.

MS. MARSH: At that time were other federal department and agency costs of money put into basically restore the bay taken into effect at that time? I haven't seen that study.

MR. BIERLY: I'm not sure I understand.

MS. MARSH: Well, for instance, we have EPA dollars coming in with the Chesapeake Bay program, you have U.S. Fish and Wildlife, you have NOAA, you have all of these different amount of monies coming from other federal departments and agencies, and I'm just wondering if those -- and many times they're being put in in order to restore and deal with items such as sedimentation nutrients in the bay that in some cases would come from disposal of dredged material through open water dumping. Were they taken into effect? That's the only thing that I'm trying to make sure because if they weren't, I mean that right there is a real reason for doing a new study specifically on the base plan because if you have the open water disposal at the deep trough, it's a very cheap and easy method, and there are many of these other beneficial uses that are not only just restorative, but they're good for the environment and probably good for the economics, but because of the cost, they tend to be more prohibitive because everybody looks at the cost share and they don't actually look at what other items and what other agencies and departments are having to put in more money in order to take care of the problems that are coming from something else.

MR. BIERLY: Right. I think I understand. Well, as I said back on the goal slide, that we are to look at a few things. First of all, we are to give beneficial uses of dredged material every consideration. In fact, if you look at the list of options that are, I will say, out there since we haven't developed our own list yet, a good portion of those are environmental projects, and they are the ones quite honestly that are going to the top of this analysis that the state is doing.

Also there are many agencies out there doing good for the bay, and we're one of them. We have a lot of environmental restoration projects out there, and we have a lot more that will be coming shortly, including one called the Chesapeake Bay shoreline erosion study, which I guess you've heard of, which will look at the marine impact to the erosion that we see on land and the sedimentation, the runoff that we get from the land and what can we do about it.

That's going to be a big program. So if your overall statement here is let's do something good with dredged material, I don't think anyone is going to argue with that. I would like to say one more thing about cost share. If the cost share of an environmental restoration project is 75/25 or **(MR. BIERLY, continued)** 65/35 and the cost of maintenance dredging is 100% federal, there are three ways to look at that. Overall cost because we're all taxpayers is extremely important, and that's what all the justification is based on. Then there is the state perspective and federal perspective. Both parties want to pay the least possible. We're humans. Humans don't like to part with money. Right now navigation is cost shared from the federal perspective at a higher rate than anything else we do. There are some movements afoot to maybe change that cost sharing down so the state is sharing more. What difference will this make? Well, I hope when it comes to an environmental restoration project, it makes no difference. We pay for the proper projects. But I guess that's Dan speaking. I can't start grandstanding for agencies, but I just want to point out that aspect of cost sharing. Beach nourishment is I believe 50/50. Flood control is 65/35, and we don't do recreation projects. So cost sharing, we have a million different cost sharing formulas, and navigation is the most favorable to the locals.

MR. WILLIAMS: How will the comments that have been made this evening and at the other public scoping meetings as well as those which are submitted to you in writing -- how will those be consolidated and the answers to those questions, how will that be distributed? Will it be made available to the public and, if so, on what timing?

MR. BIERLY: Well, to be determined, I guess, is the answer there. Our document -- and I know that's not until the end of the line, but our document will include everything.

MR. WILLIAMS: That's September then.

MR. BIERLY: Pre-September '04. We're going to have to work on that. Like I said, we will have a web site set up. That's our plan. We will have notices, letters, newsletters. I'm going to have to leave that one alone. I don't exactly know.

MS. ROSSO: In other words, we won't get a copy of whatever was discussed tonight until 2004.

MR. BIERLY: You can request it. This is a public meeting. You can have it verbatim.

MS. ROSSO: Sometimes we have had problems when we've gone to hearings and there are certain deletions and inaudible things.

MR. BIERLY: We've actually hired a contractor, who went and hired our court reporter here, and so verbatim transcripts, if you want them, you can have them. We're also going to get summaries of these meetings worked up for us, and we plan to have those on the web site.

MS. ROSSO: So you recommend we request. It's not automatically sent.

MR. BIERLY: How many letters did we send out, 6, 8 hundred, something like that? We sent out about 1,000 public notices. We're not going to send out 1,000 transcripts. You don't want to kill that many trees.

MS. MARSH: Mary Marsh. I will say that during Site 104 and the EIS or DEIS of Site 104 that the Corps did an extremely good job of keeping things up to date on line and all the literature there for a long period of time, and also I do appreciate that the Corps had put the DEIS onto a compact disk; therefore, making less paper being used and also easier to find it, too, on computer. So I will say a very good job there.

MR. BIERLY: Thank you. That's pretty much standard now. We put our reports on CD.

4.3 Written Questions and/or Comments – 20 June 2002

2 Woodbine Circle
Elkton, MD 21921
June 20, 2002

Ms. Michele A. Bistany
U.S. Army Corps of Engineers
Baltimore District, CENAB-PL
P.O. Box 1715
Baltimore, MD 21201-1715

SCOPE OF DREDGED MATERIAL MANAGEMENT PLAN (DMMP): QUESTIONS AND COMMENTS

Dear Ms. Bistany:

In accord with the public notice announcing public scoping meetings and soliciting comments relative to the initiation of a DMMP study for the dredged material placement needs and opportunities for the Port of Baltimore, appended are my comments and questions relative to the proposed activity.

These comments arise from my involvement in the past 6 years with a number of the projects and issues associated with dredging of the shipping channels in the Chesapeake Bay. I have been an active member of both the C&D Canal Working Group (appointed by Cong. W.T. Gilchrest) and the Citizens' Advisory Committee to the MPA's DMMP program (appointed by the Commissioners of Cecil County). Additionally, as the record will show, I have reviewed, analyzed and commented on a number of the dredging projects to expand the shipping channel system.

Because I am concerned that any and all actions for dredging, and the subsequent material placement, be performed only in situations that are <u>both</u> economically warranted and environmentally responsible. I remain keenly interested in all plans proposed or permitted by the Corps for such actions. Consequently, once the District has completed the DMMP study scope (Project Management Plan), I would appreciate receiving a copy of that document as well as any subsequent reports ... including draft versions.

Thank you for consideration of my comments and questions; I look forward to the study scope and the District's responses to this letter and the other comments proffered by the public. If, in the interim, there are any questions about this letter ... or if I can be of any assistance ... please do not hesitate to contact me at either (410) 398-6844 or jmjwilliams@dol.net.
Sincerely,
John M. Williams

Copy: Congressman Wayne T. Gilchrest

JOHN WILLIAMS: Questions:

1. The announcement for public comments on scoping mentions a "tiered Environmental Impact Statement". What, exactly, is a tiered EIS? What are the underlying concepts and how will it be developed?
2. How will the public and agencies participate in the development of the DMMP beyond the scoping meeting and an opportunity in 2004 to comment on the completed DMMP?

3. Will the Baltimore District's DMMP be including the project to deepen the C&D Canal? Why?
4. If the DMMP will include the C&D Canal project, what scope and timing are anticipated? Who does CENAB believe will pay for the project?

JOHN WILLIAMS: Comments and Questions:

1. **"SCOPE OF DMMP":** Two lengthy access channels, both of which require substantial maintenance dredging, uniquely serve the Port of Baltimore (POB). Consequently, the scope of the DMMP should include the full length of both channels to Baltimore.

   Comment: The *Preliminary Assessment* (July 2001) explicitly declined to address the northern portion of the C&D Canal route to and from the Port of Baltimore. That is inconsistent with the *General Design Memorandum* (GDM) (August 1981) that outlined significant, long-term disposal of maintenance dredgings to be placed in the containment sites along the C&D Approach Channel.

   Comment: In September 1995, the Philadelphia District (CENAP) completed a Preliminary Assessment for the navigation channels in the upper Chesapeake Bay and concluded that "A Dredged Material Management Study was needed in order to identify a disposal plan."

   Notwithstanding that conclusion – and the clear directives of the *Planning Guidance Notebook* – the Philadelphia District elected to take no action but instead chose to rely upon the MPA and the Baltimore District to perform the requisite dredged material management study. [Per letter from Deputy District Engineer (CENAP), 7 Dec 2000.]

   Comment: The economic justification for continued maintenance of channels in the *Preliminary Assessment* relies upon 'benefiting' commerce to the POB via all routes, yet only included a portion of the total dredging and maintenance costs by excluding the full maintenance of the northern access channel (C&D Canal route). This misstates (and overestimates) the apparent 'benefits-to-costs' ratio (BCR).

2. **"SPECIFICS OF DMMP":** The economic justification in the DMMP for continued maintenance dredging and placement should be based on the commerce and vessel traffic using each route (not the total POB traffic). Further, the DMMP should detail the annual maintenance quantities from each reach of both access channels as well as the vessel traffic, and should ascertain the incremental benefits of maintaining all channels at full authorized depths vs. shallower depths. For the northern access channel in particular, the consideration of shallower depths should extend all the way to the 'natural depths' (approx 20-22 ft) that would result from no maintenance dredging and yet would accommodate most barge and recreational vessel traffic.

   Comment: Consider a simple analysis for the northern access channel to the Port of Baltimore:

   If the channel were to be maintained at a 25-ft depth instead of the current 35-ft depth, about 784 vessels (1998 actual USACE count of 636 'foreign' and 148 'domestic') would have

been obliged to use the longer Cape Henry route to access more northern ports. Those vessels would have experienced an increased sailing time averaging 5½ hours. As for the value of that time, the vessels in the fleet calling at the Port of Baltimore experience an increased operating cost averaging about $3[illegible] when sailing "at sea" versus sitting "in port" time (based on USACE-IWR vessel operating cost values).

Hence, for the 784 vessels that would be obliged to use the longer route if the northern access channel were not dredged the annual increased cost to the shipping companies calculates to be $1.3 million. (Not including the differential pilotage costs which would lower the increased costs to about $1.0 million.)

That compares to annual dredging costs of about $6-10 million to maintain the 35-ft depth instead of the 25-ft depth.

Thus US taxpayers are annually paying at least 5 times as much for the Corps to dredge the channel as is saved by the (foreign) shipping companies!

3. **"PRELIMINARY ASSESSMENT":** The section on Dredged Material Management Plans (DMMP) in the Corps' basic reference, *Planning Guidance Notebook*, ER 1105-2-100, 22 Apr 2000 states:

> "E-15. Dredged Material Management Plans. All Federally maintained navigation projects must demonstrate that there is sufficient dredged material disposal capacity for a minimum of 20 years. A preliminary assessment is required for all Federal navigation projects to document the continued viability of the project and the availability of dredged material disposal capacity sufficient to accommodate 20 years of maintenance dredging. If the preliminary assessment determines that there is not sufficient capacity to accommodate maintenance dredging for the next 20 years, then a dredged material management study must be performed."

That seems to clearly say that a 'preliminary assessment', and perhaps a 'dredged material management study', must be in place for all Federally maintained navigation projects.

Question: Why did CENAB not perform even a 'Preliminary Assessment' for the Baltimore Harbor and Channels project until just last year?

4. **"PRELIMINARY ASSESSMENT":** The *Preliminary Assessment* (July 2001) states that "Even though the C&D Canal deepening has been put on hold, the continued maintenance of that portion of the system is justified at this time."

Question: Since there is no supporting analysis in the document for that channel, how can that be asserted?

Question: The phrasing of the assertion raises the question that, even if such maintenance where justified at this time, will the combination of decreasing vessel traffic and increasing disposal costs for dredged material render maintenance of the northern route to Baltimore

economically unjustifiable in the near future? An analysis of this possibility should be incorporated in the DMMP.

5. "PRELIMINARY ASSESSMENT": The economic justification in the *Preliminary Assessment* (PA) examined the volume of traffic for different commodities that were deemed to benefit from the project (50-ft) by updating the analysis used in the *General Design Memorandum* (August 1981). However, these two analyses did not utilize the same basis! The *General Design Memorandum* (GDM) justified the deepening of the channel to 50-ft using "export" coal ... and the PA relied on the 'total' quantity of coal handled at the Port (import + export − domestic). In 1999, for example, 'export' coal was only 1/3 of the 'total'. Further, of the 'total' coal handled through the Port, about 20% moved via the C&D Canal route ... not the 50-ft channel for which the PA attempts to justify continued maintenance. These distinctions need to be correctly incorporated into the economic analysis in the subsequent DMMP to ascertain if continued channel maintenance can really be economically justified.

Question: The GDM justified that major capital expense of deepening the southern channel to the Port of Baltimore from 42 ft to 50 ft on the estimated 'savings' realized by handling 5 specific commodities. [It also concluded there would be no significant incremental maintenance dredging required in the Maryland channels.] How is it rational to use the same 'benefits' that were employed in 1981 to justify the deepening to now justify the maintenance dredging?

6. **"BASE PLAN":** In discussing the details of a management plan study, the Corps' *Planning Guidance Notebook* guidelines specify the establishment of a "Base Plan" for disposal of dredged material. Specifically:

> a. Policy.
>
> (3) Base Plan. It is the Corps of Engineers policy to accomplish the disposal of dredged material associated with the construction or maintenance dredging of navigation projects in the least costly manner. Disposal is to be consistent with sound engineering practice and meet all Federal environmental standards including the environmental standards established by Section 404 of the Clean Water Act of 1972 or Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended. This constitutes the base disposal plan for the navigation purpose. Each management plan study must establish this "Base Plan", applying the principles set forth below.

Question: What is the 'Base Plan' for disposal of dredge spoils from the navigation channels in the Chesapeake Bay? Is it simply dumping those materials into the area of the Bay known as the 'Deep Trough' because that would be the least expensive means of disposal? When was that determined to be the 'Base Plan'?

Question: If State law or regulation precludes placement via a 'Base Plan', how are the costs for either the DMMP studies or the actual placement of dredged material anywhere

other than the Base Plan allocated between Federal sources and the project's local sponsor? To what extent is placement in 'beneficial uses' – a non-Federal responsibility?

7. "ENVIRONMENTAL": There is ample evidence of leaching of heavy metal contaminants from dredge spoil disposal sites around the Bay (Pearce Creek, Courthouse Point, Summit, Hart-Miller Island, etc.). The pivotal factor is the release of free acid by the gradual air-oxidation of the naturally occurring iron pyrites in the dredge spoils. This issue should be specifically addressed in the Environmental Impact Statement (EIS) for any proposed disposal site with an upland component.

5.0 Questions and Comments Submitted Separate from Public Scoping Meeting and Prior to 19 July 2002

5.1 Jennifer Aiosa, Senior Scientist, Chesapeake Bay Foundation (CBF)

July 2, 2002

Ms. Michele A. Bistany
U.S. Army Corps of Engineers – Baltimore District
P.O. Box 1715
Baltimore, MD 21203-1715

Re: General Comments on Corps Dredged Material Management Plan (DMMP)

Dear Ms. Bistany:

The Chesapeake Bay Foundation appreciates the opportunity to comment on the process currently being undertaken by the Baltimore District to develop a federal DMMP for Port of Baltimore dredged material. Having attended the first public scoping meeting on June 12 on Kent Island, I offer this letter as formal comments on behalf of CBF's membership in Maryland. While it is certainly laudable that, as the Federal agency most directly involved with dredged material management for the Port of Baltimore, the Baltimore District of the Corps of Engineers undertake a comprehensive approach to forecasting dredging yields and disposal needs into the future, the Chesapeake Bay Foundation has several concerns about the outlined process.

1) CBF has worked with many State and Federal agencies, including the Corps, in good faith to help the Maryland Port Administration improve their process for evaluating and selecting dredged material disposal capacity. After years of mistrust and poor communication, that process is slowly evolving and gaining support. After more than a year and half of State-led effort, the Corps begins a separate, though similar, process confusing the general public and leaving many participants in the State's process to wonder how much of their work will have been in vain. While CBF recognizes the Corps' responsibilities under Federal guidelines, we request the Baltimore District utilize to the fullest extent possible, the work that has gone into the ongoing State efforts. Also recognizing that time represents one of the greatest obstacles to meeting future disposal capacity, capitalizing on sound information developed and discussed among a myriad of State, Federal and private sources would save valuable time and resources and continue forward progress.

2) CBF also understands the subtleties associated with the Corps' ability to evaluate open water disposal and other State-barred disposal options as part of the federal DMMP process. However, publicly perpetuating the idea that open water disposal could be used in Maryland for Port dredged material undermines extensive work on the part of many of your Federal, State and local partners. Unfortunately, discussing open water disposal, even in terms for developing a federal base plan and determining cost-share ratios, gets lost in translation for many citizens and leads to confusion, or worse, mistrust.

3) CBF firmly believes that the Corps of Engineers should capitalize on the current opportunity to more closely evaluate the actual dredging need than relying solely on the Maryland Port Administration's assessment of dredging demand. Dredged material disposal capacity should be recognized as a finite resource and allocated accordingly. Dredging projects with questionable merit or economic justification should be, at the very least, postponed until reasonable dredged material capacity can be developed and brought online to accommodate maintenance dredging.

Though dredged material management for the Port of Baltimore poses an increasingly complex challenge, the Chesapeake Bay Foundation firmly believes it can be accomplished without compromising the health of the Chesapeake Bay. Thank you again for the opportunity to offer these comments.

Sincerely,
Jennifer Aiosa
Senior Scientist

5.2 Rebecca Kolberg, Greater Pasadena Council

From: Rebecca Kolberg
Sent: Wednesday, July 10, 2002 2:34 PM
To: Bistany, Michele A
Subject: DMMP Scoping Meeting -- Greater Pasadena Council Comments

U.S. Army Corps of Engineers-Baltimore District
Attention: Michele Bistany
P.O. Box 1715
Baltimore, MD 21203

The Greater Pasadena Council (GPC), which represents more than 30 communities in the Pasadena area of Anne Arundel County, Maryland, understands the Army Corps is seeking comments on dredged material placement needs and opportunities for the Port of Baltimore. As GPC's representative to the Maryland Port Administration's Dredged Material Management Program's citizen's committee, I was asked at GPC's June 27 meeting to submit written comments on behalf of the council.

GPC believes the first thing the Army Corps should consider in selecting sites is proximity to residential areas, and whether residents of such areas support the concept of a dredge-disposal site. Wouldn't it make sense to first try to dispose of dredge spoil where citizens want it (restoring islands in Dorchester County) rather than where citizens oppose it (creating an artificial island in the mouth of the Patapsco)?

GPC believes the Army Corps should pay close attention to human health and safety early in the site-selection process. A simple site visit and review of flood maps in the Pasadena area would show that many neighborhoods are extremely prone to flooding, which could be aggravated by building an artificial dredge island that would block much of the Patapsco River channel and alter the flow of water near the mouths of creeks. Also, a site visit would have revealed that most

of us depend on shallow wells for drinking water - wells already at high risk for radium contamination due to acid groundwater.

GPC believes the Army Corps should not build artificial dredge-spoil islands where no islands have existed before. Such islands could amount to costly, dangerous experiments. Some long-time Pasadena residents who have weathered hurricanes like Hazel and Agnes are convinced a man-made island would suffer serious damage under such conditions, unleashing devastation upon the community we have worked so hard to maintain and improve.

GPC believes the Army Corps should closely analyze and prioritize the Port of Baltimore's dredging needs in the context of the entire U.S. port network to ensure that precious dredge disposal capacity-and thereby taxpayers' money-is not wasted on needless or economically marginal dredging projects. GPC thanks the Army Corps for this opportunity to share our views.

Sincerely,
Rebecca Kolberg
7605 Bay St.
Pasadena, MD 21122
410 439-4971

5.3 Faion Lott (per 20 June 2002 meeting comment card)

Make the meeting better by increasing public awareness of proposed meetings – newspapers, radio, and TV, etc.

Please mail me a copy of the June 20 DMMP scoping meeting minutes. Dan did a very good presentation – interesting and informative.

I am against the creation of any artificial islands. I am fore existing island restoration.

Use dredge material to make bricks – add straw – other additives like the Egyptians and Southwest Indians did.

Faion Lott
2000 Kurtz Avenue
Pasadena, MD 21122
410-437-6306

5.4 Gregory Kappler, Co-Chair, Citizens' Advisory Committee to Maryland's Dredged Material Management Program

July 11, 2002

Ms. Michele A. Bistany
U.S. Army Crops of Engineers
Baltimore District, CENAB-PL

P.O. Box 1715
Baltimore, MD 21203

Dear Ms. Bistany:

We are pleased to have the opportunity to offer comments to the U.S. Army Corps of Engineers as you initiate your Dredged Material Management Plan (DMMP) for the Baltimore Harbor and approach channels. Some member of our committee attended your recent public meetings and offered comments then. The purpose of this letter is to summarize the views of the committee for the record.

Our committee serves in an advisory capacity to the State of Maryland and its Dredged Material Management Program. We represent a broad spectrum of stakeholder, citizen and community groups as well as local governments. We attempt to advise the State on how proposals may affect specific locales, and we offer our views on the various technical and policy issues which must be considered.

We have appreciated efforts by some Corps staff to aid us in understanding the very complicated connections between the State's work and that of the Corps. We are just beginning to get a sense of how the two efforts intersect. We plan to invest additional effort in further understanding these programs and the mandates that underlie them. In the meantime, we offer the following comments:

- Both the State and the Corps need to do a better job communicating the relationship between the two DMMPs.
- Projects which provide "beneficial use" for the Bay and the Bay watershed are generally viewed more favorably by this committee than projects which do not.
- This committee favors the restoration and protection of eroded islands as a technique for managing dredged material while simultaneously providing beneficial habitat to the Bay.
- All members of this committee are opposed to the creation of new islands for disposal of dredged material.
- The committee strongly supports research into innovative uses of dredged material and hopes that this work will be included in all future plans, with the idea that someday a significant portion of the material dredged from our channels will be creatively reused.
- We have expressed concerns about the long timetables related to dredging projects. We understand the complications of producing Environmental Impact Statements and dealing with Congress, but we urge diligence in the development of your DMMP.
- The costs of managing dredged material and the environmental complexities are much greater than they used to be. Therefore, public debate about what constitutes the best mix of approaches is vital, to ensure that there is strong public support and the ability to pay for whatever set of management options ultimately gets selected.
- We believe that the public as well as the business interests who rely on the Port of Baltimore would be better served by greater transparency in the planning process of the

Corps of Engineers. We would urge that you be forthcoming with information as you develop it and that you make more effective and more timely efforts to keep the public apprised of your progress.

- Finally, we recognize that this is a political as well as a technical issue, and we recommend full and open disclosure to all elected officials. Elected officials serve the public interest best when they are fully aware of technical, economic and political issues related to complicated projects such as this. The Corps and all the other agencies involved in the dredging of Maryland's channels must do more to keep elected officials accurately informed.

We appreciate the opportunity to comment and look forward to working with your staff as the planning process evolves.

Sincerely,
Gregory Kappler, Co-Chair
Citizens' Advisory Committee

Attachments: Membership list *(Not included in this summary report)*
Mission statement *(Not included in this summary report)*

2 Woodbine Circle
Elkton, MD 21921
July 18, 2002

Ms. Michele A. Bistany
U.S. Army Corps of Engineers
Baltimore District, CENAB-PL
P.O. Box 1715
Baltimore, MD 21203-1715

SCOPE OF DREDGED MATERIAL MANAGEMENT PLAN (DMMP): ADDITIONAL QUESTIONS AND COMMENTS

Dear Ms. Bistany:

On June 20, in accord with the public notice soliciting comments relative to the initiation of a DMMP study for the dredged material placement needs and opportunities for the Port of Baltimore, I submitted some comments and questions relative to the proposed activity. This letter will augment and extend those comments.

A. "Economic Assessment:" The "Economic Assessment" of the *Preliminary Assessment*; July 2001 (PA) appears to be seriously flawed as outlined below:

1. Comments on 'Maintenance Costs and Quantity by Fiscal Year' for maintenance dredging of Baltimore Harbor and Channels as summarized in Table 5 of the PA:
   1. The calculations for the average Quantity and average Cost are both wrong and understate the correct values.
   2. The cited dredged quantities (and costs) are inconsistent with the dredging data provided by the USACE – Institute of Water Resources (www.iwr.usace.army.mil/ndc). Please explain why the values do not match.
   3. The tabulation and attendant analysis do not appear to include either the quantities or the costs of maintaining the Virginia portion of the 50-ft channel or the upper Bay portion of the 35-ft channel (maintained by CENAP). Since Baltimore maritime commerce utilizes those channels, please explain the apparent omissions.

2. Extension of Comment No. 5 (June 20, 2002 Letter): The analysis in the Economic Assessment of the PA attempts to follow that used in the GDM (*General Design Memorandum*; 1981). However, the definitions of benefiting commerce categories are not strictly followed. The GDM focused on the categories of commerce carried by deep-draft, ocean-going vessels that would require a deep access channel. Those categories were Iron Ore (Import), Residual Fuel (Import), Coal (Export), Grain (Export) and Sugar (Import) ... all "Foreign Commerce". The PA, however totals all Coal movements (Import + Export – Domestic + Coastwise) ... not just the export coal. Further, the PA totals all residual fuel oil AND all distillate fuel oil ... and calls the total "Residual Fuel". Similarly, for Grain and for

Sugar, the analysis in the PA appears to total all commerce movements ... Foreign – Domestic ... Import and Export.

This distinction is of consequence because "Foreign Commerce" will be transported via large ocean-going vessels ... requiring a dredged channel. However, "Domestic Commerce" is either 'coastwise' or 'internal' – and generally transported by barges and tugs. The latter are shallow draft vessels not requiring an extensive, deeply dredged channel system.

By not restricting the economic assessment to the quantities of "Foreign Commerce", the analysis significantly over calculates the total tonnage of benefiting commerce by about 100%. To illustrate, in Table 2 of the PA Total Traffic in FY 1999 was computed to be 19,802,000 tons. Using the criteria of the GDM for commerce handled by deep-draft, ocean-going vessel, the Total Traffic would be 10,038,000 tons ... or only 50.7% of the PA values. [Data source: *Waterborne Commerce of the United States, 1999*; IWR-USACE.] Thus the computed benefits of Table 4 (Computation of Benefits by Commodity) also are too high by about a factor of 2 (two). Performing the calculation for FY 1999 (the most recent data year in the PA), I calculate Total Savings of $17,504,000. Compared to the cited maintenance cost of $17,621,300 produces a BCR (Benefit-to-Cost Ratio) of 0.99 versus the value of 2.0 cited in the PA.

On the basis of only the foregoing critique one might reasonably conclude that maintenance of the channels is potentially unwarranted. However, that analysis (and the one used in the PA) was too simplistic and did not consider the other (significant) commerce using the waterways in question. Furthermore, some of the maintenance costs cited in Table 5 are associated with the 35-ft channel (Brewerton Extension, Swan Point and Tolchester channels). Nevertheless, given the present uncertainties, **continued maintenance of two access channels to Baltimore at their full authorized depths is clearly questionable** – and thus warrants careful, appropriate analysis. Such analysis would seem to be an essential prelude to the DMMP study, as it would help define the scope, schedule and magnitude of needed dredged material disposal capacity.

B. Continued Maintenance and Alternatives: Based on my reading of standard Corps' guidance, there appears to be an imperative for some specific considerations that do not seem to have been previously addressed. The section on Dredged Material Management Plans (DMMP) in the Corps' basic reference, *Planning Guidance Notebook*, ER 1105-2-100, 22 Apr 2000 states:

> e. Study Components.
>
> (1) Alternatives. Management plan studies shall consider the full range of measures for dredged material management including: management of existing disposal sites to extend their life; various combinations of new disposal sites involving different disposal methods, disposal area locations, and periods of use; and, measures to reduce dredging requirements, including reduced dimensions. The Federal interest in continued O&M of an existing project for its navigation purpose is defined by that project of maximum scale and extent, within project authorization, for which continued maintenance is warranted in terms of vessel traffic and related factors.

1. Question: As part of the forthcoming DMMP study activity, how does the District intend to address the requirement to consider "measures to reduce dredging requirements, including

reduced dimensions"? Will the District assess separately the two alternative routes to and from the Port of Baltimore and examine the benefits and consequences of smaller or fewer channels?

2. Question: As part of the forthcoming DMMP study activity, how will the District perform the requisite economic assessments to ascertain "that project of maximum scale and extent, within project authorization, for which continued maintenance is warranted" for both the Cape Henry and the C&D Canal routes? [Note that the analysis employed in the PA appears to have been flawed and inadequate.]

3. Question: The main 50-ft channel to Baltimore services only a small number of really deep-draft vessels (draft > 45 ft) ... about 1 vessel per week. How will the District determine if it is really economically beneficial to maintain the channel depth at 50 ft instead of 46 ft ... or some similar value?

C. Cost Sharing: It is unclear how the forthcoming DMMP being prepared by CENAB will be funded and how it will be integrated, or coordinated, with the DMMP activities being undertaken by the Maryland Port Administration (MPA) in response to a directive from the State legislature. The 'cost sharing' portion of the section on Dredged Material Management Plans (DMMP) in the Corps' basic reference, *Planning Guidance Notebook*, ER 1105-2-100, 22 Apr 2000 states:

> f. Cost Sharing and Financing.
>
> (1) Management Plan Studies.
>
> (a) Existing Projects.
>
> (1) General. The cost of Management Plan studies for continued maintenance of existing Federal navigation projects are O&M costs and shall be Federally funded. For harbor projects, including inland harbors, such costs shall be reimbursable from the Harbor Maintenance Trust Fund, subject to the following:
> (a) .....
> (b) Budgeting priority for the navigation purpose is limited to the Base Plan. Therefore, the cost for any component of a management plan study attributable to meeting local or state environmental standards that are not provided for by the requirements of Federal laws and regulations, shall be a non-Federal cost.

1. Question: How will the costs of preparing the Management Plan, including the various study costs, be allocated between the Corps of Engineers and the local sponsor (MPA)?

2. Question: As part of their work to develop a DMMP, the MPA has already undertaken a number of 'reconnaissance studies' on various dredged material disposal options. Will any of those studies, which are currently being performed (and funded) by the MPA, be utilized by CENAB in its DMMP? If so, how will the costs be shared?

As I indicated in my prior letter, I appreciate the opportunity to submit comments and questions relative to the development of the scope for the District's DMMP study. I continue to look forward to receiving a copy of the study scope and the supporting documents in September.

Sincerely,
John M. Williams

Copy: Congressman Wayne T. Gilchrest

Port of Baltimore
DMMP

Baltimore District
Dredged Material Management Plan
(DMMP)

Dan Bierly
(410) 962-4458

Public Scoping Meeting
June 12, 2002

Why Are We Here?

- The purpose of this scoping meeting is to:
  - Obtain public comments and input to scope the DMMP study
  - Discuss the Corps of Engineers Dredged Material Management Plan (DMMP)
    - Goals
    - Process
    - Study/Plan Components
      - Identification/Evaluation/Selection of Placement Options
      - Tiered Environmental Impact Statement

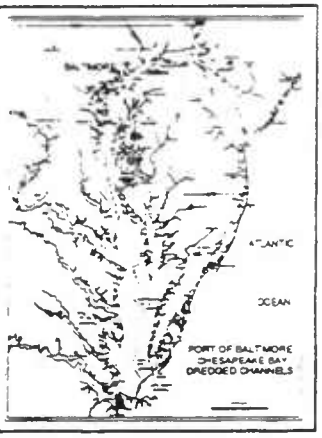
Public Comments

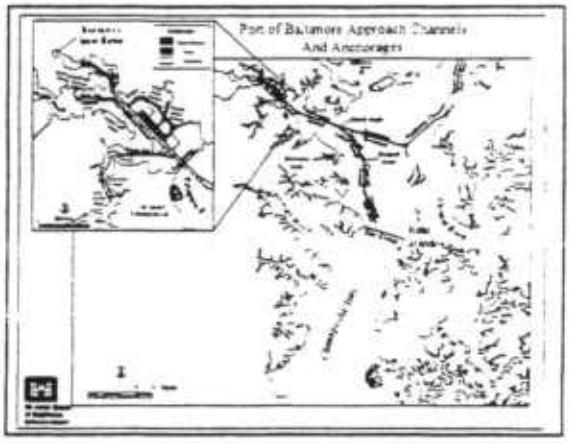
- Collect your comments and concerns for consideration in the DMMP
- Use information to scope the DMMP study
- Court reporter to obtain verbal comments
- Can provide written comments
- All comments needed by July 19th
- Scope of study sent to Corps Authority September 2002

DMMP Goal

To develop a plan to maintain in an economically and environmentally sound manner channels necessary for navigation in the Port of Baltimore, conduct dredged material disposal in the most environmentally sound manner, and maximize the use of dredged material as a beneficial resource

Port of Baltimore Channels Maintained By Corps of Engineers





Federal Dredging

- [illegible]
- Corps responsible for 100% cost of maintenance dredging to the base plan placement option from the Federal navigation channels up to 45-foot depth. Corps shared 50/50 deeper than 45-foot depth
- Water Resources Development Act of 1996 authorized cost-sharing of placement sites (formerly a non-Federal expense)

Port of Baltimore
Maintenance Dredging Needs

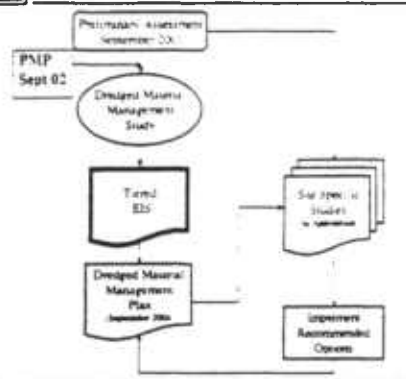
	Annual Maintenance (cubic yards)
Virginia	500,000
Maryland (Baltimore)	
50-Foot Project Approach	1,100,000
42-Foot Project Approach	900,000
Patapsco River & Inner Harbor	500,000
Non-federal	300,000
Maryland (Philadelphia)	
Southern Approach	1,200,000
Total Annual Maintenance	**4,500,000**

Existing Dredged Material Placement Sites

Placement Option Examples

- Island restoration
- Habitat restoration
- Upland placement
- Shoreline restoration
- Ocean placement
- Open water placement
- Wetland thin layering
- Abandoned mine land reclamation
- Agricultural soil augmentation
- Lightweight aggregate blocks
- Others

Corps DMMP Process



Preliminary Assessment (Completed September 2001)

- Documented dredging needs for next 20 years
- Identified placement shortfalls
- Conclusions:
  - Insufficient capacity (approximately 8-10 years)
  - Insufficient time to develop new placement sites (approximately 9-12 years)
  - Existing sites will not be efficiently managed (overloading sites reduces capacity/increases costs)

DMMP Study

- Study is comprehensive in nature and will address [illegible]
- Will include a tiered environmental impact statement
- Actively seek and incorporate public and agency opinion into the plan
- Continued participation with interested agencies and groups throughout the study
- First task will be to establish the plan of study based on Corps guidance and public and agency input

DMMP Study

- Conducted Using Six Step Planning Process
  1. Identify Problems and Needs - Dredging Quantities, Establish Goals and Objectives
  2. Determine Existing Conditions - Existing Capacity Options
  3. Develop Alternatives - Placement Options
  4. Analyze and Evaluate Alternatives - Placement Options/Identify Base Plan
  5. Compare Alternatives
  6. Recommend Plan/Integrated EIS

Public Comments

- Collect your comments and concerns for consideration in the DMMP
- Use information to scope the DMMP study
- Court reporter to obtain verbal comments
- Can provide written comments
- All comments needed by July 19th
- Scope of study sent to Corps Authority September 2002

Public Comments

Attachment B
Sign-In Sheets
Public Scoping Meetings – June 2002 Dredged Material Management Plan
U.S. Army Corps of Engineers – Baltimore District

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CENAB-PL-P 23 April 2002

MEMORANDUM FOR THE RECORD

SUBJECT: Dredged Material Management Plan Agency Coordination Meeting

ATTENDEES: See Attached Sheet

1. The Baltimore District study team met with the various Federal and State agencies to initiate the Dredged Material Management Plan (DMMP) Study at the Baltimore District Office in Baltimore Maryland on 11 April 2002. See attached sign in sheet for attendees (enclosure 1).
2. Dan Bierly, Planning Division, conducted the meeting. A hand out of the power point presentation was provided to all (enclosure 2). After welcome and introductions, Dan stated the purpose of the meeting. The Corps is initiating the DMMP study and inviting the agencies and other interested parties to provide input and suggestions to the process. The DMMP process, which is required by Corps regulations, will provide the District with a management tool for placement of dredged material from Port of Baltimore projects for a minimum of 20 years. Aside from coordinating with the agencies through meetings, the Corps will be conducting three public scoping meetings in June 2002 in the Baltimore, Annapolis and Queen Anne's County areas to inform the general public of the DMMP process and to solicit input from the general public. Agency coordination meetings will be held throughout the process. In addition, the Corps' goal is to make this study as transparent as possible by being available for meetings, phone calls, e-mails. A website for the DMMP study will be set up in the near future for the latest available information on the study.
3. The Corps updated the agencies on the Federal dredging responsibilities. The Corps is 100 percent responsible for maintenance of Federal navigation channels up to the 45-foot depth. For other channels deeper than this, maintenance is cost shared 50/50 with MPA or others. In the case of the Baltimore Harbor and Channels system in Maryland, the cost of dredging to 50 feet is 100 percent Federal. This is because when the channels were deepened to 50 feet, it was determined that there would be no additional maintenance dredging need compared to maintenance of the 42-foot channels. Dan went over the amount of annual maintenance for the Port of Baltimore. The total annual maintenance is approximately 4,500,000 cubic yards of material. There is a need for dredging and with this is a need for placement sites.
4. The Corps reviewed the regulations outlining the need to develop a DMMP for the next 20 years. The DMMP needs to include an assessment of beneficial use for environmental purposes including habitat restoration. Ecosystem restoration is a common way to use the dredged material beneficially and enhance the environment. The DMMP will be 100 percent Federally financed under the Operations and Maintenance Program.
5. The Corps explained how the Corps DMMP differs from the process that the State of Maryland is currently following as required by their legislature. The Federal process will need to be in compliance with the National Environmental Policy Act (NEPA) and will have public and agency interest and participation. Projects are evaluated

only have approximately 6 months for crust management. Ideally, we need approximately 1500 acres of placement site to properly manage 3 million [illegible] of material [illegible]

11. The agencies stated that the Corps [illegible] up of new projects. Also stated that we do not necessarily need to have the largest site to address the need. Several smaller projects could be implemented and on line prior to the closing of the larger sites. The Corps stated that to do this we need to factor in costs, economics, getting the site up to speed to accept the material, etc; however, it is agreed that any combination of projects that allows for sufficient capacity would be acceptable.
12. The agencies stated that the NEPA document needs to address specifics. Also, we need to determine how the options (i.e., innovative uses) versus specific sites will be addressed. There is a need to stress beneficial use in the Chesapeake Bay. This should be spread throughout the area versus within one area.
13. The Corps identified that some projects have been approved for study as early start initiatives. These projects may be considered prior to completion of the DMMP process. The NEPA documents for these projects will not be completed until after the NEPA for the DMMP is completed. If these studies are justified based on the DMMP study, then the feasibility phase will be completed and the projects will proceed. These projects were given the go-ahead for early consideration to ensure that there would be capacity available to make up for the current deficiency in placement sites that is anticipated in 7 to 10 years as determined by the DMMP initial assessment. The projects that were selected for early start consideration were chosen based on the Corps' experience in dredged material planning and the "sense of the agencies" that has developed during the Maryland's process. These options, mid-Bay island restoration and Poplar Island expansion, were determined to be worthy of further study.
14. The agencies wanted to know at what point detailed information would be included in the NEPA document. The Corps explained the umbrella EIS would spawn more detailed tiers of study. The agencies stressed that new projects should be deferred. Also wanted to know how the documentation or evaluation of specific sites versus concepts will be conducted without more detail. It was also noted that there is a problem with early initiation of specific projects, i.e., Poplar Island is currently ranked farther down than other options/sites. Therefore, why are we studying this now? This effort seems pre-decisional. The agencies are concerned that the document may dictate islands as the only options. The Corps needs to figure out how their document will compare options versus specific sites and at what point the detailed information such as footprint of the project will be evaluated. The Corps welcomed all comments. Reiterated that this process is an open process and that all recommendation suggestions, etc. will be considered. The Corps is requesting input from all to create a comprehensive decision document

Baltimore Harbor and Channels
Dredged Material Management Plan

Project Management Plan

Appendix B

State of Maryland DMMP Information

October 2002

State of Maryland DMMP Information

Appendix B-1

State DMMP Committees
Meetings Schedule and Participants

State of Maryland's
Dredged Material Management Program
Meeting Schedule 2001-2002

DMMP Citizens Comm.	DMMP Executive Comm.	DMMP Management Comm.
07/10/02	06/19/02	07/17/02
06/05/02	12/07/01	05/22/02
05/08/02	07/26/01	05/08/02
03/13/02		03/27//02
01/08/02		01/16/02
11/14/01		11/28/01
11/01/01		09/19/01
09/05/01		07/11/01
07/11/01		05/09/01
05/16/01		01/10/01
05/09/01		
04/18/01		
01/19/01		

STATE OF MARYLAND'S
DREDGED MATERIAL MANAGEMENT PROGRAM (DMMP)
EXECUTIVE COMMITTEE MAILING LIST

July 11, 20

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State of Maryland DMMP Information

Appendix B-2

Sample of Technical Group Meeting Memoranda for the Record

SUMMARY OF THE DREDGED MATERIAL MANAGEMENT PROGRAM BAY ENHANCEMENT WORKING GROUP MEETING July 25, 2002 10:00 AM

The Bay Enhancement Working Group (BEWG) met on July 25, 2002 at the Maryland Port Administration's Conference Room 235, Point Breeze, Baltimore, MD. The results of the meeting are documented in this meeting summary.

Attendees:

EA Engineering, Science and Technology, Inc. (EA): Jane Boraczek, Frank Pine, Peggy Derrick
Environmental Protection Agency (EPA): Ralph Spagnolo
Gahagan & Bryant Assoc. (GBA): Walter Dinicola
M&N: Kristen Gaumer, Pete Kotulak, Mike Herrman
Maryland Department of the Environment (MDE): Charlie Poukish
Maryland Department of Natural Resources (MDNR): Ray Dintaman, Dave Brinker
Maryland Environmental Service (MES): Rebecca Halloran (facilitator), Cece Donovan, Tammy Banta, Melissa Slatnick, Karen Cushman, Erika Kehne, Kelly Cohun
Maryland Geological Survey: Jeff Halka
Maryland Port Administration (MPA): Stephen Storms, Nathaniel Brown
National Marine Fisheries Service, Habitat Conservation (NMFS): John Nichols, Stan Gorski
National Oceanic and Atmospheric Administration (NOAA): Rich Takacs
U.S. Fish and Wildlife Service (USFWS): Dan Murphy
U.S. Army Corps of Engineers, Baltimore District (CENAB): Mimi Bistany

The following participating organizations were invited to attend, but were not represented: Chesapeake Bay Foundation; U.S. Army Corps of Engineers, Philadelphia District; Aberdeen Proving Ground; Maryland Port Administration/DMMP Citizens' Advisory Committee; U. S. Fish and Wildlife Service Blackwater National Wildlife Refuge; Maryland Charter Boat Association; Maryland Saltwater Sportsfisherman's Association; Maryland Watermen's Association; Upper Bay Charter Boat Association; University of Maryland Center for Environmental Studies.

Action Items:

1. The score for waterfowl use at Site 170 will be changed from 0 to 0 on the ranking matrix, per Mr. Murphy's findings that there is waterfowl use in the area surrounding Site 170, and therefore there may or may not be waterfowl use at Site 170 itself.
2. The BEWG agreed that the environmental scores on Parsons Island would not change for SAV and HAPC and that Parsons would not be identified on the option list as a preferred option for further study at this point in time. However, they agreed that further studies on Parsons Island should be conducted as long as they did not detract from studies of potential options that have already been added to the preferred list.

3. EA and MES will look at resources in the area and provide maps of clam and crab resources around Poplar Island in relation to lateral expansion option 6 for presentation at the next BEWG meeting in August.
4. CENAB will address cumulative effects of dredged material placement throughout the Bay in their DMMP EIS. In particular, this will address the cumulative amount of Bay bottom covered if various options are initiated.
5. The BEWG agreed that the environmental scores on Poplar Modification –lateral expansion 6 would not change and that it would not be identified on the option list as a preferred option for further study at this point in time. However, they agreed that further studies should be conducted as long as they did not detract from studies of potential options that have already been added to the preferred list.
6. MPA / MES will invite representatives from the Patapsco Backriver Tributary Team to attend the next BEWG meeting on August 21st.
7. BEWG agreed to look into identifying additional Harbor options for further environmental consideration.
8. BEWG requested information from MPA about potential additional Harbor options. MPA/MES will distribute information on the Inner Harbor sites to the BEWG for discussion purposes prior to the next BEWG meeting on August 21st.
9. MDE will consult the shellfish certification to investigate clamming in the vicinity of Site 170.

Statements for the Record:

1. Mr. Nichols stated for the record that it is the position of his organization that the ranking matrix accurately reflects environmental issues and natural resources at this time, and therefore scores should not be changed.

1.0 Welcome and Global Information — Rebecca Halloran

Ms. Halloran welcomed the group and introduced herself as the new facilitator for BEWG meetings.

Ms. Halloran reviewed the status of the action items from the June BEWG meeting, stating which had been completed. She updated the group on clamming in Site 170, citing information provided by a member of the Maryland Watermen's Association.

Charlie Poukish stated that he would consult the shellfish certification section at MDE to investigate clamming in the vicinity of Site 170.

2.0 Dredged Material Management Program (DMMP) Updates

Ms. Slatnick informed the group that the Executive Committee met on June 19th, and that Don Bosch had provided an update on the DMMP and reported on the preferred list. MPA presented interactive spreadsheets for review of the sites under consideration. Greg Kappler provided an update on the Citizens'

Committee and Secretary Fox commended the group on their efforts in the DMMP process. The Executive Committee is scheduled to meet again in October or November to review the Draft Legislative Report and finalize their recommendations.

Ms. Halloran informed the group that the Citizens' Committee met on July 10th, and had advised the MPA to move forward with studies of short list options before the Legislative Report. At that meeting, Jeff Halka presented a report on the sediments behind the Susquehanna Dam. The Citizens' Committee also saw the presentation on Poplar Island Modification #6 and is supportive of it. Participants also learned of a new MPA website titled "Safe Passage", and received updates on the DMMP process and DMMP meetings.

Jeff Halka informed the group that at the July 17th Management Committee meeting an update was provided on the ranking matrix. The committee expressed concerns about the capacity shortfall for the Inner Harbor asked BEWG to reevaluate Inner Harbor options based on environmental aspects.

Ms. Derrick provided an update on the sensitivity analysis conducted by EA. In response to a question at the last BEWG meeting, a sensitivity analysis was conducted by combining multiple ranking parameters, and the results showed that the combined parameters did not change scores significantly enough to shift the rank of options. Ms. Derrick stated that the scoring process has proven to be robust, but if the group has an interest in testing other combinations of parameters, a new sensitivity analysis can be conducted.

Dr. Storms informed the group that the County Commissioners of Dorchester County met on July 16th. Mr. Frank Hamons provided an update regarding the James and Barren Island dredge material restoration projects. The presentation was received favorably by the public and the commissioners, who see the projects as a good way to provide shoreline stabilization for the islands. The Commissioners would like to tour Poplar Island to observe an example of what might occur at James or Barren, and they are also urging the MPA to select both James and Barren Islands. Mr. Hamons explained that there are several considerations, including budget constraints, which will determine which projects will move forward.

Dr. Storms stated that the MPA is working with Ms. Bistany from the Corps to provide a draft project management plan (PMP) for mid Bay islands. It has been approved by the Corps and is still under review and awaiting approval by MPA. There is significant support for a mid Bay island project that would be a State/Federal cost share project. The Management and Citizens' Committees see the selection of the options as a rational choice. There were members of the Citizens Committee who hesitated to support mid Bay island options until they hear from County officials, but they agreed not to vote down moving forward with studies of the sites.

Ms. Bistany explained the process by which the mid Bay islands will be selected for further study by the Corps. She also noted that Poplar Island is not included among the mid Bay islands because there is existing Poplar authorization. The islands that will be included in the selection process are Sharps, Holland, James, Barren, and Lower Eastern Neck Islands. Dr. Storms noted that Holland Island is not included on the short list.

Ms. Halloran stated that the June 16th matrix deadline has been amended, and that any changes made to the matrix will be incorporated as they are made and considered for the 2002 Legislative Report.

3.0 Review of Response to John Williams **Rebecca Halloran**

Ms. Halloran reviewed the three responses that were drafted for BEWG in response to John Williams' comments on the environmental scoring and asked if there were any comments. There were no changes suggested and BEWG recommended the responses be forwarded to Mr. Williams.

Ms. Halloran informed the group that the score for waterfowl use at Site 170 would be changed from 0 to 0 on the ranking matrix. The change is made in response to Mr. Murphy's findings that there is waterfowl use in the area surrounding Site 170, and therefore there may or may not be waterfowl use at Site 170 itself.

4.0 Discussion on Parsons Island **Tammy Banta**

Ms. Banta presented an update and history on Parsons Island studies.

Mr. Kotulak gave a presentation on hydrodynamic and sedimentation modeling of the Parsons Island alignments. Mr. Nichols asked if erosion of the original island were reduced, would accretion of the shelf to the east side of the island that supports SAV also be reduced. Mr. Kotulak responded that accretion would not be reduced significantly because the winds that affect erosion come mainly from the SW.

Ms. Boraczek gave a presentation showing composite SAV in the vicinity of Parsons Island overlayed with hydrodynamic and sedimentation models and alignments, which were designed to avoid historic SAV. Mr. Nichols noted concern that the project would change the substrate and affect the ability of SAV to grow, noting that SAV cannot grow well in clay. Mr. Spagnolo asked if the island would accrete over time to eventually build up to land. He also questioned whether the model computes the amount of clay over time, or if it is static. Mr. Kotulak responded that the amount of clay is unknown. Mr. Spagnolo asked if over time enough clay would accrete to bury SAV. Mr. Halka responded that only a fraction of a millimeter of clay would accrete, and that it would be unlikely

that SAV would be buried. Mike Herrman stated that there would be a significant reduction of erosion of clays, if clays are even present (the model does not indicate what type of substrate is present). Erosion rates of the island are calculated from erosion rates of the whole Bay.

Mr. Nichols asked where the island is in relation to the productive parts of the nearby oyster bar. Ms. Boraczek stated that the productive parts of the oyster bar are outside the project area.

Mr. Murphy asked whether or not reach channels would be dredged to the project, or if the water is deep enough to facilitate that movement of boats through the surrounding waters. Ms. Boraczek responded that 16-ft channels would most likely be placed close to the island.

Mr. Nichols stated that sediment accretion does not affect oyster bars and there is no evidence of accretion on bars around Parsons. He also noted that the charter boat industry targets oyster bars in the Eastern Bay for recreational fishing.

Mr. Murphy asked if projections are being made to show how long the various alignments will preserve the life of Parsons Island. Ms. Banta responded that the current projections show the island becoming extinct within 62 years. Additional studies would be needed to determine an answer to the long term life if one of the restoration projects were undertaken.

Ms. Donovan stated that the BEWG is using information from studies already done on Parsons, while at the same time determining if additional studies need to be conducted. Mr. Nichols stated that he does not think that re-scoring is appropriate and Mr. Spagnolo agreed. Mr. Nichols asked for clarification in the needed capacity at Parsons. Ms. Banta responded that subcontractors had drafted alignments with a minimum of 4.0 mcy of capacity, as determined by ideas generated during BEWG meetings. John Nichols stated that since an alignment could be selected that would impact the 30-year SAV, a score of –1 should apply. Dr. Storms responded that the alignments selected would be those that did not impact SAV. Ms. Kehne also noted that the VIMS SAV maps have a margin of error of 75 feet.

In response to a question about the capacity of the Parsons alignments, Ms. Banta explained that the capacity ranges from 6.2 mcy for Alignment #4 to 6.7 mcy for Alignment #5A. Mr. Murphy reminded the group that it is the position of the resource agencies to keep the capacity at a maximum of 4.0 mcy.

Dr. Storms reminded the group that although Parsons is not included on the preferred options list, there is a strong show of interest from the owners of the island and from the public to pursue Parsons. He asked the group what could be done so that the BEWG could tell the Management Committee that Parsons has

been approved for further study. Mr. Nichols expressed that it is not the responsibility of the BEWG to "groom" the ranking matrix to favor specific projects for NEPA. It is the responsibility of the BEWG to recommend which projects are the least environmentally damaging, and it is the position of the NMFS that the current scores reflect environmental issues and resources.

Dr. Storms stated that the Port is asking for additional information on Parsons, and Mr. Spagnolo responded that only certain projects are being targeted for additional research. Ms. Donovan stated that information is being gathered for those projects that the BEWG identified as needing additional information. Mr. Spagnolo stated that all options should be compared. Mr. Nichols stated that while he agrees that environmental impacts should be minimized, he does not support rejecting the original group consensus. A diverse selection of options was chosen for the preferred list to accommodate changes in information that could eliminate a project. Mr. Spagnolo suggested approving further studies of Parsons Island, but not approving adding it to the short list of preferred options, to which Mr. Nichols agreed, so long as further studies of Parsons do not detract form studies of other options already on the short list. Ms. Banta stated that the BEWG needs to define the studies that will be conducted.

Ms. Boraczek explained that if SAV and HAPC were changed for scoring, the score for Parsons would shift from 12 to 10, but its position in relation to other islands on the preferred list of options would not shift.

5.0 Poplar Option #6 Update — Steve Storms

Dr. Storms informed the group that at the July 17th Management Committee meeting, there was a discussion of Poplar Option #6. He stated that from the MPA's point of view, the goal of Option #6 is to provide extra "bridge" capacity until other projects are under operation. Option #6 could potentially benefit SAV, turtles, and create non-recreational beach habitat. There was a discussion of the historic footprint, and one alignment falls outside of the 1848 footprint. Mr. Halka pointed out that it is necessary to look beyond the historic footprint issue to the other benefits that will be offered by the project.

Mr. Murphy asked whether or not Option #6 would include dike raising. Mr. Storms responded that the Corps has always intended to go forward with dike raising, and it was included in the original Environmental Assessment. Ms. Bistany added that the Corps is investigating the possibility of raising the dikes to 35 ft, but that it is a plan that will require a full NEPA process as part of the existing project authorization.

Mr. Murphy asked what the gap would be when there is a capacity deficit. Mr. Dinicola responded that it would be 3-5 years. Ms. Slatnick noted that both dike raising and lateral expansion would be necessary due to annual placement requirements. Mr. Dinicola stated that the largest lateral expansion alignment of

1000 acres could meet the capacity need. Mr. Kotulak gave a presentation on hydrodynamic modeling with Option #6.

In response to Dr. Storms' inquiry as to whether the BEWG should recommend Option #6 for further study, Mr. Nichols stated that he supports the recommendation, but that the resources in the vicinity of Poplar need to be carefully considered. Ms. Boraczek stated that she had studied the resources in the area 5-6 years ago for NEPA. MES will provide the resulting resource maps to the BEWG.

Mr. Spagnolo asked the group to note that the discussion about the Poplar Island engineering article that was handed out and the costs are wrong. There was a discussion on whether ocean dumping as an option was eliminated, due to political and economic reasons. Mr. Don Bosch had stated at the Management Committee meeting that the state cabinet does not support ocean placement. Mr. Nichols asked where ocean placement was ranked by BEWG. Dr. Storms responded that MPA would still continue to investigate ocean placement as an option, and that studies are underway. Poplar Option #6 will not be placed on the preferred list, but is approved for continued studies. Ms. Donovan stated that the specific studies requested by BEWG need to be identified.

Mr. Spagnolo stated that if studies on Poplar Option #6 would result in a supplemental EIS, the purpose and the need should reflect the desire to gain dredged material placement capacity. He asked if ongoing studies include dredging needs. Dr. Storms answered that they will include dredging needs, but that the focus would be on only Alignment #6.

Mr. Spagnolo noted that an ultimate question is how much Bay bottom will be filled by all of the projects combined. Ms. Bistany stated that the Corps is also conducting a DMMP, and cumulative effects of placement throughout the Bay will be determined in the NEPA process.

Mr. Kotulak pointed out that the rocks used to construct projects should be considered as substrate for oysters, etc. Mr. Nichols responded that while the rocks provide habitat for many species, they do not provide benefits to all resources (e.g., clams).

6.0 Focus on Harbor Options — Steve Storms

Mr. Dinicola showed a spreadsheet that had been presented at the Management Committee meeting, which highlights capacity needs for both Bay sediments and for Inner Harbor sediments. Dr. Storms noted that the preferred list of options includes only two potential Inner Harbor options, Sparrows Point and Sollers Point. The MPA would like to propose two additional Inner Harbor options because Sparrows and Sollers will not meet the Inner Harbor capacity need, and there will be a deficit for Inner Harbor material beginning in 2009. The MPA is

considering proposing an additional entirely new option for Sparrows Point, and possibly a new option altogether, which could include creation of fastland inside the Harbor, and which MPA understands could require significant mitigation.

Dr. Storms stated that he did not have any definite proposals to present, but that he wanted the BEWG to be aware of the efforts being made to find additional options to meet the capacity need. The MPA is not counting on the process options (e.g., Cox Creek) to meet those needs.

Dr. Storms stated that the Management Committee asked the BEWG what could be done to improve the scores of Sparrows and Sollers to raise their ranking on the preferred list. Mr. Nichols disagreed and expressed his concern that the matrix could appear to have been manipulated to show preference to certain options. He also expressed concerns about the need to cap Inner Harbor material and stated that all wetlands should be constructed out of clean material or should be capped and that he would recommend that an upland component be added to Sparrows.

Dr. Storms suggested that one approach would be to place clean material on top of contaminated material, and that another approach would be to place contaminated material adjacent to clean material that would be used for wetland development, with no hydraulic connection between the two. Mr. Nichols stated that his agency was hoping to have the entire Sparrows Point project consist of wetland development. Dr. Storms suggested that maybe another category could be added for wetlands at Sparrows, and stated that he was open to suggestions.

Ms. Cushman provided an update on the Inner Harbor sites, stating that new information from studies that are currently underway will be available soon.

Ms. Halloran asked if there were any suggestions on how to address the Management Committee's request to investigate additional options for the Inner Harbor. Mr. Spagnolo suggested that other options be looked at for Sparrows, rather than Deadship Anchorage and Thoms Cove due to their low rankings. Mr. Nichols stated that Deadship Anchorage and Thoms Cove have relatively healthy bottom habitat for a harbor environment, so he agreed to focus on other solutions at Sparrows Point. Ms. Banta asked if Sparrows will meet the capacity need, and Dr. Storms responded that it will not currently, but that the current plans for Sparrows combined with additional plans for Sparrows may meet the need. Ms. Donovan asked Mr. Nichols if he would prefer utilization of fastland, and he responded that he would, and added that upland areas do not necessarily have to be adjacent to the shoreline. Ms. Boraczek noted that Sparrows is ranked high because of the benefit it will provide to resources; Sollers is contentious due to issues of environmental justice.

Ms. Halloran asked if the BEWG would like to form a working group to discuss additional options at Sparrows Point. Mr. Murphy suggested that the BEWG

work on the issue as a whole group. Mr. Spagnolo stated that he would agree to discuss additional options at Sparrows if the BEWG would agree to keep in mind the idea of reducing the placement need. Ms. Slatnick reminded the group that it is not the responsibility of the BEWG to find ways of reducing need, but that the MPA can keep the BEWG informed of efforts to reduce need.

Mr. Pine suggested inviting representatives from the Patapsco Backriver Tributary Team to the next BEWG meeting to offer suggestions for potential Inner Harbor options. There was a consensus that their presence would be useful and an invitation will be extended.

Mr. Halka asked if the MPA could distribute information to the BEWG prior to the next meeting regarding any discussions that have occurred about Inner Harbor sites, and Dr. Storms agreed that he would distribute information prior to the meeting. Ms. Donovan suggested that the BEWG read and comment on the information prior to the next meeting.

7.0 Next Meeting **Rebecca Halloran**

The next meeting will take place on August 21, 2002 at 10AM at the Maryland Port Administration.

SUMMARY OF THE DREDGED MATERIAL MANAGEMENT PROGRAM
BAY ENHANCEMENT WORKING GROUP MEETING
June 17, 2002 10:00 AM

The Bay Enhancement Working Group (BEWG) met on June 17, 2002 at the Maryland Port Administration's Conference Room 235, Point Breeze, Baltimore, MD. The results of the meeting are documented in this meeting summary.

Attendees:

Chesapeake Bay Foundation (CBF): Jenn Aiosa
EA Engineering, Science and Technology, Inc. (EA): Jane Boraczek, Frank Pine
Gahagan & Bryant Assoc. (GBA): Walter Dinicola, Carlton Bryant
Maryland Department of the Environment (MDE): Robin Grove, George Harman
Maryland Department of Natural Resources (MDNR): Roland Limpert, Ray Dintaman, Dave Brinker
Maryland Environmental Service (MES): Melissa Slatnick (facilitator), Rebecca Hallora[illegible], Erika Kehne, Kelly Colgun
Maryland Port Administration (MPA): Stephen Storms, Nathaniel Brown
National Marine Fisheries Service, Habitat Conservation (NMFS): John Nichols
U.S. Fish and Wildlife Service (USFWS): Dan Murphy
U.S. Army Corps of Engineers, Baltimore District (CENAB): Michele Gomez, Mimi Bistany
U. MD Center for Environmental Studies/CBL (UMCES): Dennis King
Maryland Geological Survey (MGS): Jeff Halka

The following participating organizations were invited to attend, but were not represented: U.S. Army Corps of Engineers, Philadelphia District; Aberdeen Proving Ground; Maryland Port Administration/DMMP Citizens' Advisory Committee; U.S. Environmental Protection Agency; U. S. Fish and Wildlife Service Blackwater National Wildlife Refuge; Maryland Charter Boat Association; Maryland Saltwater Sportsfisherman's Association; Maryland Watermen's Association; National Oceanic and Atmospheric Administration; Upper Bay Charter Boat Association.

Action Items:

1. George Harmon recommended changing the title of Cox Creek Innovative Use option to 'Innovative Uses at Cox Creek.
2. George Harmon recommended that the Legislative Committee Report (LCR) include a paragraph describing how the BEWG selected the options to consider.
3. Change the score for shoreline protection at Site 170 to 0 from 0.
4. MES will ask Larry Simns of the Maryland Watermen's Association about clamming in the vicinity of Site 170.
5. MES will provide George Harman of MDE with resource maps of shellfish and waterfowl use.
6. Change the score for benthic community at Sparrows Point to –1 from 0.
7. Change the score for aesthetics at Deadship Anchorage from –1 to 0.

8. Poplar Island Modification Option #6 will be compared to the original island footprint.

Statements for the Record:

1. Ms. Aiosa, CBF, stated for the record that while she understands the desire to attribute a beneficial component to every option, including island creation options, she fears that the BEWG will convey options inaccurately if it portrays island creation as a beneficial use of dredged material. According to legislation that was passed two years ago, island creation is not considered a beneficial use, and the BEWG should make this distinction. Beneficial habitat creation is not necessarily feasible for all of the options, and she thinks it is important to present options conservatively considering public awareness of and involvement in the selection process. If the BEWG is not conservative now, the Port could lose credibility in the future.

2. Dan Murphy, USFWS, stated for the record that USFWS remains opposed to any modification of Poplar Island.

3. Steve Storms, MPA, stated for the record that further investigation into the Poplar Island original footprint compared with the Poplar Island Lateral Modification options is necessary.

1.0 Welcome and Global Information **Melissa Slatnick**

Ms. Slatnick welcomed the group and hosted introductions of the meeting participants. She informed the group that in the future Ms. Halloran would facilitate BEWG meetings.

2.0 Dredged Material Management Program (DMMP) Updates **Melissa Slatnick**

The Management Committee met on May 5 and May 22, 2002. The outcome of the meetings was a short list of options that are being considered for further study. Both the Management Committee and the Citizens Committee have reviewed the short list and have generally accepted it. Next, the list will be presented to the Executive Committee on June 19, 2002 for review.

The cut-off date to consider new information that would affect the scores for the 2002 LCR is June 19, 2002. New information may be submitted and further studies will be conducted beyond June 19th, but for logistical purposes, no scoring changes will be made to the Legislative Report after that date.

Mr. Harman suggested that the title of the Cox Creek option be changed to 'Innovative Uses at Cox Creek' from 'Cox Creek Innovative Use' to more accurately reflect the option. Cox Creek is being used as a staging ground for innovative use, but innovative uses may in fact be applied elsewhere. A question was asked about whether innovative use applies to existing

dredged material in placement cells at Cox Creek, or to new material. Mr. Storms replied that innovative use could apply to both, but stated that the existing material could be too clean. Mr. Harman stated that the RFP for innovative use emphasized contaminated material.

Ms. Slatnick stated that only one Inner Harbor option is on the short list, and pointed out that there is still a deficit for inner harbor material. Due to this deficit, the MPA is considering using Sparrows Point for Inner Harbor material. However, scores for Sparrows Point were based on the assumption that only clean material would be placed at the site. Mr. Storms clarified that Sparrows Point would be used for both clean and Inner Harbor material.

Mr. Harmon asked whether Sparrows Point lies with 5 miles of Hart Miller Island, and Mr. Storms responded that there may be some institutional restrictions at Sparrows Point posed by the 5 mile Hart Miller Island statute that need to be worked out. He also noted that the Citizens Committee is opposed to the use of Sparrows Point. Mr. Harman asked why, if Sparrows Point is precluded by statute but is on the short list, other options that are precluded by statute are not also included on the list, specifically Site 104. He suggested that the BEWG should indicate that options were selectively chosen for further consideration, and asked how the BEWG plans to reconcile this with the Corps' plans. Mr. Storms responded that Site 104 was not selected because it was precluded by the Dredged Material Management Act of 2001. Mr. Pine also stated that an assumption was made that the 5-mile statute could change. Ms. Boraczek noted that it is also unclear as to whether the 5-mile statute refers to nautical miles or statute miles, and that there are environmental issues with configurations of the Sparrows Point site.

Ms. Slatnick reminded the group that the short list is still in draft form, but that it will convey the selection of the BEWG, Citizens Committee and the Management Committee to the Executive Committee. Mr. Storms stated that it is unrealistic to expect the Executive Committee to accept the list immediately, and Ms. Slatnick said that once the Executive Committee comments on the list, the comments will be distributed.

3.0 Discussion of Environmental Score Adjustments **Melissa Slatnick**

Mr. Pine presented the findings of a sensitivity analysis that EA conducted to compare the current option scores with scores adjusted by changes in weighting factors. In response to a concern from USFWS about turtles, the individual scores were temporarily adjusted for protected species and the resultant island rankings did not change. In response to Rebecca Kolberg's letter expressing a concern about aesthetics and noise, the weighting factor for that parameter was adjusted, and the result was a small change among the scores for the Upper Bay Island sites, which have not been selected for the short list. Otherwise there were no significant changes, and the ranking order of the sites did not change substantially. Ultimately, the conclusion drawn from the sensitivity analysis was that the ranking process works well, and selectively changing the score of one parameter does not influence the overall rank.

Ms. Bistany asked if EA did a cumulative sensitivity analysis, and Mr. Pine responded that a cumulative analysis would be too large in scope.

Ms. Slatnick opened the discussion of letters from citizens and asked for comments from the group on the responses that MES had drafted. Mr. Storms stated that although the responses had not yet been sent to Ms. Rebecca Kolberg, they had been distributed to the Management Committee.

Ms. Aiosa, CBF, stated for the record that while she understands the desire to attribute a beneficial component to every option, including island creation options, she fears that the BEWG will convey options inaccurately if it portrays island creation as a beneficial use of dredged material. According to legislation that was passed two years ago, island creation is not considered a beneficial use, and the BEWG should make this distinction. Beneficial habitat creation is not necessarily feasible for all of the options, and she thinks it is important to present options conservatively considering public awareness of and involvement in the selection process. If the BEWG is not conservative now, the Port could lose credibility in the future.

In response to Comment #1, "Why is Site 170 the only Upper Bay Island given a +1 ranking for Adjacent Habitat Enhancement?" Mr. Murphy stated that when the score was assigned it was based on information that the bottom habitat at Site 170 is contaminated. Mr. Nichols responded that the bottom conditions are actually unknown because the site is in a different area than it was originally thought to be in. Ms. Boraczek also stated that due to the shallow water in the vicinity of Site 170, placement could potentially provide benefit to adjacent habitat. Mr. Murphy stated that citizens have reported that crabs are in the area, and so maybe the score should remain a +1. However, due to a consensus that further study is needed at Site 170, the score was changed to a 0.

In response to Comment #2, "Why is Site 170 given a 0, no potential impacts expected, ranking for Shoreline Protection?" the group decided by consensus to keep the score of 0 due to the definition of shoreline protection. There were no concerns about the response to the question of why Surface Water was removed as a ranking factor.

In response to Comment #3 "Why was Site 170 the only Upper Bay Island site not to receive a –1 ranking for Benthic Community?" Ms. Slatnick stated that there was not enough information to assign a score of –1 and therefore it received a score of 0.

In response to Comment #4 "Why was Site 170 the only Upper Bay Island not to receive a –1 scoring for Finfish Rearing Habitat?" Mr. Nichols explained that the depths at the mouth of the Patapsco, where Site 170 is located, are atypical and provide low quality habitat for commercial resources. The group reached a consensus that the score for finfish rearing habitat at Site 170 would remain 0.

In response to Comment #5 "Why was Site 170 the only Upper Bay Island site not to receive a –1 ranking for commercially harvested species and habitat?" Ms. Slatnick explained that resource mapping does not show clamming in the same areas that citizens suggest it exists. Ms. Boraczek also noted that the score was based on water depths found in the vicinity of Site 170 and the assumption that net fishing would be limited. The score remained unchanged. However, Mr. Murphy suggested that a representative of the Maryland Watermen's Association

be contacted to inquire about clamming in the area. Ms. Slatnick said that MES would attempt to contact Larry Simns. Ms. Aiosa asked what DNR data Rebecca Kolberg's letter was referring to. Ms. Slatnick said that she did not know, but that the map that was provided showed Site 170 to be outside of mapped clamming areas. Ms. Bistany suggested providing additional information to clarify exactly where resources are located. Ms. Slatnick said that more research would be conducted.

In response to Comment #6 "Why did Site 170 receive a 0, no potential impacts expected, ranking for Waterfowl Use?" Ms. Slatnick stated that waterfowl resources are mapped; these were shared with the group. Mr. Harman asked MES to provide MDE with resource maps of shellfish and waterfowl around Site 170. Ms. Slatnick said that the score would remain the same, but that more research would be conducted. Mr. Murphy was asked to revisit waterfowl occurrence at site 170, which is currently given a "0", reflecting a not applicable rating.

[Facilitator's note: Following the meeting, Mr. Murphy consulted with Doug Forsell, a waterbird biologist in the USFWS office, who showed Mr. Murphy GIS coverages for aerial surveys that he performs in the Bay. There were no transects directly over Site 170, but there were some nearby transects whose results suggest that waterfowl and other waterbirds could potentially be concentrating at the site from time to time. Mr. Forsell also has some benthic organism data for the area (not directly at 170 but nearby) that show evidence of the presence of waterfowl/waterbird food sources in the vicinity. Therefore, there is the potential for impacts to waterfowl at this site, and Mr. Murphy recommends changing the ranking from "0" to "$\underline{0}$", which reflects not enough/inconclusive data. This recommendation is being communicated to the BEWG via distribution of this meeting summary, for formal consideration at the next BEWG meeting.]

In response to Comment #7 "Why was the weighting factor on aesthetics and noise reduced to 1?" Ms. Slatnick stated that the score would remain the same but that the sensitivity analysis done by EA would be referenced in the response to Ms. Kolberg.

Ms. Slatnick introduced the idea of changing the Benthic Community score for Sparrows Point. Mr. Nichols stated that he had reviewed the report that compared benthic samples from Sparrows Point with samples from other sites in Baltimore Harbor and that Sparrows Point had compared more favorably. Ms. Slatnick reiterated that the environment at Sparrows Point is not degraded for benthics, as previously thought. Therefore, while the quality of the benthic community is not high, it is less degraded. Ms. Slatnick suggested changing the score from $\underline{0}$ to –1 and there was a consensus to do so.

Ms. Bistany asked whether a question from citizen Robert Dill concerning a score change for groundwater at Site 170 from –1 to $\underline{0}$ had been addressed. Mr. Halka explained that most wells in the area need more research and that is why the score was changed.

Ms. Boraczek suggested that based on her site assessment of the Inner harbor sites, the score for aesthetics and noise at Deadship Anchorage be changed from –1 to 0, the group agreed. The score for this parameter at Thoms Cove remained unchanged due to the natural state of the

environment in the area.

4.0 Poplar Modification (Option #6) Discussion **Rebecca Halloran/Walter Dinicola**

At a recent Management Committee meeting, concerns were expressed about the loss of SAV habitat in Poplar Harbor, and as a result a new configuration was proposed, Option #6. Ms. Halloran explained the recovery of SAV, and described how Option #6 expansion could protect and further promote SAV growth in Poplar Harbor. A possible conceptual footprint for Option #6 was also illustrated by Mr. Dinicola.

Mr. Murphy stated that USFWS is still against any expansion of Poplar Island. He also expressed a concern that incorporating a beach into the design of the configuration for option #6 could be counterproductive to the goals of habitat restoration at the site. Mr. Dinicola stated that the beach has not been designated as a public beach. Mr. Murphy said that this should be clearly stated, and asked if the proposed configuration would provide capacity through 2013. Ms. Slatnick said no, but that it will help to meet the dredged material placement need. Mr. Limpert noted that Talbot County has expressed interest in a recreational beach at Poplar.

Mr. Nichols stated that he would like to investigate the Poplar area more thoroughly before commenting on the new proposal. He said that he is skeptical regarding the benefits at Poplar Harbor and of stabilizing Jefferson Island and needs more information. He also stated that he would most likely prefer raising the dikes to lateral expansion.

Mr. Harman stated that MDE is in a difficult position, because although there do seem to be benefits to the new proposal, more information is needed. Mr. Limpert stated that DNR would consider further exploration of options worthwhile if the proposed configurations lie within the historic footprint of Poplar Island.

Ms. Slatnick stated that further research would be conducted. Mr. Storms agreed that further investigation into the relationship of the proposed option #6 footprint to the original footprint of Poplar Island would be needed.

5.0 Option Presentations **Rebecca Halloran**

Ms. Halloran presented PowerPoint presentations of the following options: the Inner Harbor sites; the Upper Bay island sites; Mines and Quarries; and Sparrows Point. Ms. Aiosa asked for clarification on the floating dike concept mentioned in the Sparrows Point presentation. A floating dike includes a wider base and the use of geotextile in the foundation due to the soft foundation found at Sparrows Point.

6.0 Next Meeting **Melissa Slatnick**

The next meeting is scheduled for July 24, 2002. However, the meeting may not be necessary. A summary of the Executive Committee meeting scheduled for June 19th will be distributed to the BEWG, and based upon the outcome of that meeting a decision will be made as

to whether or not the July BEWG meeting will be held. Ms. Slatnick thanked the participants for their attendance.

DRAFT

SUMMARY OF THE DREDGED MATERIAL MANAGEMENT PROGRAM BAY ENHANCEMENT WORKING GROUP MEETING

December 3, 10:00 AM

The Bay Enhancement Working Group (BEWG) held a meeting on December 3, 2001 at the Maryland Environmental Service's Main Conference Room, Annapolis, MD. The results of the meeting are documented in this meeting summary.

Attendees:

Chesapeake Bay Foundation (CBF): Jenn Aiosa
DMMP Citizen's Advisory Committee: Greg Kappler
EA Engineering, Science and Technology, Inc.: (EA): Frank Pine
EPA Philadelphia Office (EPA): Ralph Spagnolo
Gahagan & Bryant Assoc. (GBA): Dennis Urso, RF Thomas
Maryland Charter Boat Association (MCBA): Russ Green
Maryland Department of the Environment (MDE): Charles Poukish, Matthew Rowe, Chris Luckett
Maryland Department of Natural (MDNR): Ray Dintaman, Roland Limpert, Tom O'Connell
Maryland Environmental Service (MES): Cecelia Donovan, Tammy Banta, Christine Chulick, Melissa Slatnick (facilitator), Rebecca Halloran, Erika Kehne, Kelly Cohun
Maryland Geological Survey (MGS): Jeff Halka
Maryland Port Administration (MPA): David Bibo, Nathaniel Brown, Bill Lear, Stephen Storms, John Vasina
National Marine Fisheries Service, Habitat Conservation (NMFS): John Nichols
NOAA, Chesapeake Bay Field Office: Lowell Bahner, Peter Hill
UBCC: Don Marani
U.S. Fish and Wildlife Service (USFWS): Dan Murphy
U.S. Fish and Wildlife Service, Eastern Neck Island: Martin Kaehny
U.S. Army Corps of Engineers, Baltimore District (CENAB): Mark Mendelsohn, Mimi Bistany
U.S. Army Corps of Engineers, Philadelphia District (CENAP): Chip DePrefontaine

The following participating organizations were invited to attend, but were not represented: Aberdeen Proving Ground, Maryland Waterman's Association, Maryland Saltwater Sportsfisherman's Association.

Action Items:

1. Frank Pine (EA) will provide a revised draft copy of Table 1 (Environmental Parameters to be considered for the Site Ranking) to the Working Group for review in advance of the next meeting.
2. A meeting summary will be provided to the Working Group members for review prior to distribution at the Citizens and Management Committee meetings.
3. A revised meeting schedule will be provided to the Working Group members.

4. A meeting announcement for the January 22, 2002 meeting would be issued in early January 2002.

Statements for the Record:

There were no Statements for the Record presented at this meeting.

1.0 Introductions **Melissa Slatnick**

Ms. Slatnick welcomed the group and hosted introductions of the meeting participants. The group collectively decided to bring the Discussion on Revised Environmental Screening Criteria for Option Evaluation to the beginning of the agenda.

2.0 Meeting Summary **Melissa Slatnick**

Ms. Slatnick informed the group that the October 16, 2001 meeting summary had been finalized and distributed to the Citizens Advisory Committee for information. Ms. Slatnick further explained that future meeting summaries would be more concise and include only action items, statements for the record and main issues of the meeting. Ms. Slatnick requested that participants identify whether they would like any discussions recorded as a statement for the record.

3.0 Discussion on Revised Environmental Screening Criteria **Frank Pine / Dick Thomas**

Mr. Thomas began with an overview of the option ranking process, referring to the handout entitled "Draft Overview of the Ranking Process". Mr. Thomas explained that the options would first be ranked based on the environmental parameters, and then the economic and capacity components of each option would be added. In response to Jeff Halka's question concerning the range of capacity for some options, Mr. Thomas explained that the environmental ranking considerations would not change based on the option's capacity. Mr. Thomas further explained that each option would be ranked based on a single alignment / capacity, with the footnote that other alignments are available. Mr. Thomas reminded the group that the purpose of the ranking matrix is to help organize the options.

Dr. Pine distributed the handout entitled "Description of the Parameters" and noted that the purpose of today's discussion was to further develop the environmental screening parameters; the weighting factors for the environmental screening parameters will be addressed at the next meeting. Dan Murphy stated that the positive effects of a placement project should also be taken into account. Dr. Pine concurred and replied that the BEWG will have to see how the rankings begin to fall out, and then start to look closer at the positive benefits. Dr. Pine emphasized that the ranking is an ordering process, not an elimination process. Mr. Halka further stated that the same system worked well to move the process of the Upper Bay Islands forward.

The group agreed to add turbidity to the water quality parameters, and evaluate each water quality parameter separately: dissolved oxygen, nutrient enrichment, contaminants, and

turbidity. Ralph Spagnolo recommended that the word "toxics" be replaced by "contaminants".

Mr. Spagnolo asked whether the groundwater parameter referred to existing conditions or the conditions brought about by placement. He suggested doing an existing condition evaluation then an impact evaluation. After some discussion, the group decided to look at the existing water quality at a site, and remove the word "potential" from the parameter description. John Nichols asked if the parameters would include effects to the salt wedge. Dr. Pine stated yes.

Additional changes to the environmental parameters discussed by the group included removing "effects on circulation" from the hydrodynamic effects parameter, and removing "potential" from the sediment quality parameter. Instead, sediment quality will be evaluated to determine whether it is already contaminated. Ms. Aiosa requested clarification on the definition of contaminated sediment; Mr. Halka answered that the Inner Harbor sites are the only options with potentially contaminated sediments.

Likewise, Mr. Spagnolo recommended that benthic community and habitat be separated into two parameters; the benthic IBI could be assumed if information was not available and evaluations could be made whether benthic habitat was present. The group also collectively agreed that "potential" should be removed from the plankton community parameter.

A discussion of the use of the evaluation parameters included globally removing the word 'potential' from the description of resources. A review of the parameters and their meaning was conducted. The +1, -1, 0 designations were reviewed. A +1 meant that the environmental resource would not be negatively impacted by the project, usually due to existing impairment or because that resource doesn't exist – (in discussion it was suggested that this could also designate the expected improvement of a resource through beneficial use). A designation of 0 means that an evaluation cannot be completed given the information available, or that little impact is expected. A –1 means that the resource is present, valuable, and would be negatively impacted by the project. Mr. Spagnolo noted that there was mixing of the existing conditions and impacts evaluation in the table text. This was acknowledged, but is being done as a way of getting the options ranked based on available information. Ms. Donovan pointed out that performing a few evaluations might help the group understand how the system works, and that issues could be resolved after utilizing the ranking a few times.

The group requested that the commercial harvested species and habitat parameters include both fish and shellfish, and include utilization and potential utilization for recreational fishing as a factor for consideration. John Nichols recommended separating the fish spawning and rearing parameter into two separate parameters. Dr. Pine further suggested that specific species and/or type (i.e. anadromous, catadramous, EFH, RTE) also be sub-listed. Jeff Halka recommended that NMFS be consulted to develop this sub list. Mr. Nichols offered the consideration that finfish and crab over wintering may need to also be evaluated. Mr. Spagnolo recommended that SAV and shallow water habitat be divided into separate parameters. Dan Murphy suggested that the waterfowl use parameter be separated into wading bird use and shorebird use. Furthermore, Mr. Murphy recommended that nesting also be a factor considered for the avian parameters.

In response to Mr. Spagnolo's question regarding whether air emissions should be included in the screening criteria, Dr. Pine replied that air emissions would be evaluated at the NEPA level.

4.0 Recommendations for Additional Near Term Options — Dave Bibo

Mr. Murphy stated that USFWS suggested looking at Barren Island, Lower Eastern Neck Island, James Island, and Holland Island, in that order. Mr. Bibo reminded the group that the MPA has requested any additional recommendations for consideration of additional Near Term Options.

5.0 Option Updates

Barren Island — Melissa Slatnick

Ms. Slatnick stated that the alignments have been re-developed because they intruded on a charted natural oyster (NOB 23-2). The alignments are now shifted south and breakwaters have been added to protect the northern portion of the island. Ms. Slatnick reminded the group members that the current layout of the alignments is guided by bathymetry, and should only be viewed as a "place holder". It is likely that the shape of the alignments will change based on study findings.

Mr. Murphy questioned the size of the alignment because it goes beyond the historic footprint. Mr. Nichols stated that NMFS would support going outside the historic footprint.

Sharps Island — Melissa Slatnick

Ms. Slatnick stated that Sharps Island has become an option for evaluation, and MES is currently performing a literature search and review to evaluate any existing information. Ms. Slatnick requested that anyone with information on Sharps Island send it to her attention.

Parsons Island / Lower Eastern Neck Island — Tammy Banta

Ms. Banta stated that the Task Force met in October 2001. The Task Force members requested that a "with and without project" scenario and additional alignments for Parsons Island be completed. The Task Force met again in November 2001 and MES presented the findings of the "with and without project" scenario. New alignments for Parsons Island were also presented. The Task Force agreed that habitat restoration projects at both Parsons Island and LENI are still possible using modified alignments that provided minimal impact to the resources. Plans are underway for the resource agencies to meet with MPA and Task Force members to develop additional alignments.

Thin Layering **Dick Thomas**

Mr. Thomas stated that the University of Maryland is using satellite images to map wetlands. Studies will be undertaken of a few hundred wetlands. A meeting will be held with University officials to determine how many cubic yards of dredged material the wetlands can accept on a yearly basis. The equipment needed and the application will have to be looked at. The feasibility of the equipment and cost will be looked at, as well.

Mr. Thomas stated that the Aztec Development Corporation has done this procedure at golf courses in Louisiana by spraying the dredged material over wetlands. Mr. Nichols mentioned that the technology is being considered for use in the Blackwater Refuge by CENAB (contact Steve Kopecky). Mr. Mendelsohn further noted that Doug Scott is the WES contact for thin layer placement (TLP).

6.0 Future Work Group Activities — Melissa Slatnick

Ms. Slatnick reviewed the BEWG Meeting Schedule handout and noted that it was important to understand the relevance of having the ranking completed by the summer of 2002 in order to prepare the Legislative Report. Ms. Slatnick thanked the participants for their attendance, and indicated a meeting announcement for the January 22, 2002 meeting would be issued in early January.

State of Maryland DMMP Information

Appendix B-3

Sample of Technical Data and Worksheets

Table 1 Environmental Parameters To Be Considered For The Site Ranking

Column #	Parameter	Factors resulting in +1	Factors resulting in 0	Factors Resulting in -1
3	Dissolved oxygen (DO)	• Has potential to improve DO (e.g. raising the bottom above the pycnocline)	• Not enough/inconclusive data OR • No potential for long-term negative impact to DO from project • **Not Applicable**	• Potential for long term nega impact to DO from project
4	Nutrient enrichment	• No +1 condition identified	• Not enough/inconclusive data OR • No potential for long-term nutrient enrichment from project • **Not Applicable**	• Potential for increased long nutrient enrichment from p
5	Turbidity	• Potential for improvements to existing water clarity from project development (ex. by stopping erosion)	• Not enough/inconclusive data OR • No potential for long-term increase in turbidity from project • **Not Applicable**	• Potential long term increase turbidity from project
6	Salinity	• No +1 condition identified	• Not enough/inconclusive modeling results • No changes to regional salinity expected • **Not Applicable**	• Changes to regional salinity expected from project
7	Groundwater	• Project provides a buffering potential (e.g. to acid mine drainage) or could otherwise improve existing groundwater quality	• Not enough/inconclusive data OR • No potential negative impact on groundwater from project • **Not Applicable**	• Potential negative impact o groundwater from project
8	Benthic Community	• Project has potential to improve existing benthic habitat (ex. elevating the bottom above the pycnocline or capping contaminated material)	• Not enough/inconclusive data OR • No potential to further degrade the benthic community within or immediately adjacent to project • **Not Applicable**	• Long-term impacts to bent within or immediately ad to project are expected

Key for Base Evaluation: +1=potential to protect or enhance existing conditions; *1=potential for significant protection/enhancement*; -1=potential to imp[illegible] the exi
-1= potential for significant negative impacts; 0=not enough or conclusive evidence to make definitive evaluation. 0=No potential negative impacts to existing re[illegible]

Table 1 Environmental Parameters To Be Considered For The Site Ranking

Column #	Parameter	Factors resulting in +1	Factors resulting in 0	Factors Resulting in -
9	Shallow Water habitat (<6.6 ft which is Tier II & Tier III SAV habitat)	• Project will protect or enhance existing Shallow Water Habitat (SWH)	• Not enough/inconclusive data OR • No potential to negatively impact existing SWH • Not Applicable	• Potential for negative impa conversion of existing SV from project
10	SAV	• Protection or enhancement of existing (Tier I) SAV areas would occur due to project development	• Not enough/inconclusive data OR • No potential for negative impacts to SAV from project • Not Applicable	• Potential for negative impa Tier I SAV or habitat fro project
11	Tidal Wetlands (Existing)	• Protection or enhancement of existing natural tidal wetlands from project development	• Not enough/inconclusive data • No potential for negative impacts to natural tidal wetlands from project • Not Applicable	• Potential for impact or alte to natural tidal wetlands f project development
12	Non-tidal Wetlands (Existing)	• Protection or enhancement of existing natural non-tidal wetlands from project development	• Not enough/inconclusive data • No potential for negative impacts to natural non-tidal wetlands from project • Not Applicable	• Potential for impact or alte to natural non-tidal wetla from project development
13	Finfish spawning habitat	• Protection or enhancement of existing anadromous fish spawning habitat predicted from project	• Not enough/inconclusive data OR • No potential for negative impacts to anadromous fish spawning habitat predicted from project • Not Applicable	• Potential for negative impa anadromous fish spawnin habitat from project

Key for Base Evaluation: +1=potential to protect or enhance existing conditions; *1=potential for significant protection/enhancement*; -1=potential to impact the exis
-1= potential for significant negative impacts; 0=not enough or conclusive evidence to make definitive evaluation. 0=No potential negative impacts to existing re
because there is no potential for the resource to occur at the site.

Table 1 Environmental Parameters To Be Considered For The Site Ranking

Column #	Parameter	Factors resulting in +1	Factors resulting in 0	Factors Resulting in -1
14	Finfish rearing habitat	• Protection or enhancement of existing anadromous fish or forage fish rearing habitat predicted from project	• Not enough/inconclusive data OR • No potential for negative impacts to young of anadromous species or forage species predicted from project • Not Applicable	• Potential for impacts to anadromous fish or forage species rearing predicted project
15	Larval Transport	• No +1 condition identified	• Not enough/inconclusive data or modeling • Site does not lie within or will not influence an area critical to Up-Bay Migration of young of marine/high mesohaline species or Down-Bay migration of early life stages of anadromous species • Not Applicable	• Potential disturbance of U migration of young of marine/high mesohaline or Down-Bay migration life stages of anadromou species from project
16	Essential Fish Habitat (EFH)	• Project has potential to protect or enhance existing EFH (as defined by the Magnuson-Stevens Act)	• Not enough/inconclusive data OR • No potential for impact to EFH for regionally important species or forage species from project • Not Applicable	• Potential for impact to EF forage species that could population level effects regionally important ma species from project
17	Commercially Harvested Species and Habitat (fish and shellfish)	• Project has potential to protect or enhance existing commercial harvesting areas or shellfish beds	• Not enough/inconclusive data OR • No negative impacts to commercial harvesting areas are predicted from project • Not Applicable	• Current/existing commer finfish or shellfish harve areas within or immedia adjacent to project and negative impacts are ex

Key for Base Evaluation: +1=potential to protect or enhance existing conditions; *1=potential for significant protection/enhancement*; -1=potential to impact the ex
-1= potential for significant negative impacts; 0=not enough or conclusive evidence to make definitive evaluation. 0=No potential negative impacts to existing r

Table 1 Environmental Parameters To Be Considered For The Site Ranking

Column #	Parameter	Factors resulting in +1	Factors resulting in 0	Factors Resulting in -1
18	Thermal Refuge	• Project would protect or enhance existing finfish or blue crab over wintering habitat	• Not enough/inconclusive data • No impacts to finfish or blue crab over wintering habitat expected from project • Not Applicable	• Potential for impacts to over wintering habitat from proj
19	Recreational Fishery	• Project has potential to protect or enhance existing recreational fishing resources	• Not enough/inconclusive data OR • No impacts to recreational fishing expected from project • Not Applicable	• Impacts to angler utilization expected from project
20	Protected species (RTE)	• Project has potential to protect or enhance existing natural RTE habitat or RTE nesting or Sensitive Species Project Review Area (SSPRA). [Excludes: Colonial water bird, waterfowl, and special non-tidal wetlands, which are scored separately].	• Not enough/inconclusive data OR • RTE are transients to site and/or no negative impacts to RTE or SSPRA expected from project • Not Applicable	• Presence of RTE or SSPRA potential negative impacts project.
21	Habitat of Particular Concern (HAPC)	• Project has potential to protect or enhance existing HAPC (as defined by the Magnuson-Stevens Act) for regionally important marine species (specifically summer flounder) within or adjacent to project footprint	• Not enough/inconclusive data OR • Project does not constitute HAPC and no potential for negative impact to HAPC is expected • Not Applicable	• Project lies within an area th provides HAPC for regiona important marine species (summer flounder) and pot for impact to HAPC
22	Waterfowl use	• Project has potential to protect or enhance existing waterfowl (duck/goose) staging or concentration areas	• Not enough/inconclusive data OR • Project will not negatively impact a waterfowl (duck/goose) staging or concentration areas • Not Applicable	• Potential for negative impac waterfowl staging and concentration areas

Key for Base Evaluation: +1=potential to protect or enhance existing conditions; *1=potential for significant protection/enhancement*; -1=potential to impact the existi
-1= potential for significant negative impacts; 0=not enough or conclusive evidence to make definitive evaluation. 0=No potential negative impacts to existing reso
because there is no potential for the resource to occur at the site.

Table 1 Environmental Parameters To Be Considered For The Site Ranking

Column #	Parameter	Factors resulting in +1	Factors resulting in 0	Factors Resulting i
23	Wading and Shorebird Use	• Project has potential to protect or enhance existing wading bird or shorebird habitat	• Not enough/inconclusive data OR • Site not known as a wading or shorebird utilization area or no potential negative impacts to wading or shorebird use expected from project • **Not Applicable**	• Potential negative impa wading or shorebird u
24	Wildlife Habitat	• Site development has potential to enhance or protect existing high value terrestrial habitat	• Not enough/inconclusive data OR • No potential for negative impacts to terrestrial habitats expected • **Not Applicable**	• Potential negative imp expected to wildlife h
25	Forests	• Site development will result in restoration or enhancement of forested areas	• Not enough/inconclusive data OR • No potential for negative impacts to natural forested areas from project • **Not Applicable**	• Potential negative imp forests expected
26	Streams	• Project has potential to protect or enhance the physical character of existing natural streams	• Not enough/inconclusive data OR • No potential for negative impacts to the physical character of adjacent streams from project • **Not Applicable**	• Potential negative imp physical character of expected.
27	Lakes & Ponds	• Project has potential to protect or enhance the physical character of existing natural lakes/ponds	• Not enough/inconclusive data OR • No potential for negative impacts to the physical character of adjacent lakes/ponds from project • **Not Applicable**	• Potential negative im physical character of lakes/ponds expected
28	Other Avian Habitat	• Project has the potential to protect or enhance migratory or other sensitive bird	• Not enough/inconclusive data OR • No potential for negative impacts to	• Potential for negative migratory or other se

Key for Base Evaluation: +1=potential to protect or enhance existing conditions; *1=potential for significant protection/enhancement*; -1=potential to impact the
-1= potential for significant negative impacts; 0=not enough or conclusive evidence to make definitive evaluation. 0=No potential negative impacts to existir

Table 1 Environmental Parameters To Be Considered For The Site Ranking

Column #	Parameter	Factors resulting in +1	Factors resulting in 0	Factors Resulting in -1
		habitat(s)	migratory or other sensitive bird habitat(s)from project • Not Applicable	habitat(s)from project
29	High Quality Agricultural Land	• Project has the potential to protect or enhance prime or unique farmland	• Not enough/inconclusive data OR • No potential for negative impacts to prime or unique farmland • Not Applicable	• Potential for negative impa prime or unique farmland project
30	Substrate / /Soil Characteristics	• Project has the potential to protect or enhance the substrate/soil characteristics of the area	• Not enough/inconclusive data OR • No potential for alterations to substrate/soil composition from project • Not Applicable	• Potential for alterations to substrate/soil composition project
31	Hydrodynamic Effects (physical)	• Project has potential to decrease erosion or sedimentation or otherwise protect/enhance resources	• Not enough/inconclusive modeling results OR • No potential for detrimental increases in erosion/sedimentation erosion or other current-related negative impacts to resources from project • Not Applicable	• Potential for detrimental increases in erosion/sedimentation eros other current related negat impacts to resources from project
32	Contaminants	• Project has the potential to decrease the potential for existing contaminant release (e.g. capping poorer quality sediments)	• Not enough/inconclusive data OR • No potential for negative impacts from toxic contaminant as a result of project • Not Applicable	• Potential for negative impac from toxic contaminant as result of project
33	CERCLA / UXO Potential	• No +1 Condition	• Not enough/inconclusive data OR • No potential for presence of UXO OR	• Potential for presence of UX OR

Key for Base Evaluation: +1=potential to protect or enhance existing conditions; *1=potential for significant protection/enhancement*; -1=potential to impact the exist
-1= potential for significant negative impacts; 0=not enough or conclusive evidence to make definitive evaluation. 0=No potential negative impacts to existing reso
because there is no potential for the resource to occur at the site.

Table 1 Environmental Parameters To Be Considered For The Site Ranking

Column #	Parameter	Factors resulting in +1	Factors resulting in 0	Factors Resulting in -1
			• Not within APG controlled area (an NPL site) or other military controlled areas • **Not Applicable**	• Within or immediately adja to APG controlled area (a site) or other military cont area
34	Fossil Shell Mining	• No +1 Condition	• Not enough/inconclusive data OR • No infringement on fossil shell or buried shell resources • **Not Applicable**	• Infringement on fossil shel buried shell resources
35	Floodplains	• Project will result in flood protection or other floodplain improvements	• Insufficient information OR • No potential for negative disturbance to floodplains from project • **Not Applicable**	• Potential for negative disturbance to floodplain project
37	Aesthetic and Noise	• Project has the potential to reduce existing noise levels or improve aesthetics	• Not enough/inconclusive data OR • No potential for noise or visual impacts from project • **Not Applicable**	• Potential for noise or visu impacts from proje adjacent to population ce dwellings) OR • No beneficial use associat project and within or adj managed natural area(s)
38	Cultural Resources	• Project development will result in the protection or enhancement of existing historical or cultural resources	• Not enough/inconclusive data OR • No impacts to historical/cultural resources expected from project • **Not Applicable**	• Potential for impacts to historical/cultural resour from project
39	Navigation	• Project development will result in improvements to navigation	• Not enough/inconclusive modeling results • No potential for negative increases in currents in navigation channels from	• Potential for increased en navigation channels OR • Potential for increased po for environmental disast

Key for Base Evaluation: +1=potential to protect or enhance existing conditions; *1=potential for significant protection/enhancement*; -1=potential to impact the ex

Table 1 Environmental Parameters To Be Considered For The Site Ranking

Column #	Parameter	Factors resulting in +1	Factors resulting in 0	Factors Resulting in -1
			project OR • No increased potential for environmental disaster, ship collisions or groundings from project development • Not Applicable	collisions or groundings fr project development
40	Beneficial Use – Wetland	• Project will result in restoration or enhancement of tidal or non-tidal wetlands	• Beneficial Use is not part of the design	• No -1 condition identified
41	Beneficial Use - Upland	• Project will result in restoration or enhancement of upland habitats	• Beneficial Use is not part of the design	• No -1 condition identified
42	Beneficial Use – Adjacent Habitat Enhancement	• Post placement adjacent habitat enhancement (e.g. SAV, shallow water habitat, fish nursery) has high potential as a result of the project	• Beneficial Use is not part of the design	• No -1 condition identified
43	Beneficial Use – Faunal	• Project has high potential to restore/enhance populations of species of concern	• Beneficial Use is not part of the design	• No -1 condition identified
44	Shoreline Protection	• Project designed to protect existing shorelines and properties	• Project has no (designed) shoreline protection component	• No -1 condition identified

Key for Base Evaluation: +1=potential to protect or enhance existing conditions; *1=potential for significant protection/enhancement*; -1=potential to impact the existi
-1= potential for significant negative impacts; 0=not enough or conclusive evidence to make definitive evaluation. 0=No potential negative impacts to existing reso
because there is no potential for the resource to occur at the site.

Version: August 21, 2002

Summary of Environmental Factors, Weights and Scores

(See "DMMP Progress Report on the Environmental Screening Process" for a complete explanation of table)

Working Draft
(Subject to Change)

COL.	1	2	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
ROW 1			SPECIAL		WATERBIRDS		TERRESTRIAL						PHYSICAL PARAMETERS				
2		Weighting Factor	5	5	4	4	2	3	4	2	2	3	3	4	4	5	5
3	Option No.	OPTION NAME	Protected Species (RTE) (SSPRA)	Habitat of Particular Concern (HAPC)	Waterfowl Use	Wading and Shorebird Use	Wildlife Habitat	Forests	Streams	Lakes & Ponds	Other Natural Avian Habitat	Prime or Unique Agricultural Land	Substrate/Soil Characteristics	Hydro-dynamics effects	Toxic Contaminants	CERCLA 120 Properties	Fossil Shell Mining
4	4	Innovative Use at Cox Creek	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5	18	Wetland Thin Layering Enhance. / Restor.	0	0	1	1	1	0	0	0	1	0	1	0	0	0	0
6	11	Mines and Quarries	0	0	0	0	1	1	1	0	1	0	1	0	1	0	0
7	3	Barren Island	2	0	1	1	1	1	0	1	1	0	-1	0	0	0	0
8	17	Sparrows Point	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
9	2	Agricultural	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10	9	James Island	0	0	1	1	1	1	0	0	1	0	-1	0	0	0	0
11	6	Furnace Bay	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
12	10	Lower Eastern Neck Island	1	0	1	1	1	1	0	0	1	1	-1	0	0	0	0
13	8	Holland Island	0	-1	1	1	1	1	0	0	1	0	-1	0	0	0	0
14	1	Aberdeen Proving Grounds	0	0	-1	-1	1	0	0	1	1	0	0	0	1	0	0
15	13	Parsons Island	0	-1	1	1	1	1	0	0	1	1	-1	0	0	0	0
16	12	Ocean Placement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	14	Poplar Island Modification (lateral expansion)	0	0	1	0	0	0	0	0	0	0	-1	0	0	0	0
18	14a	Poplar Island Modification (dike raising)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	26	Site 170 (Mouth of Patapsco)	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0
20	27	MD - C&D Placement Sites (6)	0	0	0	0	-1	0	0	0	-1	0	0	0	0	0	0
21	22	3S - Swan Point West	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	15	Sollers Point	0	0	-1	-1	0	0	0	0	0	0	0	0	0	0	0
23	21	3 - Swan Point West	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	Dead Ship Anchorage	0	0	0	0	0	0	0	0	0	0	-1	0	0	1	0
25	20	2 - Tolchester/Brewerton Angle	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	19	1 - Tolchester West	-1	0	0	0	0	0	0	0	0	0	-1	0	0	0	1
27	7	Hawkins Point/Thoms Cove	0	0	-1	-1	0	0	0	0	0	0	-1	0	0	1	0
28	25	4br - Pooles Island	-1	0	0	0	0	0	0	0	0	0	-1	-1	0	1	0
29	16	Sharps Island	-1	0	0	0	0	0	0	0	0	0	-1	0	0	1	0
30	24	4b - Pooles Island	-1	0	-1	-1	-1	0	0	0	-1	0	-1	1	0	1	0
31	23	4a - Pooles Island	-1	0	-1	-1	0	0	0	0	0	0	-1	-1	0	1	1

Legend:

+1 Potential protection or enhancement
0 No potential impacts expected
0 Not enough / inconclusive data
0 (shaded) Not applicable / not calculated
- 1 Potential negative impacts expected

Summary of Environmental Factors, Weights and Scores

(See "DMMP Progress Report on the Environmental Screening Process" for a complete explanation of table)

COL.	1	2	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
ROW																	
1			SPECIAL		WATERBIRDS		TERRESTRIAL						PHYSICAL PARAMETERS				
2		Weighting Factor	5	5	4	4	2	3	4	2	2	3	3	4	4	5	5
3	Option No.	OPTION NAME	Protected Species (RTE) (SSPRA)	Habitat of Particular Concern (HAPC)	Waterfowl Use	Wading and Shorebird Use	Wildlife Habitat	Forests	Streams	Lakes & Ponds	Other Natural Avian Habitat	Prime or Unique Agricultural Land	Substrate/Soil Characteristics	Hydrodynamics effects	Toxic Contaminants	[illegible]	Beach Shell Mining
4	4	Innovative Use at Cox Creek	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5	18	Wetland Thin Layering Enhance. / Restor.	0	0	1	1	1	0	0	0	1	0	1	0	0	0	0
6	11	Mines and Quarries	0	0	0	0	1	1	1	0	1	0	1	0	1	0	0
7	3	Barren Island	2	0	1	1	1	1	0	1	1	0	-1	0	0	0	0
8	17	Sparrows Point	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
9	2	Agricultural	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10	9	James Island	0	0	1	1	1	1	0	0	1	0	-1	0	0	0	0
11	6	Furnace Bay	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
12	10	Lower Eastern Neck Island	1	0	1	1	1	1	0	0	1	1	-1	0	0	0	0
13	8	Holland Island	0	-1	1	1	1	1	0	0	1	0	-1	0	0	0	0
14	1	Aberdeen Proving Grounds	0	0	-1	-1	1	0	0	1	1	0	0	0	1	0	0
15	13	Parsons Island	0	-1	1	1	1	1	0	0	1	1	-1	0	0	0	0
16	12	Ocean Placement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	14	Poplar Island Modification (lateral expansion)	0	0	1	0	0	0	0	0	0	0	-1	0	0	0	0
18	14a	Poplar Island Modification (dike raising)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	26	Site 170 (Mouth of Patapsco)	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0
20	27	MD - C&D Placement Sites (6)	0	0	0	0	-1	0	0	0	-1	0	0	0	0	0	0
21	22	3S - Swan Point West	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	15	Sollers Point	0	0	-1	-1	0	0	0	0	0	0	0	0	0	0	0
23	21	3 - Swan Point West	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	Dead Ship Anchorage	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
25	20	2 - Tolchester/Brewerton Angle	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	19	1 - Tolchester West	-1	0	0	0	0	0	0	0	0	0	-1	0	0	0	-1
27	7	Hawkins Point/Thoms Cove	0	0	-1	-1	0	0	0	0	0	0	-1	0	0	1	0
28	25	4bi - Pooles Island	-1	0	0	0	0	0	0	0	0	0	-1	-1	0	1	0
29	16	Sharps Island	-1	0	0	0	0	0	0	0	0	0	-1	0	0	1	0
30	24	4b - Pooles Island	-1	0	-1	-1	-1	0	0	0	-1	0	-1	-1	0	1	-1
31	23	4a - Pooles Island	-1	0	-1	-1	0	0	0	0	0	0	-1	-1	0	1	-1

Legend: +1 Potential protection or enhancement
0 No potential impacts expected
0 Not enough / inconclusive data
0 (shaded) Not applicable / not calculated
- 1 Potential negative impacts expected
RTE is the only parameter with a score >1
since each species impacted is counted

(NOTE: Bold scores represent those that have been "flagged" to receive particular consideration because of significant infected/or impacts)

Version: August 21, 2002

Summary of Environmental Factors, Weights and Scores

(See "DMMP Progress Report on the Environmental Screening Process" for a complete explanation of table)

Working Draft
(Subject to Change)

COL.	1	2	35	36	37	38	39	40	41	42	43	44	45	46				ROW
ROW 1			*OTHER*					*BENEFICIAL ATTRIBUTES*										1
2		Weighting Factor	2	2	1	3	3	4	2	2	2	2						2
3	Option No.	OPTION NAME	Floodplains	Recreational Value	Aesthetics and Noise	Cultural Resources	Navigation	Beneficial Use Wetlands	Beneficial Use Uplands	Beneficial Use - Adjacent Habitat Enhancement	Beneficial Use Faunal	Shoreline Protection	Total Environmental Score	Normalized	(+) 1.9	Overall Rank	Option No.	3
4	4	Innovative Use at Cox Creek	0	0	0	0	0	0	0	0	0	0	7	3.5000	5.4000	1	4	4
5	18	Wetland Thin Layering Enhance. / Restor.	0	1	1	0	0	1	0	1	1	1	66	2.0625	3.9625	2	18	5
6	11	Mines and Quarries	0	1	1	0	0	0	1	0	1	0	48	1.8462	3.7462	3	11	6
7	3	Barren Island	0	1	0	0	0	1	1	1	1	1	26	0.6500	2.5500	4	3	7
8	17	Sparrows Point	0	0	1	0	0	1	1	1	1	1	16	0.5161	2.4161	5	17	8
9	2	Agricultural	0	0	0	0	0	0	0	0	0	0	6	0.4000	2.3000	6	2	9
10	9	James Island	0	1	0	0	0	1	1	1	1	1	14	0.3684	2.2684	7	9	10
11	6	Furnace Bay	0	0	1	0	0	0	1	0	1	0	6	0.3529	2.2529	8	6	11
12	10	Lower Eastern Neck Island	0	1	0	-1	0	1	0	1	1	1	12	0.3077	2.2077	9	10	12
13	8	Holland Island	0	1	0	0	0	1	1	0	1	1	1	0.0270	1.9270	10	8	13
14	1	Aberdeen Proving Grounds	0	0	0	0	0	1	0	1	1	1	-6	-0.1500	1.7500	11	1	14
15	13	Parsons Island	0	0	0	0	0	1	1	0	1	1	-7	0.1842	1.7158	12	13	15
16	12	Ocean Placement	0	0	0	0	0	0	0	0	0	0	-4	0.2105	1.6895	13	12	16
17	14	Poplar Island Modification (lateral expansion)	0	1	0	0	0	1	1	0	1	0	-9	0.2727	1.6273	14 (tie)	14	17
18	14a	Poplar Island Modification (dike raising)	0	0	0	0	0	0	0	0	0	0	-3	-0.2727	1.6273	14 (tie)	14a	18
19	26	Site 170 (Mouth of Patapsco)	0	-1	-1	0	-1	1	1	0	1	0	-12	-0.4138	1.4862	15	26	19
20	27	MD - C&D Placement Sites (6)	0	-1	0	0	0	0	0	0	0	0	-11	-0.5238	1.3762	16	27	20
21	22	3S - Swan Point West	0	-1	0	0	0	1	0	0	1	0	-16	-0.5714	1.3286	17	22	21
22	15	Sollers Point	-1	0	0	0	0	0	0	0	0	0	-25	-0.7813	1.1188	18	15	22
23	21	3 - Swan Point West	0	-1	0	0	0	1	1	0	1	0	-23	-0.7931	1.1069	19	21	23
24	5	Dead Ship Anchorage	-1	0	0	0	0	0	0	0	0	1	-27	-0.8182	1.0818	20	5	24
25	20	2 - Tolchester/Brewerton Angle	0	-1	0	0	-1	1	1	0	1	0	-26	-0.8966	1.0034	21	20	25
26	19	1 - Tolchester West	0	-1	-1	0	0	1	1	0	1	0	-30	-1.0345	0.8655	22	19	26
27	7	Hawkins Point/Thoms Cove	1	-1	-1	0	0	0	0	0	0	1	-38	-1.0857	0.8143	23	7	27
28	25	4br - Pooles Island	0	-1	0	0	-1	1	1	0	1	0	-32	-1.1034	0.7966	24	25	28
29	16	Sharps Island	0	-1	0	0	0	1	1	0	1	0	-35	-1.1290	0.7710	25	16	29
30	24	4b - Pooles Island	0	-1	0	-1	-1	1	1	0	1	1	-63	-1.7027	0.1973	26	24	30
31	23	4a - Pooles Island	0	-1	0	-1	-1	1	1	0	1	0	-57	-1.9000	0.0000	27	23	31

Legend:
+1 Potential protection or enhancement
0 No potential impacts expected
0 Not enough / inconclusive data
0 (shaded) Not applicable / not calculated
- 1 Potential negative impacts expected
RTE is the only parameter with a score >1
since each species impacted is counted

(NOTE: Bold scores represent those that have been "flagged" to receive particular consideration because of significant interest or impact)

Summary of Environmental Factors, Weights and Scores

(See "DMMP Progress Report on the Environmental Screening Process" for a complete explanation of table)

COL.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
ROW																			
1			WATER QUALITY					AQUATIC INV.			WETLANDS		AQUATIC BIOLOGY - FINFISH/SHELLFISH						
2		Weighting Factor	3	3	3	4	5	3	4	5	5	5	4	4	6	3	4	4	4
3	Option No.	OPTION NAME	Dissolved Oxygen	Nutrient Enrichment	Turbidity	Salinity	Ground Water	Benthic Community	Shallow Water Habitat (Tier II & Tier III)	SAV	Tidal Wetlands	Non-tidal Wetlands	Finfish Spawning Habitat	Finfish Rearing Habitat	Larval Transport	Essential Fish Habitat (EFH)	Commercially Harvested Species and Habitat	Thermal Refuge	Recreational Fishery
4	4	Innovative Use at Cox Creek	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	18	Wetland Thin Layering Enhance. / Restor.	1	1	1	1	1	1	0	0	1	1	0	1	0	1	0	0	0
6	11	Mines and Quarries	0	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	1
7	3	Barren Island	0	-1	1	0	0	-1	-1	0	1	1	0	-1	0	-1	-1	0	-1
8	17	Sparrows Point	1	-1	1	0	0	-1	0	0	0	0	0	0	0	0	0	0	0
9	2	Agricultural	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	9	James Island	0	-1	1	0	0	-1	-1	0	1	1	0	-1	0	-1	-1	0	1
11	6	Furnace Bay	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0
12	10	Lower Eastern Neck Island	0	-1	1	0	0	-1	-1	0	1	0	0	-1	0	-1	1	0	1
13	8	Holland Island	0	-1	1	0	0	-1	-1	-1	1	0	0	0	0	1	1	0	1
14	1	Aberdeen Proving Grounds	0	-1	1	0	0	-1	-1	0	0	1	-1	-1	0	0	1	0	1
15	13	Parsons Island	0	-1	1	0	0	-1	-1	-1	0	0	-1	-1	0	-1	0	0	-1
16	12	Ocean Placement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
17	14	Poplar Island Modification (lateral expansion)	0	-1	0	0	0	-1	-1	0	1	0	0	-1	0	-1	-1	0	1
18	14a	Poplar Island Modification (dike raising)	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	26	Site 170 (Mouth of Patapsco)	0	-1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	27	MD - C&D Placement Sites (6)	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
21	22	3S - Swan Point West	1	-1	-1	0	0	1	0	0	0	0	0	-1	0	-1	1	1	0
22	15	Sollers Point	0	-1	0	0	0	-1	-1	0	-1	0	0	0	0	0	0	0	0
23	21	3 - Swan Point West	0	-1	-1	0	0	-1	0	0	0	0	0	-1	0	1	1	1	0
24	5	Dead Ship Anchorage	0	-1	0	0	0	-1	-1	0	-1	0	0	-1	0	0	0	0	0
25	20	2 - Tolchester/Brewerton Angle	0	-1	-1	0	0	-1	0	0	0	0	0	-1	0	-1	1	1	0
26	19	1 - Tolchester West	0	-1	-1	0	0	-1	0	0	0	0	0	-1	0	-1	1	0	1
27	7	Hawkins Point/Thoms Cove	0	-1	0	0	0	-1	-1	0	-1	0	0	-1	0	0	0	0	0
28	25	4br - Pooles Island	0	-1	0	0	0	-1	0	0	0	0	-1	-1	0	0	1	0	0
29	16	Sharps Island	0	-1	-1	0	0	-1	-1	0	0	0	0	-1	0	1	1	0	1
30	24	4b - Pooles Island	0	-1	0	0	0	-1	-1	-1	-1	0	-1	-1	0	0	1	0	1
31	23	4a - Pooles Island	-1	-1	0	0	0	-1	0	0	0	0	-1	-1	0	0	1	1	1

Legend: +1 Potential protection or enhancement
0 No potential impacts expected
0 Not enough / inconclusive data
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- 1 Potential negative impacts expected
RTE is the only parameter with a score >1
since each species impacted is counted

(NOTE: Bold scores represent those that have been "flagged" to receive particular consideration because of significant interest or impacts)

Summary of Environmental Factors, Weights and Scores

(See "DMMP Progress Report on the Environmental Screening Process" for a complete explanation of table)

COL.	1	2	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
ROW			SPECIAL		WATERBIRDS		TERRESTRIAL						PHYSICAL PARAMETERS				
2		Weighting Factor	5	5	4	4	2	3	4	2	2	3	3	4	4	5	5
3	Option No.	OPTION NAME	Protected Species (RTE) (SSPRA)	Habitat of Particular Concern (HAPC)	Waterfowl Use	Wading and Shorebird Use	Wildlife Habitat	Forests	Streams	Lakes & Ponds	Other Natural Avian Habitat	Prime or Unique Agricultural Land	Substrate/Soil Characteristics	Hydrodynamics effects	Toxic Contaminants	[illegible]	Fossil Shell Mining
4	4	Innovative Use at Cox Creek	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5	18	Wetland Thin Layering Enhance. / Restor.	0	0	1	1	1	0	0	0	1	0	1	0	0	0	0
6	11	Mines and Quarries	0	0	0	0	1	1	1	0	1	0	1	0	1	0	0
7	3	Barren Island	2	0	1	1	1	1	0	1	1	0	-1	0	0	0	0
8	17	Sparrows Point	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
9	2	Agricultural	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10	9	James Island	0	0	1	1	1	1	0	0	1	0	-1	0	0	0	0
11	6	Furnace Bay	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
12	10	Lower Eastern Neck Island	1	0	1	1	1	1	0	0	1	1	-1	0	0	0	0
13	8	Holland Island	0	-1	1	1	1	1	0	0	1	0	-1	0	0	0	0
14	1	Aberdeen Proving Grounds	0	0	-1	-1	1	0	0	1	1	0	0	0	1	0	0
15	13	Parsons Island	0	-1	1	1	1	1	0	0	1	1	-1	0	0	0	0
16	12	Ocean Placement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	14	Poplar Island Modification (lateral expansion)	0	0	1	0	0	0	0	0	0	0	-1	0	0	0	0
18	14a	Poplar Island Modification (dike raising)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	26	Site 170 (Mouth of Patapsco)	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0
20	27	MD - C&D Placement Sites (6)	0	0	0	0	-1	0	0	0	-1	0	0	0	0	0	0
21	22	3S - Swan Point West	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	15	Sollers Point	0	0	-1	-1	0	0	0	0	0	0	0	0	0	0	0
23	21	3 - Swan Point West	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	Dead Ship Anchorage	0	0	0	0	0	0	0	0	0	0	-1	0	0	-1	0
25	20	2 - Tolchester/Brewerton Angle	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	19	1 - Tolchester West	-1	0	0	0	0	0	0	0	0	0	-1	0	0	0	-1
27	7	Hawkins Point/Thoms Cove	0	0	-1	-1	0	0	0	0	0	0	-1	0	0	-1	0
28	25	4br - Pooles Island	-1	0	0	0	0	0	0	0	0	0	-1	-1	0	-1	0
29	16	Sharps Island	-1	0	0	0	0	0	0	0	0	0	-1	0	0	-1	0
30	24	4b - Pooles Island	-1	0	-1	-1	-1	0	0	0	-1	0	-1	-1	0	-1	0
31	23	4a - Pooles Island	-1	0	-1	-1	0	0	0	0	0	0	-1	-1	0	-1	-1

Legend: +1 Potential protection or enhancement
0 No potential impacts expected
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COL.	1	2	35	36	37	38	39	40	41	42	43	44	45	46			
ROW			*OTHER*					*BENEFICIAL ATTRIBUTES*									ROW
1																	1
2		Weighting Factor	2	2	1	3	3	4	2	2	2	2					2
3	Option No.	OPTION NAME	Floodplains	Recreational Value	Aesthetics and Noise	Cultural Resources	Navigation	Beneficial Use Wetlands	Beneficial Use Uplands	Beneficial Use - Adjacent Habitat Enhancement	Beneficial Use Faunal	Shoreline Protection	Total Environmental Score	Normalized	(+) 1.9	Overall Rank	Option No.	3
4	4	Innovative Use at Cox Creek	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	7	3.5000	5.4000	1	4	4
5	18	Wetland Thin Layering Enhance. / Restor.	**0**	1	1	0	**0**	1	**0**	1	1	1	66	2.0625	3.9625	2	18	5
6	11	Mines and Quarries	**0**	1	1	0	**0**	0	1	**0**	1	**0**	48	1.8462	3.7462	3	11	6
7	3	Barren Island	**0**	1	0	0	0	1	1	1	1	1	26	0.6500	2.5500	4	3	7
8	17	Sparrows Point	0	0	1	0	**0**	1	1	1	1	1	16	0.5161	2.4161	5	17	8
9	2	Agricultural	0	**0**	0	0	**0**	**0**	**0**	**0**	**0**	**0**	6	0.4000	2.3000	6	2	9
10	9	James Island	**0**	1	0	0	**0**	1	1	1	1	1	14	0.3684	2.2684	7	9	10
11	6	Furnace Bay	**0**	**0**	1	0	**0**	**0**	1	**0**	1	**0**	6	0.3529	2.2529	8	6	11
12	10	Lower Eastern Neck Island	**0**	1	0	-1	0	1	**0**	1	1	1	12	0.3077	2.2077	9	10	12
13	8	Halland Island	**0**	1	0	0	0	1	1	0	1	1	1	0.0270	1.9270	10	8	13
14	1	Aberdeen Proving Grounds	0	0	0	0	0	1	**0**	1	1	1	-6	-0.1500	1.7500	11	1	14
15	13	Parsons Island	**0**	0	0	0	0	1	1	0	1	1	-7	-0.1842	1.7158	12	13	15
16	12	Ocean Placement	**0**	0	0	0	0	**0**	0	**0**	**0**	**0**	-4	-0.2105	1.6895	13	12	16
17	14	Poplar Island Modification (lateral expansion)	**0**	1	0	0	0	1	1	0	1	0	-9	-0.2727	1.6273	14 (tie)	14	17
18	14a	Poplar Island Modification (dike raising)	**0**	0	0	**0**	**0**	**0**	0	**0**	0	**0**	-3	-0.2727	1.6273	14 (tie)	14a	18
19	26	Site 170 (Mouth of Patapsco)	**0**	-1	-1	0	-1	1	1	0	1	0	-12	0.4138	1.4862	15	26	19
20	27	MD - C&D Placement Sites (6)	0	-1	0	0	**0**	**0**	**0**	**0**	**0**	**0**	-11	-0.5238	1.3762	16	27	20
21	22	3S - Swan Point West	**0**	-1	0	0	0	1	**0**	0	1	0	-16	0.5714	1.3286	17	22	21
22	15	Sollers Point	-1	0	0	0	0	**0**	**0**	**0**	**0**	0	-25	-0.7813	1.1188	18	15	22
23	21	3 - Swan Point West	**0**	-1	0	0	0	1	1	0	1	0	-23	-0.7931	1.1069	19	21	23
24	5	Dead Ship Anchorage	-1	0	0	0	0	**0**	**0**	**0**	**0**	1	-27	-0.8182	1.0818	20	5	24
25	20	2 - Tolchester/Brewerton Angle	**0**	-1	0	0	-1	1	1	0	1	0	-26	-0.8966	1.0034	21	20	25
26	19	1 - Tolchester West	**0**	-1	-1	0	0	1	1	0	1	0	-30	-1.0345	0.8655	22	19	26
27	7	Hawkins Point/Thoms Cove	-1	-1	-1	0	0	**0**	**0**	**0**	**0**	1	-38	-1.0857	0.8143	23	7	27
28	25	4br - Pooles Island	**0**	-1	0	**0**	-1	1	1	0	1	0	-32	-1.1034	0.7966	24	25	28
29	16	Sharps Island	**0**	-1	0	0	0	1	1	0	1	**0**	-35	-1.1290	0.7710	25	16	29
30	24	4b - Pooles Island	0	-1	0	-1	-1	1	1	0	1	1	-63	-1.7027	0.1973	26	24	30
31	23	4a - Pooles Island	**0**	-1	0	-1	-1	1	1	0	1	0	-57	-1.9000	0.0000	27	23	31

Legend: +1 Potential protection or enhancement
0 No potential impacts expected
0 Not enough / inconclusive data
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RTE is the only parameter with a score >1
since each species impacted is counted

(NOTE: Bold scores represent those that have been "flagged" to receive particular consideration because of significant interest or impact)

Project Management Plan

Appendix C

Detailed Scope of Work

October 2002

PHASE I: EVALUATION OF EXISTING PLACEMENT NEEDS AND EXISTING MANAGEMENT OPTIONS - ESTABLISH STUDY GOALS AND OBJECTIVES

Objective: The goal of this element is to identify available information for Port of Baltimore dredging and available placement options. Once this information is collected and analyzed, the study goals and objectives will be clearly defined in order to measure plan success.

I. Identify Dredged Material Placement Needs

- Task to be completed by Planning-Civil Projects, Operations-Navigation, Programs and Project Management, CENAP, CENAO, Maryland Port Administration (MPA).

a. Review existing literature, data, and studies on historical dredging, including permits and placement records from the Corps, MPA and other Federal, State and local governments. Obtain relevant historical dredging information related to management and regulation within the DMMP area in terms of dredged material placement by location, quantity, and timing. Consider all relevant physical and chemical characterization data relating to dredged materials within the study area by channel source.

b. Consider new work projects in addition to other state and local placement needs.

II. Conduct an Economic Analysis of the Placement Needs

- Task to be completed by Planning Division Economist or Planning Division contractor.

a. Collect data from interviews with channel users and port officials and examination of historic Waterborne Commerce Statistical data to identify actual usage patterns of the various Federally-maintained channels. Information will be used to evaluate the transportation cost savings produced by maintaining various project depths. The analysis will factor in estimated usage of the channels through 2025.

III. Identify Existing Dredged Material Placement Options

- Task to be completed by Planning-Civil Projects, Operations-Navigation, Programs and Project Management, Engineering Division (as necessary), CENAP, CENAO, and MPA.

a. Review existing literature, data, and studies on currently used placement options. Identify existing conditions, valuable resources, resources to be protected, and available placement capacity of each option. Current placement sites include Hart-Miller Island Containment Facility, Pooles Island open water site, Poplar Island environmental restoration, and soon to be rehabilitated upland Cox Creek site, as well as open water sites serving the Virginia channels (Dam Neck Ocean, Norfolk Ocean, Wolf Trap Alternate, and Rappahannock Deep), and the upland

sites along the Chesapeake and Delaware (C&D) Canal that serve the canal proper. Document infeasible options and why they are not suitable for future use.

IV. Collect Existing Engineering, Social, and Environmental Data

- Task to be completed by Planning-Civil Projects biologists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering-Water Resources, Geotechnical, Civil Design, Hazardous, Toxic and Radioactive Waste (HTRW) and Cost Engineering Branches, CENAP, CENAO, and the MPA and their contractors.
- *** It is assumed by all product delivery team members in the project budget (Appendix E) that all information will be easily accessible, accurate, and appropriate for use in the development of the alternatives.

a. Identify and collect existing data of the study area. Coastal data may include wind, tides, currents, storm propagated and ship generated waves, sediment depositions, shoaling rates, and erosion rates; hydrodynamic characterization, compilation of wave analysis including wave heights, frequency, periods, run-up and overtopping; erosion and sediment control measures, hydrodynamic modeling and digital bathymetric surveys and information using NOAA charts as well as USACE, MGS, and USGS sources. Environmental data may include water quality (temperature, dissolved oxygen, pH, conductivity); benthic community structure and sampling; submerged aquatic vegetation historical surveys; currently existing SAV surveys; shallow water habitat issues; finfish surveys; essential fish habitat and habitat of particular concern; fisheries: recreation, commercial, spawning; licensed oyster bars, designated beds, fossil shell area; rare and endangered species; ichthyoplankton; groundwater; avian and terrestrial species and habitat, upland community types; wetlands; rookeries; and aesthetic resources. Social data may include demographics, land use patterns, and economic conditions.

b. Investigate beneficial uses including public and agency interests, compatibility with existing land and water use functions, and local planning considerations.

c. Identify and investigate dredged material acceptability for beneficial uses. Review data to determine material composition, physical properties, contaminants, density, and grain size distribution.

V. Establish Management Plan Study Goals and Objectives

- Task to be completed by Planning-Civil Projects biologists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, HTRW and Cost Engineering Branches, the MPA and their

contractors, CENAP, CENAO, the interested public, stakeholders, and the resource agencies.

a. Establish the study goals and objectives in order to measure the plan implementation success.

VI. Establish Open Forum for Public and Agency Involvement

- Task to be completed by Planning-Civil Projects biologists, planners, study team leader, website to be developed by a Planning contractor.

a. Actively canvass public and agency input and participation into the study. Produce and send newsletter to all interested parties detailing study process and status, and solicit participation into the study. Develop a website for public access of plan information.

Product: Following completion of this phase, the product will document the summary of existing dredging needs and placement options with the estimated capacity of placement availability and a characterization of the dredged material. The product will also include baseline engineering, social, and environmental information that will be used to identify, formulate and compare placement alternatives in the subsequent phases. Documentation will include economic conditions of Port of Baltimore channels, in addition to the study goals and objectives.

Cost Estimate: **$337,400**

PHASE II: FORMULATE PLACEMENT ALTERNATIVES WITH SPECIAL EMPHASIS ON BENEFICIAL USES

Objective: The objective of this phase is to formulate and identify a list of viable long-term dredged material management options, and conduct technical studies and investigations of the options and conditions to support the options. Plans will be developed that are environmentally, economically, and technically acceptable.

I. Develop Alternative Plans

- Task to be completed by Planning-Civil Projects biologists, planners, economists, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, HTRW and Cost Engineering Branches, CENAP, and the MPA and their contractors.
- *** It is assumed by all product delivery team members in the project budget (Appendix E) that the current 27 placement sites (Appendix B) being considered by the State of Maryland will be used in this effort. Any additional options considered may result in a budget increase.

- *** It is also assumed that the existing data collected will be easily accessible, accurate, and in the same data format that is usable to the team.
- *** It is assumed that the Virginia channels have sufficient placement capacity and that no further work is required for them. This assumption will be confirmed and documented early in the study.

a. Using information collected in Phase I and supplemental information as necessary, complete a comprehensive inventory of geographic sites that are suitable for material placement based on the defined study goals and objectives. Consideration of the full range of measures required to manage dredged materials including various placement methods, management considerations, placement locations, periods of use, and an assessment of potential beneficial uses of dredged materials will be conducted.

b. Obtain additional physical, biological, and institutional data in the preparation of alternative plans. Information may include the site's physical characteristics, habitat value, biological resources, land use designations, surrounding use, proximity to dredging areas, access, etc. See Phase I, Task IV.a for a more detailed list of data required.

c. Consider innovative technologies options to maximize the beneficial use of dredged sediments in the plan formulation.

d. Conduct a cultural assessment-Phase I-of placement options.

e. Consider methods or options to maximize the use of existing sites.

II. Assess Economic Benefits

- Task to be completed by Planning Division Economist or Planning Division contractor with assistance from Planning Division biologists and study team leader, and Operations-Navigation Branch.

a. Assess the expected benefits of each of the dredged material placement alternatives or combinations of alternatives under consideration. Benefits may be commercial, recreational, social, environmental, etc.

III. Prepare Cost Estimates of Placement Options

- Task to be completed by Engineering Division-Cost Engineering Branch with assistance from Planning-Civil Projects biologists, planners, economists, study team leader, Operations-Navigation, Programs and Project and Engineering Water Resources, Geotechnical and Civil Design Branches.

- ***It is in the project budget (Appendix E) that the current 27 placement sites (Appendix B) considered by the State of Maryland will be used in this effort. Any additional options may result in a budget increase.

a. Prepare cost estimates for each of the options identified. Cost estimates will consider all conditions necessary to facilitate the placement implementation. Cost estimates will include mobilization of equipment, excavation and placement, unloading facilities, site preparation, erosion protection, de-watering, consolidation and other O&M activities, planting, site closure, and environmental controls for resource protection or resource displacement.

Product: The report will document all viable placement options and the cost for each. In addition, the plan will document the benefits to be accrued by each alternative plan.

Cost Estimate: **$196,700**

PHASE III: ANALYZE AND COMPARE ALTERNATIVES

Objective: The objective of this phase is to assess and determine the specific sites (Inner Harbor and Approach Channels) acceptability for implementation. The investigation will be organized to facilitate environmental, engineering/economic and regulatory acceptability.

I. Evaluate Alternative Plans (Approach Channels)

- Task to be completed by Planning-Civil Projects biologists, economists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, HTRW and Cost Engineering Branches, CENAP, the MPA and their contractors, the interested public, stakeholders, and the resource agencies.

a. Identify existing environmental resources and resources to be protected. Review data to establish health, abundance, and location of existing resources of concern potentially affected by dredging and placement. Conduct extensive agency and public coordination to identify resources.

b. Identify resources and uses where additional data is required to establish environmental or suitability conditions.

II. Establish Screening Criteria (Approach Channels)

- Task to be completed by Planning-Civil Projects biologists, economists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, HTRW and Cost Engineering Branches, CENAP, the MPA

and their contractors, the interested public, stakeholders, and the resource agencies.

- *** It is assumed by the PDT that the screening criteria developed on the 27 options as part of the State of Maryland's plan will be used as the starting point in this effort. Any additional options considered may require a budget increase.

a. Develop criteria for screening specific Channel options. Consider in screening criteria technical feasibility, emphasis on need, beneficial use, cost effectiveness, environmental acceptability, capacity, and ease of implementation. Consider the physical composition of the respective dredged material, and all Federal statutory constraints upon the placement of such materials, including environmental acceptability of such alternatives to the relevant committees, workgroups and stakeholders. Include in the screening, input of the general public and interested local, State, and Federal agencies.

b. Determine the appropriate values and weight to be given to the screening criteria. Base weight and value upon results of the public scoping meetings and a consensus process and interaction using information obtained from the State of Maryland DMMP. Include any new available information obtained.

c. Eliminate infeasible options. The Project Delivery Team as defined in the PMP will, in coordination with interested agencies and parties outside the Corps, determine the feasibility of placement options. Feasibility will be based on technical buildability, operability, environmental concerns and economics or on other non-technical factors such as budgetary or political reasons.

III. Compare Alternatives (Approach Channels)

- Task to be completed by Planning-Civil Projects biologists, economists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, and Cost Engineering Branches, CENAP, the MPA and their contractors, the interested public, stakeholders, and the resource agencies.

a. Compare plans against each other to identify the plan to be recommended for implementation. Measure the effectiveness of each plan with respect to the goals and objectives including the outputs and costs. Consider the effect upon the system of existing and future Federal, State and local navigation projects and their respective projected dredging requirements. Consider effects required by law or policy and those important to resource agencies and the public.

IV. Conduct Economic and Environmental Analysis (Approach Channels)

- Task to be completed by Planning Division economists or Planning Division contractor and biologists with assistance from study team

leader, Project Management, Engineering-Water Resources, Geotechnical, and Civil Design, Operations-Navigation Branch, and CENAP.

a. Evaluate the National Economic Development (NED) plan. Identify the alternative or suite of alternatives that meet the dredged material placement needs for the Port of Baltimore for the next 20-year period of analysis that also maximizes the difference between project benefits and costs. Analyze all the NED costs associated with an alternative over the period of analysis and identify the alternative that provides the requisite capacity with the most net NED benefits.

b. Conduct a National Ecosystem Restoration (NER) analysis. Identify the alternative or suite of alternatives that meets the needs of the Port of Baltimore that also maximizes the difference between ecosystem habitat benefits and NER implementation costs.

c. Conduct an economic risk and uncertainty analysis of outer harbor alternatives. Review and identify variables that impact technical requirement, costs, and schedule for maintenance dredging. Document information.

d. Conduct a trade-off analysis. Identify the alternative that maximizes the cumulative NED and NER benefits over implementation costs. Requires trading off the NED benefits and costs against NER benefits and costs to determine the alternative that maximizes the difference between total benefits and costs.

e. Optimize plan. Use a systems analysis approach to assure the plan will maximize dredged material capacity for each Channel option and maximize the potential environmental benefits. If appropriate, recommend a suite of options be available simultaneously to allow for proper consolidation and drying times, and to create a balanced variety of habitat types. Determine project implementations timing and compare to budgetary realities.

V. Establish the Base Plan (Approach Channels)

- Task to be completed by Planning-Civil Projects biologists, economists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, HTRW and Cost Engineering Branches, CENAP, the MPA, the interested public, stakeholders, and the resource agencies.

a. Determine the least cost, technically and environmentally acceptable option for the placement of dredged materials.

VI. Evaluate Alternative Plans (Inner Harbor)

- Task to be completed by Planning-Civil Projects biologists, economists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, HTRW and Cost Engineering Branches, the MPA, the interested public, stakeholders, and the resource agencies.

a. Identify existing environmental resources and resources to be protected. Review data to establish health, abundance, and location of existing resources of concern potentially affected by dredging and placement. Conduct extensive agency and public coordination to identify resources.

b. Identify resources and uses where additional data is required to establish environmental or suitability conditions.

VII. Establish Screening Criteria (Inner Harbor)

- Task to be completed by Planning-Civil Projects biologists, economists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, HTRW and Cost Engineering Branches, the MPA and their contractors, the interested public, stakeholders, and the resource agencies.
- *** It is assumed by the PDT that the screening criteria developed on the 27 options as part of the State of Maryland's plan will be used as the starting point in this effort. Any additional options considered may require a budget increase.

a. Develop criteria for screening specific harbor options. Consider in screening criteria technical feasibility, emphasis on need, beneficial use, cost effectiveness, environmental acceptability, capacity, and ease of implementation. Consider the physical composition of the respective dredged material, and all Federal statutory constraints upon the placement of such materials, including environmental acceptability of such alternatives to the relevant committees, workgroups and stakeholders. Include in the screening, input of the general public and interested local, State, and Federal agencies, as well as the special containment and potential decontamination needs.

b. Determine the appropriate values and weight to be given to the screening criteria. Base weight and value upon results of the public scoping meetings and a consensus process and interaction using information obtained from the State of Maryland DMMP. Include any new available information obtained.

c. Eliminate infeasible options. The Project Delivery Team as defined in the PMP will, in coordination with interested agencies and parties outside the Corps, determine the feasibility of placement options. Feasibility will be based on

technical buildability, operability, environmental concerns and economics or on other non-technical factors such as budgetary or political reasons.

VIII. Compare Alternatives (Inner Harbor)

- Task to be completed by Planning-Civil Projects biologists, economists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, and Cost Engineering Branches, the MPA and their contractors, the interested public, stakeholders, and the resource agencies.

a. Compare plans against each other to identify the plan to be recommended for implementation. Measure the effectiveness of each plan with respect to the goals and objectives including the outputs and costs. Consider the effect upon the system of existing and future Federal, State and local navigation projects and their respective projected dredging requirements. Consider effects required by law or policy and those important to resource agencies and the public.

IX. Conduct Economic and Environmental Analysis (Inner Harbor)

- Task to be completed by Planning Division economists or Planning Division contractor and biologists with assistance from study team leader, Project Management, Engineering-Water Resources, Geotechnical, and Civil Design, and Operations-Navigation Branch.

a. Evaluate the NED plan. Identify the alternative or suite of alternatives that meet the dredged material placement needs for the Port of Baltimore for the next 20-year period of analysis that also maximizes the difference between project benefits and costs. Analyze all the NED costs associated with an alternative over the period of analysis and identify the alternative that provides the requisite capacity with the most net NED benefits.

b. Conduct a NER analysis. Identify the alternative or suite of alternatives that meet the needs of the Port of Baltimore Inner Harbor that also maximizes the difference between ecosystem habitat benefits and NER implementation costs.

c. Conduct an economic risk and uncertainty analysis of outer harbor alternatives. Review and identify variables that impact technical requirement, costs, and schedule for maintenance dredging. Document information.

d. Conduct a trade-off analysis. Identify the alternative that maximizes the cumulative NED and NER benefits over implementation costs. Requires trading off the NED benefits and costs against NER benefits and costs to determine the alternative that maximizes the difference between total benefits and costs.

e. Optimize plan. Use a systems analysis approach to assure the plan maximize dredged material capacity for each option and maximize the potential environmental benefits. If appropriate, recommend a suite of options be available simultaneously to allow for proper consolidation and drying times, and to create a balanced variety of habitat types. Determine project implementations timing and compare to budgetary realities.

X. Establish the Base Plan (Inner Harbor)

- Task to be completed by Planning-Civil Projects biologists, economists, planners, study team leader, Operations-Navigation, Programs and Project Management and Engineering Divisions-Water Resources, Geotechnical, Civil Design, HTRW and Cost Engineering Branches, the MPA, the interested public, stakeholders, and the resource agencies.

a. Determine the least cost, technically and environmentally acceptable option for the placement of dredged materials.

Product: The product of this phase is documentation of the plan formulation process. Included in this information are the engineering, economic and environmental factors and benefits for plan selection.

Cost Estimate: **$284,400**

PHASE IV: RECOMMEND MANAGEMENT PLAN

Objective: The objective of this phase is to recommend a plan of action that may recommend island or habitat restoration, innovative uses, traditional placement options, and/or enlargement of existing placement sites, development of new placement options, and management recommendations for the placement of dredged material over the next 20-year timeframe for the Virginia, Maryland approach and inner harbor channels.

I. Select the Recommended Plan or Suite of Options for Dredged Material Placement

- Task to be completed by the PDT including, the MPA, the interested public, stakeholders, and the resource agencies.

a. Select the plan or suite of options that meet the goals and objectives of the study. Elements of the plan may include site environmental and capacity monitoring, permit requirement, mitigation plans, operation procedures, guidance for site use, and delineation of site management responsibilities.

II. Prepare the DMMP Report and Integratcd Environmental Impact Statement

- Task to be completed by Planning-Civil Projects with assistance from the PDT.

a. Identify applicable Federal and non-Federal mechanisms for project implementation, and identify specific measures necessary to manage the volume of material likely to be dredged over the next 20-year time frame.

b. Identify all necessary agreements (Federal, sponsor, real estate, etc.) and procedural requirements (appropriate National Environmental Policy Act (NEPA) of 1969 documentation, long-term permits, certifications, etc.). Include executed copies of all such agreements or schedules for obtaining the information.

c. Contain all plan requirements as defined by ER 1105-2-100, Table E-14

d. Include the full range of measures for dredged material management of existing placement sites to extend their life, and various combinations of new placement sites involving different placement methods, placement area locations, and periods of use.

e. Include any technical and informational reports regarding dredging and dredged material placement options.

f. Provide detailed plan implementation effects on resources in accordance with NEPA.

III. Conduct Report Review, Revisions, and Responses to Comments

- Task to be completed by Planning-Civil Projects with assistance from the PDT.

a. Conduct an independent technical review of the study findings, plan formulation and documentation of the study. The technical reviewers will also review the environmental, economic, engineering and public involvement matters.

b. Provide 11 copies to North Atlantic Division (NAD) of the technically reviewed, revised, and approved report and EIS prepared by the District.

c. Respond to comments received from NAD with written documentation and provide 11 copies of the revised report for NAD approval of public distribution.

IV. Conduct Public Hearings

- Task to be conducted by Planning-Civil Projects with assistance and participation from the PDT.

a. Conduct a series of at least three public hearings presenting the draft recommended plan and EIS in the Bay areas potentially affected by the plan. Make interested parties aware of the hearings through a variety of public announcements including newspaper and media advertisements.

b. Develop, reproduce, and distribute a newsletter regarding the public hearings, the plan recommendations, and the current project status and progress. Reproduce report and distribute to interested parties.

V. Prepare Final Report and EIS

- Task to be completed by Planning-Civil Projects with assistance from the PDT.

a. Revise the reports as appropriate based on comments from an in-house technical review team, provide a comment and response report, and finalize the documents following the 45-day public comment period. Submit 11 copies of the final report and EIS in addition to a draft Division Engineer's Notice announcing the 30-day EIS public waiting period to NAD.

b. Develop, reproduce, and distribute the report and appropriate newsletters regarding the public hearings, the plan recommendations, and the current project status and progress.

VI. Prepare Record of Decision

- Task to be completed by Planning-Civil Projects with assistance from the PDT.

a. Prepare the ROD, in compliance with NEPA, and submit to NAD for signature by the Division Engineer.

Product: The product of this phase is documentation of the recommended management plan including NEPA compliance documentation. Documentation will include that necessary to meet Section 404 of the Clean Water Act, and Section 103 designation, as appropriate.

Cost Estimate: **$396,200**

PHASE V: PERIODIC PLAN REVIEW AND UPDATE

Phase V of the DMMP is the periodic re-evaluation of dredged placement based on changing regulations, economic and environmental conditions, and technological advances as they occur. At this time, a determination of the time for updates has not been made, therefore it is not appropriate to include tasks or a level of effort estimate.

Baltimore Harbor and Channels
Dredged Material Management Plan

Project Management Plan

Appendix D

ER 1105-2-100, Table E-14

October 2002

schedules and cost estimate. Risk and uncertainty should be sufficiently identified and addressed to provide the basis for appropriate contingencies.

(4) The SOW should include the work items typically necessary to support the review process from the signing of the report through approval. These items could include answering comments, attending Washington Level meetings (including the non-Federal sponsor), and minor report revisions as a result of review by higher authority. Any significant increase in study scope shall require HQUSACE approval in accordance with guidance provided as conditions of approval of the Scope of Work.

(d) Management Plan Reports. Management Plan Reports (reports) should be complete decision documents that present the results of both study phases. The reports will:

(1) Provide a complete presentation of study results and findings, including those developed in the initial phase so that readers can reach independent conclusions regarding the reasonableness of recommendations;

(2) Indicate how compliance with applicable statutes, executive orders and policies is achieved; and

(3) Provide a sound and documented basis for decision makers at all levels to judge the recommended Management Plan. The reports shall, at a minimum, address the subject matter outlined in Table E-14, and shall identify all necessary agreements (Federal, sponsor, real estate, etc.) and procedural requirements (appropriate NEPA documentation, long-term permits, certifications, etc.) necessary to cover, at a minimum, the next twenty years of project maintenance. The reports shall include executed copies of all such agreements or schedules for obtaining them. District Commanders shall sign and submit Management Plan Reports to the Division Commander for appropriate action.

Table E-14 Management Plan Report Outline

Project Description(s) *[include project map(s)]*
Scope of Study *[indicate whether single project or group of projects; relationship to permittee dredging, etc.]*
Authorization and Development History *[include all project authorizations, Section 221 agreements, Project Cooperation Agreements (PCAs), other agreements entered into, easements obtained, fee acquisition, construction dates, etc.]*

Description of existing conditions

Projections of future conditions in the absence of a Management Plan

Concise statement of specific problems and opportunities

Alternative plans:

- X Alternative disposal measures to address identified problems and opportunities
- X Beneficial uses alternatives
- X Reasons for selecting and combining measures to form alternative plans

Evaluation of Alternative Plans

Trade-off analysis

Selection of final plan *[discuss rationale for selection, sensitivity analysis, and risks and uncertainties]*

Description of selected Management Plan

- X Plan components
- X Implementation requirements and schedules
- X Consistency with the Base Plan

NEPA documentation, as required

Results of coordination with local, state and Federal agencies

Recommendations

(e) Issue Resolution Conferences. Issue Resolution Conferences (IRCs) with HQUSACE and laboratory participation shall be held for all Management Plan studies whenever significant problems or issues require higher level guidance or concurrence during the course of the study. Issue Resolution Conferences may be called by Division Commanders at their discretion. Upon review of the SOW, HQUSACE may call for an IRC to resolve pertinent issues. HQUSACE participation shall include at a minimum, senior staff of both CECW-0 and CECW-P. IRCs shall identify required follow-up actions and assign responsibilities for their execution. These actions and assigned responsibilities shall be documented explicitly.

Dredged Material Management Plan

Project Management Plan

Appendix E

DMMP Proposed Budget

October 2002

	Account	Work Task		Dredged Material Management Plan			
				Hrs	Cost	Other	Total
	Phase I - Identify Needs/Goals and Objectives						
22A	Public Involvement	Newsletter and mailing list	PL-P	40	$4,000	$1,000	$5,000
22A	Public Involvement	Website Development	PL-P	24	$2,400	$25,000	$27,400
22A	Public Involvement	Factsheets/Info papers/Congressional inquiries	PL-P	60	$6,000		$6,000
22E	Environmental Studies	Identify placement needs and options	PL-P	80	$8,000		$8,000
22E	Environmental Studies	Environmental data collection	PL-P	80	$8,000		$8,000
22E	Environmental Studies	Establish goals and objectives	PL-P	16	$1,600		$1,600
22E	Environmental Studies	Team meetings/coordination	PL-P	20	$2,000		$2,000
22F	Fish and Witdlife Studies	Establish goals and objectives/meetings	Workgroup	0	$0	$10,000	$10,000
22G	Economic Studies	Data Collection/Maintenance Need Analysis	PL-P/Cuntract	8	$800	$24,000	$24,800
22G	Economic Studies	Disposal options analysis	PL-P/Contract	8	$800	$12,000	$12,800
22G	Economic Studies	Team meetings/coordination	PL-P/Cuntract	20	$2,000	$2,000	$4,000
22H	Real Estate Studies	Establish goals and objectives	RE-C	16	$1,200		$1,200
22H	Real Estate Studies	Team meetings/coordination	RE-C	20	$1,500		$1,500
22J	Hydrologic & Hydraulic Studies	Data collection/review	EN-WW	160	$16,800		$16,800
22J	Hydrologic & Hydraulic Studies	Establish goals and objectives	EN-WW	40	$4,200		$4,200
22J	Hydrologic & Hydraulic Studies	Team meetings/coordination	EN-WW	20	$2,100		$2,100
22K	Geotechnical Studies	Data collection/review	EN-GG/GF	220	$23,100	$0	$23,100
22K	Geutechnical Studies	Establish goals and objectives	EN-GG/GF	20	$2,100	$0	$2,100
22K	Geotechnical Studies	Team meetings/coordination	EN-GG/GF	20	$2,100	$0	$2,100
22P	Design	Data collection/review	EN-WE	100	$10,500	$8,000	$18,500
22P	Design	Establish goals and objectives	EN-WE	20	$2,100	$0	$2,100
22P	Design	Team meetings/coordination	EN-WE	20	$2,100	$0	$2,100
22Q	Study Management	Team-agency mtgs/coordination/site visits	PL-P	80	$8,000	$2,000	$10,000
22Q	Study Management	Identify placement needs and options	PL-P	80	$8,000	$0	$8,000
22Q	Study Management	Establish goals and objectives	PL-P	16	$1,600	$0	$1,600
22Q	Study Management	Higher authority reporting/congressional inquiries	PL-P	40	$4,000		$4,000
22Q	Design Management	Identify placement needs and options	EN-WC	20	$2,000	$0	$2,000
22Q	Design Management	Monitor EN study progress	EN-WC	52	$5,200		$5,200
22Q	Design Management	EN contract/SOW/coordination	EN-WC	60	$6,000		$6,000
22Q	Design Management	Team meeting/coordination	EN-WC	20	$2,000		$2,000
22R	Plan Formulation	Data collection/evaluation/coordination	PL-P	80	$8,000		$8,000
22R	Plan Formulation	Identify placement needs and options	PL-P	80	$8,000		$8,000

22R	Plan Formulation	Establish goals and objectives	PL-P	16	$1,600		$1,600
22R	Plan Formulation	Team meeting/coordination	PL-P	20	$2,000		$2,000
22R	Plan Formulation	Data collection/evaluation/coordination	OP-N	120	$12,000		$12,000
22R	Plan Formulation	Identify placement needs and options	OP-N	120	$12,000		$12,000
22R	Plan Formulation	Establish goals and objectives	OP-N	16	$1,600		$1,600
22R	Plan Formulation	Team meeting/coordination	OP-N	20	$2,000		$2,000
22R	Plan Formulation	Surveys/Mapping/GIS data collection	OP-N/PL	250	$25,000	$5,000	$30,000
22R	Plan Formulation	Identify placement needs and options/Data collection	CENAO	40	$4,000		$4,000
22R	Plan Formulation	Establish goals and objectives	CENAO	16	$1,600		$1,600
22R	Plan Formulation	Team meetings	CENAO	16	$1,600		$1,600
22R	Plan Formulation	Identify placement needs and options/Data collection	CENAP	40	$4,000		$4,000
22R	Plan Formulation	Establish goals and objectives	CENAP	16	$1,600		$1,600
22R	Plan Formulation	Team meetings	CENAP	16	$1,600		$1,600
22T	Project Management	Identify placement needs and options	PP	80	$8,000		$8,000
22T	Project Management	Establish goals and objectives	PP	16	$1,600		$1,600
22T	Project Management	Higher authority reporting/congressional inquiries	PP	40	$4,000		$4,000
22T	Project Management	Team meetings/meeting and agency coordination/site visits	PP	80	$8,000		$8,000
	PHASE I - SUBTOTAL			2462	$248,400	$89,000	$337,400
	Phase II - Formulate Placement Options						
22D	Cultural Studies	Phase IA	PL-P	40	$4,000		$4,000
22E	Environmental Studies	Develop placement options	PL-P	120	$12,000		$12,000
22E	Environmental Studies	Coordinate plans with agencies	PL-P	16	$1,600		$1,600
22E	Environmental Studies	Team meetings/coordination	PL-P	20	$2,000		$2,000
22F	Fish and Wildlife Studies	Develop placement options/meetings	Workgroup	0	$0	$10,000	$10,000
22G	Economic Studies	Team meetings/coordination	PL-P	16	$1,600		$1,600
22H	Real Estate Studies	Ownership data	RE-C	40	$3,000		$3,000
22H	Real Estate Studies	Obtain rights-of-entry	RE-C	20	$1,500		$1,500
22H	Real Estate Studies	Team meetings/coordination	RE-C	20	$1,500		$1,500
22J	Hydrologic & Hydraulic Studies	Develop placement options	EN-WW	160	$16,800		$16,800
22J	Hydrologic & Hydraulic Studies	Team meetings/coordination	EN-WW	20	$2,100		$2,100
22K	Geotechnical Studies	Develop placement options	EN-GG/GF	120	$12,600		$12,600
22K	Geotechnical Studies	Team meetings/coordination	EN-GG/GF	20	$2,100		$2,100
22L	HTRW	Identify HTRW concerns	EN-HT	60	$6,000		$6,000

22P	Design	Develop placement options	EN-WE	120	$12,600		$12,600
22P	Design	Team meetings/coordination	EN-WE	20	$2,100		$2,100
22P	Cost Estimating	Develop costs of placement options	EN-CE	120	$12,000		$12,000
22P	Cost Estimating	Team meetings/coordination	EN-CE	20	$2,000		$2,000
22Q	Study Management	Develop placement options	PL-P	120	$12,000		$12,000
22Q	Study Management	Team meetings/coordination	PL-P	40	$4,000		$4,000
22Q	Study Management	Monitor progress/coord/reporting requirements/inquiries	PL-P	40	$4,000		$4,000
22Q	Design Management	Develop placement options	EN-WC	40	$4,000		$4,000
22Q	Design Management	Monitor EN study progress	EN-WC	52	$5,200		$5,200
22Q	Design Management	Team meeting/coordination	EN-WC	20	$2,000		$2,000
22R	Plan Formulation	Develop placement options	PL-P	120	$12,000		$12,000
22R	Plan Formulation	Team meetings/coordination	PL-P	20	$2,000		$2,000
22R	Plan Formulation	Develop placement options	QP-N	160	$16,000		$16,000
22R	Plan Formulation	Team meetings/coordination	QP-N	20	$2,000		$2,000
22R	Plan Formulation	Develop placement options	CENAO	40	$4,000		$4,000
22R	Plan Formulation	Team meetings/coordination	CENAO	20	$2,000		$2,000
22R	Plan Formulation	Develop placement options	CENAP	40	$4,000		$4,000
22R	Plan Formulation	Team meetings/coordination	CENAP	20	$2,000		$2,000
22T	Project Management	Develop placement options	PP	120	$12,000		$12,000
22T	Project Management	Team meetings/coordination/higher authorities reporting	PP	40	$4,000		$4,000
	PHASE II - SUBTOTAL			**1864**	**$186,700**	**$10,000**	**$196,700**
	Phase III - Analyze and Compare Alternatives						
22E	Environmental Studies	Analyze and compare alternatives	PL-P	120	$12,000		$12,000
22E	Environmental Studies	Team meetings/coordination	PL-P	20	$2,000		$2,000
22F	Fish and Wildlife Studies	Analyze and compare alternatives/mtgs	Workgroup	0	$0	$10,000	$10,000
22G	Economic Studies	Analyze and compare alternatives	PL-P/Contract	16	$1,600		$1,600
22G	Economic Studies	National Economic Development evaluation	PL-P/Contract	8	$800	$8,000	$8,800
22G	Economic Studies	NER Plan	PL-P/Contract	8	$800	$8,000	$8,800
22G	Economic Studies	Risk and uncertainty analysis	PL-P/Contract	8	$800	$8,000	$8,800
22G	Economic Studies	Trade off analysis	PL-P/Contract	8	$800	$8,000	$8,800
22G	Economic Studies	Team meetings/coordination	PL-P/Contract	20	$2,000	$2,000	$4,000
22H	Real Estate Studies	Real Estate Value Estimates/other Appraisal Consulting	RE-E	40	$3,600		$3,600
22H	Real Estate Studies	Mapping	RE-P	80	$6,000		$6,000
22H	Real Estate Studies	Team meetings/coordination	RE-P	20	$1,500		$1,500

22J	Hydrologic & Hydraulic Studies	Analyze and compare alternatives	EN-WW	160	$16,800		$16,800
22J	Hydrologic & Hydraulic Studies	Team meetings/coordination	EN-WW	20	$2,100		$2,100
22J	Hydrologic & Hydraulic Studies	Scope additional studies	EN-WW			$15,000	$15,000
22K	Geotechnical Studies	Analyze and compare alternatives	EN-GG/GF	120	$12,600		$12,600
22K	Geotechnical Studies	Team meetings/coordination	EN-GG/GF	20	$2,100		$2,100
22L	HTRW	Placement Optrions Development, Screening and Analysis	EN-HT	60	$6,000		$6,000
22P	Design	Analyze and compare alternatives	EN-WE	120	$12,600	$2,000	$14,600
22P	Design	Team meetings/coordination	EN-WE	20	$2,100		$2,100
22P	Cost Estimating	Provide additional cost information	EN-CE	120	$12,000		$12,000
22P	Cost Estimating	Team meetings/coordinatron	EN-CE	20	$2,000		$2,000
22Q	Study Management	Analyze and compare alternatives	PL-P	120	$12,000		$12,000
22Q	Study Management	Team meetings/coordination	PL-P	40	$4,000		$4,000
22Q	Study Management	Monitor progress/coord/reporting requirements/inquiries	PL-P	40	$4,000		$4,000
22Q	Design Management	Analyze and compare alternatives	EN-WC	40	$4,000		$4,000
22Q	Design Management	Monitor EN study progress	EN-WC	52	$5,200		$5,200
22Q	Design Management	Team meeting/coordination	EN-WC	20	$2,000		$2,000
22R	Plan Formulation	Analyze and compare alternatives	PL-P	120	$12,000		$12,000
22R	Plan Formulation	Team meetings/coordination	PL-P	20	$2,000		$2,000
22R	Plan Formulation	Analyze and compare alternatives	OP-N	160	$16,000		$16,000
22R	Plan Formulation	Team meetings/coordination	OP-N	40	$4,000		$4,000
22R	Plan Formulation	GIS/mapping	PL/OP-N	250	$25,000	$5,000	$30,000
22R	Plan Formulation	Analyze and compare alternatives	CENAQ	40	$4,000		$4,000
22R	Plan Formulation	Team meetings/coordination	CENAQ	20	$2,000		$2,000
22R	Plan Formulation	Analyze and compare alternatives	CENAP	40	$4,000		$4,000
22R	Plan Formulation	Team meetings/coordinatorr	CENAP	20	$2,000		$2,000
22T	Project Management	Analyze and compare alternatives	PP	120	$12,000		$12,000
22T	Project Management	Team meetings/coordination/higher authorities reporting	PP	40	$4,000		$4,000
	PHASE III - SUBTOTAL			**2190**	**$218,400**	**$66,000**	$284,400
	Phase IV - Recommendations						
22A	Public Involvement	Newsletter and mailing lists	PL-P	40	$4,000	$1,000	$5,000
22A	Public Involvement	Draft EIS Public Hearings 3 mtgs(6 team members-2 days n District		288	$28,800	$15,000	$43,800
22A	Public Involvement	Coordination with media/advertisements	PL-P	120	$12,000	$5,000	$17,000
22A	Public Involvement	Meeting presentation graphics/information	PL-P	200	$20,000	$5,000	$25,000
22D	Cultural Studies	NEPA cultural coordination - SHPO	PL-P	40	$4,000		$4,000

22E	Environmental Studies	Coordinate plan with agencies	PL-P	16	$1,600		
22E	Environmental Studies	Prepare draft report and EIS	PL-P	120	$12,000		$12,000
22E	Environmental Studies	Response to comments	PL-P	40	$4,000		$4,000
22E	Environmental Studies	Prepare final report/EIS	PL-P	80	$8,000		$8,000
22E	Environmental Studies	Prepare ROD	PL-P	40	$4,000		$4,000
22E	Environmental Studies	Team meetings/coordination	PL-P	40	$4,000		$4,000
22F	Fish and Wildlife Studies	Recommended plan/mtgs	Workgroup	0	$0	$10,000	$10,000
22G	Economic Studies	Report preparation	PL-P/Contract	8	$800	$12,000	$12,800
22G	Economic Studies	Team meetings/coordination	PL-P/Contract	20	$2,000	$4,000	$6,000
22H	Real Estate Studies	Report preparation	RE-E	16	$1,440		$1,440
22H	Real Estate Studies	Team meetings/coordination	RE-P	20	$1,500		$1,500
22J	Hydrologic & Hydraulic Studies	Report preparation	EN-WW	24	$2,520		$2,520
22J	Hydrologic & Hydraulic Studies	Team meetings/coordination	EN-WW	20	$2,100		$2,100
22K	Geotechnical Studies	Report preparation	EN-GG/GF	50	$5,250		$5,250
22K	Geotechnical Studies	Team meetings/coordination	EN-GG/GF	20	$2,100		$2,100
22L	HTRW	Report preparation/review	EN-HT	32	$3,200		$3,200
22P	Design	Report preparation	EN-WE	40	$4,200		$4,200
22P	Design	Team meetings/coordination	EN-WE	20	$2,100		$2,100
22P	Design	CADD Support	EN-WE	0	$0	$14,000	$14,000
22P	Cost Estimating	Report preparation	EN-CE	40	$4,000		$4,000
22P	Cost Estimating	Team meetings/coordination	EN-CE	24	$2,400		$2,400
22Q	Study Management	Prepare draft report and EIS	PL-P	120	$12,000		$12,000
22Q	Study Management	Response to comments	PL-P	40	$4,000		$4,000
22Q	Study Management	Prepare final report/EIS/ROD	PL-P	80	$8,000		$8,000
22Q	Study Management	Team meetings/coordination	PL-P	40	$4,000	$5,000	$9,000
22Q	Study Management	Monitor progress/coord/reporting requirements/inquiries	PL-P	40	$4,000		$4,000
22Q	Design Management	Report preparation/Review	EN-WC	60	$6,000		$6,000
22Q	Design Management	Monitor EN study progress	EN-WC	52	$5,200		$5,200
22Q	Design Management	Team meeting/coordination	EN-WC	20	$2,000		$2,000
22R	Plan Formulation	Prepare draft report and EIS	PL-P	120	$12,000		$12,000
22R	Plan Formulation	Response to comments	PL-P	40	$4,000		$4,000
22R	Plan Formulation	Prepare final report/EIS	PL-P	80	$8,000		$8,000
22R	Plan Formulation	Team meetings/coordination	PL-P	40	$4,000		$4,000
22R	Plan Formulation	Prepare draft report and EIS	OP-N	120	$12,000		$12,000
22R	Plan Formulation	Response to comments	OP-N	40	$4,000		$4,000
22R	Plan Formulation	Prepare final report/EIS	OP-N	80	$8,000		$8,000
22R	Plan Formulation	Team meetings/coordination	OP-N	40	$4,000		$4,000

22R	Plan Formulation	Report preparation	CENAO	40	$4,000		$4,000
22R	Plan Formulation	Team meetings/coordination	CENAO	20	$2,000		$2,000
22R	Plan Formulation	Report preparation	CENAP	40	$4,000		$4,000
22R	Plan Formulation	Team meetings/coordination	CENAP	20	$2,000		$2,000
22T	Project Management	Report preparation	PP	120	$12,000		$12,000
22T	Project Management	Team meetings/coordination/higher authorities reporting	PP	40	$4,000		$4,000
22S	Report Preparation	Printing costs	PL-P	0	$0	$20,000	$20,000
22Y	Technical Review	PL QC/technical review	PL	80	$8,000		$8,000
22Y	Technical Review	RE QC/technical review	RE	16	$1,600		$1,600
22Y	Technical Review	EN QC/technical review	EN	80	$8,000		$8,000
22Y	Technical Review	NAO QC/technical review	CENAO	80	$8,000		$8,000
22Y	Technical Review	NAP QC/technical review	CENAP	80	$8,000		$8,000
22Y	Technical Review	OP QC/technical review	OP	80	$8,000		$8,000
PASE IV - SUBTOTAL				**3066**	**$306,810**	**$91,000**	**$396,210**
		SUB-TOTAL		**9,582**	**$960,310**	**$256,000**	**$1,214,710**

ESCALATION @ 3 PERCENT	**$36,000**
CONTINGENCIES @ 10 PERCENT	**$125,000**
TOTAL STUDY COST	**$1,376,000**

Baltimore Harbor and Channels
Dredged Material Management Plan

Project Management Plan

Appendix F

DMMP Study Schedule

October 2002

Port of Baltimore
Dredged Material Management Plan

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Management Plan Study**	627 days	10/1/02	3/31/05	
2	**Phase I**	110 days	10/1/02	3/12/03	
3	**Define Placement Needs***	22 days	10/1/02	10/31/02	
4	Analyze historic dredging data	22 days	10/1/02	10/31/02	
5	Estimate future new projects - Fed State	22 days	10/1/02	10/31/02	
6	Survey private user needs	22 days	10/1/02	10/31/02	
7	Input from Econ analysis	22 days	10/1/02	10/31/02	
8	NAP/NAO input	22 days	10/1/02	10/31/02	
9	State and local dredging needs estimates	22 days	10/1/02	10/31/02	
10	**Define Mgt Options**	**22 days**	**11/1/02**	**12/4/02**	4
11	Define potential types of projects	22 days	11/1/02	12/4/02	
12	Identify existing data and sources	22 days	11/1/02	12/4/02	
13	Identify implementation authorities	22 days	11/1/02	12/4/02	
14	P-6 Meeting - Study Initiation	1 day	12/5/02	12/5/02	11
15	**Establish Study Goals and Objectives**	**10 days**	**12/6/02**	**12/19/02**	14
16	Team meetings	10 days	12/6/02	12/19/02	
17	MPA/Agency input	10 days	12/6/02	12/19/02	
18	**Compile Existing Engineering, Economic, and Envil**	**55 days**	**12/20/02**	**3/12/03**	16
19	Input State's DMMP information	55 days	12/20/02	3/12/03	
20	Site 104 and other previous studies	55 days	12/20/02	3/12/03	
21	Econ data from Anchorages, Brewerton, C&D Cana	55 days	12/20/02	3/12/03	
22	GIS coverages - existing conditions	55 days	12/20/02	3/12/03	
23	Channel chemistry	55 days	12/20/02	3/12/03	
24	Circulation data	55 days	12/20/02	3/12/03	
25	Relevant technical data from agencies	55 days	12/20/02	3/12/03	
26	Bathymetry	55 days	12/20/02	3/12/03	
27	**Economic Analysis***	**66 days**	**12/5/02**	**3/12/03**	10
28	Scope contract	66 days	12/5/02	3/12/03	
29	Let contract	66 days	12/5/02	3/12/03	
30	Justification of continued maintenance	66 days	12/5/02	3/12/03	
31	Peer review	66 days	12/5/02	3/12/03	
32	In-house review	66 days	12/5/02	3/12/03	
33	Finalize report	66 days	12/5/02	3/12/03	
34	Periodic Team Meetings	110 days	10/1/02	3/12/03	
35	**Agency and Public Input**	**110 days**	**10/1/02**	**3/12/03**	
36	Distribute newsletter	20 days	10/1/02	10/29/02	
37	Initiate and update web site	110 days	10/1/02	3/12/03	
38	**Phase II**	**55 days**	**3/13/03**	**5/29/03**	
39	**Formulate Options**	**55 days**	**3/13/03**	**5/29/03**	18
40	Consider State DMMP reports and data	55 days	3/13/03	5/29/03	
41	Inner Harbor and Bay options	55 days	3/13/03	5/29/03	
42	Consider applicability of innovative uses	55 days	3/13/03	5/29/03	
43	Agency and Public Input	55 days	3/13/03	5/29/03	35
44	**Phase III**	**161 days**	**5/30/03**	**1/21/04**	
45	**Analyze Options - Inner Harbor**	**138 days**	**5/30/03**	**12/16/03**	

Revision Date: Thu 8/29/02

Note: * means that task is ongoing and will not be completed during the Phase in which it appears

Port of Baltimore
Dredged Material Management Plan

ID	Task Name	Duration	Start	Finish	Predecessors
46	Identify Data Gaps	10 days	5/30/03	6/12/03	39
47	Environmental Chemical Modeling Strategy	[illegible]	[illegible]	[illegible]	
48	Gather Data	35 days	[illegible]	[illegible]	[illegible]
49	**Establish Criteria**	**45 days**	**5/30/03**	**8/1/03**	**39**
50	Agency, MPA input	45 days	5/30/03	8/1/03	
51	State DMMP input	45 days	5/30/03	8/1/03	
52	Define criteria weightings	45 days	5/30/03	8/1/03	
53	Screen Options	50 days	8/4/03	10/14/03	50
54	Retain Viable Options	10 days	10/15/03	10/28/03	53
55	Develop Suites of Options to meet study goals	33 days	10/29/03	12/16/03	54
56	Agency and Public Input	136 days	5/30/03	12/12/03	43
57	**Analyze Options - Bay**	**136 days**	**5/30/03**	**12/12/03**	
58	Identify Data Gaps	10 days	5/30/03	6/12/03	39
59	Gather Data	22 days	6/13/03	7/15/03	58
60	**Establish Criteria**	**32 days**	**5/30/03**	**7/15/03**	**39**
61	Agency, MPA input	32 days	5/30/03	7/15/03	
62	State DMMP input	32 days	5/30/03	7/15/03	
63	Define Criteria Weightings	32 days	5/30/03	7/15/03	
64	Screen Options	55 days	7/16/03	10/1/03	61
65	Retain Viable Options	10 days	10/2/03	10/16/03	64
66	Develop Suites of Options to meet study goals	33 days	10/17/03	12/4/03	65
67	Agency and Public Input	136 days	5/30/03	12/12/03	43
68	**Develop Base Plans***	**22 days**	**12/17/03**	**1/20/04**	**55,66**
69	Coordinate with NAD, HQ	22 days	12/17/03	1/20/04	
70	Survey national base plans and rationale	22 days	12/17/03	1/20/04	
71	Obtain MPA, Agency input	22 days	12/17/03	1/20/04	
72	**P-7 Meeting - Plan Formulation**	1 day	1/21/04	1/21/04	69
73	**Phase IV**	**301 days**	**1/22/04**	**3/31/05**	
74	Preparation of Draft Report and EIS	66 days	1/22/04	4/23/04	72
75	Distnct Review	22 days	4/26/04	5/25/04	74
76	QCRR Review and Sign-Off	10 days	5/26/04	6/8/04	75
77	**P-8 Submittal of Draft to NAD**	1 day	6/9/04	6/9/04	76
78	NAD Review	22 days	6/10/04	7/12/04	77
79	Incorporate Comments	15 days	7/13/04	8/2/04	78
80	45-Day Draft EIS Public Review	38 days	8/3/04	9/24/04	79
81	Public Hearings	7 days	8/24/04	9/1/04	80SS+15 days
82	Incorporate Public Comments	15 days	9/27/04	10/18/04	80
83	Distnct Review	22 days	10/19/04	11/18/04	82
84	QCRR Review and Sign-Off	10 days	11/19/04	12/3/04	83
85	NAD Submittal of Final Report	1 day	12/6/04	12/6/04	84
86	Incorporate Comments/Revise Report	30 days	12/7/04	1/20/05	85
87	DE Notice	5 days	1/21/05	1/27/05	86
88	30-Day Waiting Period	22 days	1/28/05	3/1/05	87
89	ROD Signature	22 days	3/2/05	3/31/05	88

Baltimore Harbor and Channels
Dredged Material Management Plan

Project Management Plan

Appendix G

Mid-Chesapeake Bay Island Restoration Draft PMP

October 2002

TECHNICAL REVIEW
W. Coleman, Jr._____
D. Klosterman_____
S. Pugh _____

MID-CHESAPEAKE BAY ISLAND ENVIRONMENTAL RESTORATION FEASIBILITY STUDY PROJECT MANAGEMENT PLAN

OCTOBER 2002

TABLE OF CONTENTS

I. PURPOSE OF THE PROJECT MANAGEMENT PLAN (PMP)

This Project Management Plan (PMP) outlines the study components for the Mid-Chesapeake Bay island environmental restoration feasibility study, an interim feasibility study for the Eastern Shore of Maryland and Delaware. The purpose of this PMP is to define the scope of the feasibility study, to identify the resources necessary to accomplish the study tasks, to identify the responsible team members to accomplish the study tasks, and to establish the guidelines for successful project implementation. The PMP summarizes the general overview of the reconnaissance phase, the purpose and need of the feasibility study, the detailed steps, tasks, resources, and parties involved in conducting the feasibility study, and the schedule for conducting the feasibility study. This PMP establishes the process for identifying the problems, needs, opportunities and constraints of the study, developing conceptual and detailed designs, and preparing the feasibility report and integrated environmental impact statement (EIS).

The PMP has been developed in accordance with:

- Engineering Circular (EC) 1105-2-208, Project Study Plans (23 December 1994),
- EC 1105-2-210, Ecosystem Restoration in the Civil Works Program (1 June 1995),
- Engineering Regulation (ER) 200-2-2, Environmental Quality: Procedures for Implementing the National Environmental Policy Act (4 March 1988),
- ER 1105-2-100, Guidance for Conducting Civil Works Planning Studies (22 April 2000),
- ER 1165-2-501, Water Resource Policies and Authorities, Environmental Policies, Objectives, and Guidelines for the Civil Works Program (30 September 1999),
- Policy Guidance Letter (PGL) #60, Water Quality and Water Resources Development Projects (5 June 1998, draft),
- PGL #59, Recreation Development at Ecosystem Restoration Projects (11 June 1998),
- PGL #24, Restoration of Fish and Wildlife Resources (7 March 1991),
- ER-5-1-11, U.S. Army Corps of Engineers Business Process.

The PMP is the result of negotiations between the U.S. Army Corps of Engineers (Corps) and the Maryland Department of Transportation (MD DOT) under the auspices of the Maryland Port Administration (MPA) and must be approved by representatives from MD DOT, MPA, the Corps, Baltimore District, and certified by the North Atlantic Division (NAD) of the Corps. The model Feasibility Cost-Sharing Agreement (FCSA) is being used between the Corps and MPA.

II. STUDY AREA

The study area is located in the middle section of the Chesapeake Bay in Maryland (Figure 1).

Figure 1: Study Area

III. FEASIBILITY STUDY OVERVIEW

The Mid-Chesapeake Bay island environmental restoration feasibility study will focus on restoring hundreds of acres of aquatic and terrestrial habitat for fish, shellfish, reptiles, amphibians, birds, and mammals. This will provide direct benefits of improved health, richness, and sustainability to aquatic and wildlife species. In addition it will provide indirect benefits of education, and passive recreation and perhaps, increased tourism. The conceptual plan for the feasibility study proposes a percentage (to be determined) of wetland and upland habitats. Habitat may include submerged aquatic habitat, mudflat, low marsh, high marsh, islands, ponds, channels and upland areas.

IV. FEASIBILITY STUDY INTEGRATION WITH THE DISTRICT'S AND STATE'S DREDGED MATERIAL MANAGEMENT PLANS

Both the Baltimore District and the Maryland Port Administration (MPA) are currently conducting Dredged Material Management Plans (DMMP) for the Port of Baltimore. The plans' area extends from the mouth of the Bay in Virginia to Chesapeake and Delaware Canal, in the upper Bay, Maryland/Delaware. The Federal and State plans will develop a long-term strategy for providing viable placement alternatives that meet the dredging needs of the Port of Baltimore while maximizing the beneficial use of the dredged materials. During the preparation of these DMMPs, several placement alternatives including island restoration are being considered. Restoration of island habitat is necessary and valuable to the Chesapeake Bay ecosystem. In the last 150 years, it has been estimated that 10,500 acres have been lost in the middle-eastern portion of Chesapeake Bay. It has been estimated that most island habitats will be completely eroded and lost to the Bay in the next 10 to 20 years. As the DMMP process for the Corps and the State continues, it is expected that several island restoration sites will merit feasibility study analysis. The purpose of this PMP is to outline the tasks and costs of the island restoration site that will be selected as a result of the DMMP process. At this time, Barren, James, Holland, and Parsons islands and Lower Eastern Neck are being evaluated in the State's DMMP. A decision of which of these sites this study will investigate in feasibility level detail will be made as the first task of the feasibility study based on available data, sponsor, public and agency interest, and best professional judgment.

V. RECONNAISSANCE STUDY OVERVIEW

In accordance with Section 905(b) of the Water Resources Development Act of 1996, the Baltimore District conducted a reconnaissance study of the Maryland (MD) and Delaware (DE) portions of the Delmarva Peninsula lying within the Chesapeake Bay watershed. Subsequently, a Section 905(b) Analysis (dated 31 July 1999) was prepared that assessed the water resources problems and needs of the watershed areas. The following section provides the overview of the authorization, purpose, findings and conclusions.

A. Study Authorization

The Baltimore District received the authority to pursue the study under the resolution of the Senate Committee on Environment and Public Works on June 5, 1997, which reads:

> *Resolved by the Committee on Environment and Public Works of the United States Senate, That the Secretary of the Army is requested to review the report of the Chief of Engineers on the Chesapeake Bay, Maryland and Virginia, published as House Document 176, Eighty-eighth Congress, First Session, and other pertinent reports with a view to conducting watershed management studies, in cooperation with other Federal agencies, the State of Maryland and the State of Delaware, their political subdivisions and agencies and instrumentalities thereof, of water resources improvements in the interest of navigation, flood control, hurricane protection, erosion control, environmental restoration, wetlands protection, and other allied purposes in watersheds of the Eastern Shore, Maryland and Delaware.*

B. Purpose and Scope of the Reconnaissance Study

The reconnaissance study of the Eastern Shore of the Chesapeake Bay watershed, MD and DE was performed to accomplish four tasks: (1) to identify water resources problems, needs, opportunities, and potential solutions to the identified problems, (2) to determine whether more detailed investigations were warranted as part of a feasibility study, based on a preliminary appraisal of costs, benefits, environmental impacts, and consistency with Corps policies, (3) to estimate the time and cost of the tasks required for a feasibility study (this PMP), and (4) to assess the interest and capability of a non-Federal cost-sharing partner(s) to participate in a cost-shared feasibility study.

The reconnaissance study was conducted within an ecosystem management framework and considered aquatic and riparian habitat restoration; dredged material management; wetland restoration, creation, and protection; navigation; shoreline and streambank erosion control; flood control; water quality improvements; and hurricane protection for the Eastern Shore, MD and DE.

In determining whether or not there is Federal interest in continuing into a feasibility study, the following criteria were used:

(i) Reasonable chance of developing a cost-effective, constructable project using proven technology;
(ii) Reasonable probability that the project would make a tangible improvement to the aquatic ecosystem of the watershed; and
(iii) Reasonable assurance that the project would have sufficient local support to interest potential cost-sharing sponsors.

C. Findings and Conclusions of the Reconnaissance Study

Using the criteria defined above, the Eastern Shore, MD and DE Section 905(b) Analysis identified several projects that were within the Federal interest and thus, recommended for further detailed feasibility-level study. Importantly, beneficial use of dredged material was cited to replace habitats lost through development activities. Other projects identified within the report included restoration and creation of hundreds to thousands of acres of wetlands, assistance in floodplain management and function, enhancement of terrestrial and riparian habitat, improvement of stream conditions to reduce erosion and sedimentation, and removal of anadromous and resident fish passage blockages.

VI. NON-FEDERAL COST-SHARING PARTNER AND FEASIBILITY COST-SHARING AGREEMENT

Administrative policy permits the expenditure of Federal funds for all costs associated with the reconnaissance phase. Section 105 of the Water Resources Development Act of 1986, as amended, however, specifies that the cost of a subsequent feasibility phase be shared 50/50 between the Federal government and non-Federal cost-sharing partner(s).

To proceed beyond the reconnaissance phase, the Federal government and the non-Federal cost-sharing partner(s) must agree that the proposed project is in the Federal and non-Federal interest and then negotiate a Feasibility Cost-Sharing Agreement (FCSA) that commits both parties to sharing the feasibility study cost 50/50. Section 225 of the Water Resources Development Act of 2000 (Public Law 106-541) states the entire 50 percent of the non-Federal contribution of the feasibility study may be in the form of in-kind services. In-kind services are those tasks performed and paid for by the non-Federal cost-sharing partner(s) that are in direct support of the feasibility study effort. While all in-kind services should be in support of the particular study, it is permissible for a non-Federal cost-sharing partner(s) to reorient existing programs and ongoing work to complement the Corps' feasibility study. If in-kind services cannot be accumulated to account for the non-Federal partner(s) 50 percent of feasibility phase costs, then a cash contribution would be required for the remaining portion of study funds.

The Maryland Department of Transportation (MDOT) under the auspices of the Maryland Port Administration (MPA) has been identified as the non-Federal cost-sharing partner for this feasibility study.

A. Feasibility Purpose and Need

The purpose of the feasibility study is to further investigate and fully evaluate all reasonable solutions to the problems identified during the reconnaissance phase. The feasibility report is a complete decision document which complies with the National Environmental Policy Act (NEPA), and provides the basis for recommending construction of a project, preparing a design memorandum (if necessary), and preparing plans and specifications during the preconstruction engineering and design (PED) phase (the following project phase).

Specific purposes of the feasibility study are to:

- Conduct detailed engineering, economic, environmental, and cultural investigations to support plan formulation and evaluation;
- Identify environmental restoration projects (that are linked to existing Corps projects, when applicable) that produce high priority environmental outputs, are cost-effective, and are incrementally justified and engineeringly feasible;
- Comply with NEPA requirements;
- Estimate costs and benefits to a level of detail suitable for environmental justification;
- Determine the appropriate construction cost-sharing arrangements and obtain MPA support;
- Prepare appropriate documentation for Federal project authorization;
- Recommend favorable environmental restoration projects for authorization and construction; and
- Determine the lands, easements, rights-of-way, relocations and disposal areas (LERRD's) necessary for project construction.

As stated above, land subsidence, rising sea level, tides, currents, and wave action cause valuable island habitats to be lost through erosion throughout the Chesapeake Bay. In the last 150 years, it has been estimated that 10,500 acres have been lost in the middle-eastern portion of Chesapeake Bay. It has been estimated that most island habitats will be completely eroded and lost to the Bay in the next 10 to 20 years.

Offshore islands are a critical ecosystem component in the Chesapeake Bay watershed. Although similar vegetative communities may occur on the mainland, isolation, lack of human disturbance, and fewer predators make islands more desirable as nesting sites for waterbirds including some endangered species. Island habitats within the Chesapeake Bay have historically supported, and on some remaining remnant islands continues to support, numerous avian species including ospreys, canvasback, black and redhead ducks, egrets, terns, cormorants, great blue herons, little blue herons, green backed herons, black skimmers, pelicans and the threatened bald eagle. Diamondback terrapins and other turtle species nest on the beaches of remnant islands in the Chesapeake. Finfish such as bluefish, summer flounder, menhaden, shad, and bass frequent the shallow waters adjacent to the mid-bay islands.

The significance of the fish and wildlife resources of the Chesapeake Bay is widely recognized by the institutional, public, and technical sectors. For more than 20 years, extensive efforts have been expended to support natural resources management and restoration plans in the Chesapeake Bay region. The culmination of this effort has resulted in the Chesapeake Bay 2000 Agreement (C2K), a comprehensive blueprint for restoring the Bay and its living resources over the next decade. The C2K Agreement identifies more than 90 specific goals that are grouped into the following 5 major goals:

- Living Resources Protection and Restoration
- Vital Habitat Protection and Restoration
- Water Quality Protection and Restoration
- Sound Land Use
- Stewardship and Community Engagement

The restoration of vital habitat and living resources through the restoration of island habitat is a unique opportunity to meet two of these key C2K goals. Through the beneficial use of dredged material (taken east of the North Point-Rock Point line — the border between inner harbor and approach channels materials), a restored island can be constructed to replace hundreds of acres of lost wetland and upland habitat. This habitat will afford improved productivity to the surrounding area, while providing an environmentally sound method for the use of dredged material removed from Bay channels.

The feasibility study will investigate the restoration of island habitat through the beneficial use of dredged material for the following reasons:

- Island habitat is preferentially selected by many species of migratory birds, as well as fish and other wildlife species, as resting/nesting/foraging/production areas. Even though similar vegetative communities may occur on the mainland, isolation, lack of human disturbance, and fewer predators make islands more productive.

- Preventing further island erosion within the Bay locally decreases sediment and can locally substantially improve water clarity thereby leading to conditions that are more conducive to restoration/protection of submerged aquatic vegetation.

- Creating wetland and shallow water areas provides spawning and sheltered habitat for juvenile and forage fish species, epibenthic invertebrates, and benthic infauna.

- Shallow and protected water areas – habitat suitable for the sustainable growth of submerged aquatic vegetation, will be restored.

- Wetland and shallow water habitat, essential nursery and foraging habitat to anadromous fish, will be restored.

- Protecting environmentally, historically, and culturally significant remnant island habitat.

- Protecting shoreline for avian, reptilian, and mammalian species resting/nesting/foraging areas.

B. Study Process

The feasibility study will follow the six-step planning process described in ER 1105-2-100, Policy and Planning - Planning Guidance, 22 April 2000. The steps are as follows and are described in detail in Section B:

1. Specify water and related land resources problems and opportunities;
2. Inventory, forecast, and analyze water and related land resource conditions within the Mid-Chesapeake island area relevant to the identified problems and opportunities;
3. Formulate alternatives;
4. Evaluate effects of the alternatives;
5. Compare alternatives; and
6. Select a recommended plan.

VIII. MANAGEMENT STRUCTURE AND RESPONSIBILITIES

The purpose of this section is to define the project management and study team organization and their roles and responsibilities for accomplishing the feasibility study tasks, effectively communicating, and ensuring the guidelines of project success.

A. Executive Committee

The overall study management is the responsibility of the Executive Committee, who is comprised of the Baltimore District Engineer, Chief of Planning Division, Deputy District Engineer for Programs and Project Management Division, Chief of Operations, the State of Maryland, Secretary of Transportation, and the Executive Director of the MPA. The Executive Committee will meet as needed throughout the study to review study progress, finances, and findings as developed and reported by the study team. The Chief of Civil Project Development Branch, Planning Division, may act as an alternate for the Chief of Planning Division, while also serving as liaison to the study team. The committee will also resolve any disputes that are not resolved by the study team and will appoint appropriate representatives to serve on the study team.

B. PROJECT DELIVERY TEAM

The project delivery team (PDT) is comprised of representatives from the Corps, Baltimor District: Programs and Project Management Division; Planning Division (Civil Projec Development Branch); Operations Division (Navigation and Regulatory Branches); Engineerin Division (Civil, Foundations and Dams, Water Resources, Design Management, Hazardous Toxic, and Radioactive Waste (HTRW), and Cost Engineering Sections); Real Estate Division Legal Counsel, and representatives from the MPA and Maryland Environmental Service (MES) The team will consult the Corps' Construction, and Contracting Divisions. In addition, othe Federal, state, regional, and local agencies, and local citizen and interest groups as identified i subsection 8 below, will be included into the study team.

The PDT is responsible for completing the feasibility study in accordance with the FCSA, PMP and appropriate Federal and state guidance and regulations. The team will communicate anc meet regularly (bi monthly to monthly) to coordinate on study progress, interim findings financial status, and all matters related to conduct and completion of the study. In addition, they are responsible for plan formulation, technical and project management, and feasibility report/EIS preparation, development, and review including 65-percent complete detailed designs As part of the team, the MPA will be credited with in-kind services.

A study team leader (Planning Division) will lead the feasibility study phase. During the feasibility study phase, the study leader is responsible for overseeing all technical work performed including benefit analysis, agency and public coordination, scope of work preparation and performance of any work completed inhouse or by consultants or other agencies. A projec manager (Programs and Project Management Division) will be assigned as the mair representative for the Corps' project to the sponsor and higher Corps authority. The developmen of a timely, quality product within the established task budget is the responsibility of the projec manager.

1. Non-Federal Cost-Sharing Partner

The Maryland Department of Transportation under the auspices of the Maryland Por Administration (MPA) will be involved in all aspects of the feasibility study to ensure that they agree with the progress and findings of the study. The Corps will use MPA's experience anc expertise. MPA will attend monthly progress meetings and public workshops, participate in the plan formulation process, provide technical design and analysis, provide input, and review anc comment on the draft report or other draft products.

2. Planning Division

Civil Project Development Branch, Planning Division, is responsible for study management This includes leading plan formulation, monitoring the progress of technical work, developing and preparing the feasibility report and integrated EIS, overseeing the development of economic data and demographic information, overseeing environmental and cultural assessments overseeing cost-effectiveness and incremental cost analyses, providing input to the PMP for fina design and construction, managing contracts, overseeing environmental impact and alternative analyses, participating in the development of mitigation and monitoring plans, coordinating public involvement activities, and providing input to concept and detailed design development.

3. Programs and Project Management Division

The District's project manager (PM) is responsible for reporting to the District's Project Review Board and for preparing required project management reports used for reporting to the Corps' North Atlantic Division (NAD) and Headquarters. Responsibilities include developing and monitoring the project schedule and finances, developing and updating the PMP, managing contingencies, reviewing budget documents, coordinating the PED agreement, and identifying and resolving problems and issues.

4. Engineering Division

The design team leader (DTL) from the Civil Works Branch is the Engineering Division technical manager, responsible for managing the Engineering Division contribution to the feasibility study. These tasks include coordinating study activities, monitoring the progress of tasks, monitoring the expenditure of funds by Engineering Division, assisting in the development of the engineering appendices and technical reports, reviewing Engineering Division products, and coordinating with the PM and study team leader regarding the status of efforts. The DTL also coordinates and manages all in-house and technical contract work as needed. As part of the management tasks, the design team leader also coordinates with other study team members, prepares minutes and memos of meetings; develops, monitors, and recommends changes for schedules and resources as they pertain to the Engineering Division, and assists in the preparation for milestone meeting(s). Review of designs, including subsurface exploration and soils testing, are accomplished by the Geotechnical and Water Resources Branch. Development of initial construction and operation and maintenance (O&M) cost estimates for alternative plans and for the selected plan is the responsibility of the Cost Engineering Branch. Completion of design plates, typical details and sections, and quantity estimates are the responsibility of the Civil Engineering Section. The Water Resources Section is responsible for analyzing the hydraulics and hydrology within the study area as well as providing concept and detailed designs. Water Resources will produce and/or review water quality data, hydrodynamic modeling, coastal studies reports, coastal data, shoaling rates, wave action, and bathymetric surveys. The HTRW Branch investigates and assesses contamination, if any, within the scope of the project. Designs are anticipated to include, but are not limited to, upland and wetland restoration. Engineering Division will also be required to review and provide input to the final design and construction PMP.

5. Real Estate Division

The Corps' Real Estate Division is responsible for developing the Real Estate Plan (REP) and the Project Cooperation Agreement (PCA), and providing input to the final design and construction PMP. The REP will include the minimum lands, easements, rights-of-way, relocations, and disposal areas (LERRD's) necessary for project construction. It will also provide the necessary estates to be acquired by the non-Federal sponsor, a gross appraisal LERRD value and baseline cost estimate for real estate, current ownership, total acreages required, a detailed acquisition schedule, and describe any necessary project lands that are under navigational servitude. The real estate team member will also acquire temporary rights-of-entry for survey and exploration for the study, if necessary. A representative from Civil Projects Support Branch will be the Real Estate Division team leader.

6. Operations Division

The Operations Division will be involved in the coordination of study activities relating to wetland creation and restoration as well as navigational components of the study. They will be involved throughout the entire study process (natural resource characterization, conceptual and final designs, etc.), and will provide support to Planning Division in regards to assessing impacts to existing wetlands and on potential sites and plans for wetland creation. Further, Operations Division will provide technical guidance regarding dredging activities, placement of materials, characteristics of dredged materials, in addition to assessing project bidability and operability.

7. Office of Counsel

Office of Counsel will serve in an advisory role on any legal issues that may arise during the course of the study/project. Generally, this involvement includes obtaining wage rates, review and negotiation of agreements with the sponsor, and review and advice pertaining to environmental documents, contractor selection, and contract administration.

8. Other Participants Plan Formulation Workgroup

The following list includes some of the Federal, state, and local organizations that have shown a special interest in the study or that have a certain area of expertise required for the study. They will participate in the plan formulation process for specific projects as a workgroup. This is not intended to be an all-inclusive list. There are many other organizations that may be included but are not shown here.

- Maryland Environmental Services (MES)
- Maryland Department of Natural Resources (MD DNR)
- Maryland Department of the Environment (MDE)
- Maryland Geological Service (MGS)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Environmental Protection Agency (EPA)
- National Marine Fisheries Service (NMFS)
- U.S. Geological Survey (USGS)
- National Oceanic and Atmospheric Administration (NOAA)
- Natural Resource and Conservation Service (NRCS)
- Chesapeake Bay Foundation
- Congressional representatives and their staff members
- University of Maryland Center for Estuarine and Environmental Studies (UMCEES)
- Private groups and organizations

C. Technical Review Team

The Technical Review Team (TRT) for the study will, at a minimum, include representatives from Engineering, Counsel, Operations, Real Estate, Programs and Project Management, and Planning Divisions. They will be responsible for ensuring that all technical products of the study team meet Corps regulations, standards, and current guidance and other current applicable laws and regulations. The TRT will provide in-progress review and technical guidance throughout the

planning process to facilitate compliance and participate in key team meetings and product development. The TRT will be responsible for documentation and certification of the review process, and coordinating and signing of the quality control review report by the technical division chiefs at the end of the feasibility phase.

D. COMMUNICATION STRATEGY

Throughout the feasibility study and into project implementation, the PDT will meet regularly (bi-monthly to monthly on a formal and informal basis) to ensure the team is operating together and that there is a free exchange of information and ideas. Planning Division will coordinate and lead formal feasibility study team meetings. As discussed above, the PM is responsible for the overall management and primary point-of-contact with the non-Federal sponsor, other project partners, Congressional interests, and the project delivery team of the project. The non-Federal sponsor and other study partners are integral members of the team will be included in team meetings. Other technical meetings with different team members will also occur as necessary to exchange and discuss information. Documentation of major feasibility study team meeting findings and conclusions will be the responsibility of the study team leader.

To ensure the guidelines for project success, the non-Federal sponsor and the Baltimore District, are true study and project partners. Each party is obligated to confirm the other is fully informed of all decision-making processes and both parties have agreed to the decision, within the guidelines of their respective rules and regulations. Each party has the right to receive the decision-making documents prior to the decision and to voice their opinion before the decision is made. Dealings between the parties shall be founded on good faith effort, with the successful completion of the project being the guiding principle.

E. ACQUISITION STRATEGY

As the feasibility study is in-process, it will be necessary to contract activities that include hydraulic and geotechnical investigations, wildlife studies including a Planning Aid Report from the U.S. Fish and Wildlife Service, and underwater cultural resource investigations. An acquisition strategy for resource leveling will be developed to maintain the project schedule and to document contracting and workload decisions made throughout the life of the project.

F. CHANGE CONTROL

This PMP serves to define the sponsor's expectation in project preparation. It is reflective of the time it is established and can be revised to accommodate changes in project implementation created by progress, new information, changes in policy, and other occurrences. The PDT, non-Federal sponsor, regulatory agencies, the Corps of Engineers, and Congress can make requests for changes in project scope, schedule, cost, or budget. Requests for significant changes must be submitted in writing. The PM, through consultation with technical staff, will respond to change requests by identifying technical comments, funding, and schedule impacts that may result from the change. If the change is warranted, the PM will adjust the schedule and will seek additional funding, as necessary.

Revisions to the PMP will be coordinated with the Baltimore District elements. Concurrence from the Baltimore District Project Review Board will be obtained prior to implementation of significant changes.

IX. FEASIBILITY STUDY SCHEDULE

FCSA execution is scheduled for September 2002 with study initiation scheduled for October 2002. The feasibility phase can begin only after approval and certification of the reconnaissance report, negotiation and signature of the FCSA, and receipt of funds, at a minimum.

This PMP reflects the Corps' and MPA's plan to meet the technical goals and objectives of the Mid-Chesapeake Bay Island Environmental Restoration Feasibility Study and Integrated EIS. The preliminary milestone schedule assumes that funding for the study is provided for FY03 and that subsequent years are funded as required to effectively accomplish the study.

Schedule	Action
Oct 2002	Execute FCSA with MPA and initiate feasibility study (P6)
Oct 2002	Initiate feasibility study (P6)
Oct 2002	Initiate Step 1 – Identify Problems, Needs and Opportunities
Oct 2002	Initiate Step 2 – Baseline Conditions
May 2003	Initiate Step 3 – Develop Alternatives
Nov 2003	Initiate Step 4 – Evaluate Alternatives
Jan 2004	Conduct Alternative Formulation Briefing (P7)
Mar 2004	Initiate Step 5 – Compare Alternatives
Apr 2004	Initiate Step 6 – Select Recommended Plan
Nov 2004	Complete final designs (65 percent complete)
Nov 2004	Complete Real Estate Mapping, Gross Appraisal and draft REP
Mar 2005	Complete draft feasibility report and integrated EIS; Submit to NAD (P8)
May 2005	Draft feasibility report and integrated EIS to the public (45-day review)
Aug 2005	NAD receives final feasibility report and integrated EIS (P9)
Sept 2005	Submittal of the Division Engineer's public notice (P10)
Nov 2005	Signature of the Record of Decision

X. DETAILED FEASIBILITY STUDY SCOPE

A. FEASIBILITY STUDY PROCESS

This section provides an overview of the study and will be the framework to guide the study team throughout the feasibility phase. The information presented in this section includes an overview of the (1) study goal and objectives; (2) products; (3) study process and specific breakdown of study tasks and responsible parties; and (4) assumptions.

1. Study Goal and Objectives

As part of the reconnaissance study and preparation of the PMP, broad feasibility study goals, problems, and objectives were established among the Corps and its partners. The goal for this feasibility study is to restore valuable aquatic and terrestrial resting, nesting, foraging, and nursery habitat that has been lost in the Chesapeake Bay for many migratory birds, fish, and wildlife species through the beneficial use of dredged material. Through the beneficial use of clean dredged material, a restored island can be constructed to replace hundreds of acres of wetland and upland habitat. This habitat will afford improved productivity to the surrounding area, while providing an environmentally sound method for the use of dredged material removed from Bay channels.

Specific objectives to accomplish this goal are to:

- Restore aquatic and terrestrial habitat for fish, reptiles, amphibians, birds, and mammals;
- Increase fisheries nursery-, feeding-, and protective-habitats;
- Increase wetlands acreages in the Chesapeake Bay watershed;
- Improve water quality;
- Decrease sedimentation into the Bay;
- Restore vegetation including promoting the establishment of submerged aquatic vegetation;
- Promote conditions that support oyster recolonization;
- Improve essential fish habitat to improve anadromous fish range;
- Enhance aesthetics of the Chesapeake Bay;
- Increase recreational wildlife viewing;
- Increase educational understanding of wildlife species; and
- Protection of rare, threathened and endangered species.

2. Products

Three major products will be produced from this feasibility study. They include (a) a feasibility report and integrated NEPA document (EIS), including approximately conceptual plans/alignments and detailed design (65 percent complete) of the recommended plan, (b) PED agreement and financing plan, and (c) the PMP for the final implementation phases (plans and specifications, and construction). The feasibility report, integrated NEPA document, and designs

will be the culmination of environmental, cultural, economic, engineering, navigation, and real estate assessments and analyses. Combinations of project benefits, costs, and impacts will be evaluated and compared in order to select the recommended restoration plan.

A. Integrated Feasibility Detailed Project Report (DPR) and Environmental Impact Statement (EIS)

This product includes all activities leading to the approval of the final feasibility detailed project report (DPR) and integrated EIS by the Secretary of the Army, Civil Works. It entails documentation of all problem identification and formulation activities to recommend plans for environmental restoration. The integrated report details the impacts of the alternatives considered and the recommended plan. It includes NEPA, environmental compliance documentation with all applicable laws, regulations, and Executive Orders; coordination with all interested parties and the public; draft and final independent technical and public review; notification of findings; and ultimately, transmittal to Congress.

The detailed information gained in the feasibility study will be used to refine the final designs and costs in the 65 percent design phase (using preliminary monitoring data) and PED phase (using additional monitoring data). As part of the NEPA documentation, the alternatives analysis will investigate the positive and negative impacts of solutions proposed throughout the watershed. The feasibility study and integrated EIS, culminating in the Division Engineer's Notice, is scheduled for completion in FY 2005.

B. Preliminary Implementation and Financing Plans

As the details of the recommended plans are finalized, coordination will be undertaken with MPA to review the model language for the PED agreement, as well as eventual cost-sharing requirements. Letters of intent will be developed that acknowledge the requirements of local cooperators and express MPA's good faith intent to provide those items for the recommended set of projects. Additionally, preliminary plans for financing the non-Federal share of project costs will be developed by MPA for Corps review and approval.

C. PMP for Final Design and Construction

Through the feasibility study, the PMP will be the basis for project implementation as information on costs and the recommended plan are defined. The PMP will address the schedule of PED activities. These activities include design memorandums, and preparation of plans and specifications for the initial construction contracts. The PMP will address the development of additional products, development of more detailed plans for successful construction management, and completion of the project. It will be updated as the project approaches construction and as any major schedule or scope changes occur.

STEP 1: PROBLEMS, NEEDS, AND OBJECTIVES

At the time of study initiation, the study team (Federal/non-Federal) will meet to clearly define the study problems, goals, objectives, and constraints. The problems and opportunities will be defined to reflect the priorities and preferences of the Federal Government, the non-Federal sponsors, and other groups participating in the study process (ER 1105-2-100). NEPA regulations require all Federal agencies involved in water resources planning to conduct a process termed "scoping." The NEPA scoping process determines the scope of issues to be addressed and identifies the significant issues related to the proposed action. The information on problems and opportunities will help to identify primary issues that need to be addressed within the scope of the study.

Study Initiation

The Corp's Planning Division will prepare study initiation letters to the resource agencies, elected officials, and local jurisdictions informing the parties of the study and soliciting information into the study. The Corps' Planning Division will also prepare, print, and distribute a newsletter during the initiation phase of the feasibility study, in addition to a Notice of Intent, to inform the public of this cooperative study of island restoration, to inform the public about the scoping meeting, and to solicit input from the community into the study. Planning Division will be responsible for advertising in local and public newspapers; coordinating with the media; and responding and commenting on inquiries from the general public and Congressional interests. The non-Federal cost-sharing partner will provide information into the development of the mailing list within one month after the feasibility study has been initiated and the Corps will update the list throughout the study.

Public Scoping Meeting

A public scoping meeting will be conducted to outline the process and intent of the feasibility study, to discuss the study process, and to learn public concerns. Effort will be taken to make interested parties are aware of the workshop through a variety of public announcements including newspaper advertisements. The purpose of their attendance is to determine their level of participation regarding potential restoration project. The results of this discussion will be used during the plan formulation process. Planning Division and the sponsor will share in the responsibility of preparing materials, including visual aids (i.e., maps, poster boards, slide presentations, handouts, photographs) for the public workshop. The non-Federal sponsor will identify a meeting location and will attend the meeting. Members of the District study team will attend the meeting, record and document public comments, and coordinate information from the meeting.

Site Assessment
Members of the study team (Engineering, Planning, Programs and Projects, Real Estate, Operations, MPA, and other interested workgroup participants) will tour the selected island as it exists now to have an understanding of the existing conditions, and potential restoration opportunities. Information will be collected to use in Step 2, Baseline Conditions. The non-Federal sponsor will be included in the site visit.

Team Meetings
Internal team meetings will be conducted regularly (bi montly to monthly) to ensure the team is clearly understanding and defining the problems and restoration opportunities. At least one all encompassing team meeting (Federal/non-Federal and other interested parties) will be held to discuss the study problems, opportunities, goals, objectives, and constraints.

Workgroup Meeting
The plan formulation workgroup comprising other interested parties and other Federal, state, and local entities (discussed in Section VIII) will meet with the study team to discuss the overall problems, goals, opportunities and constraints of the study. Input received from the group will be used to formulate the study.

NEPA Coordination
The Planning Division environmental leader will be responsible for adhering to the coordination requirements set forth in NEPA, as well as compliance with other environmental laws and regulations. In addition to the other tasks listed in this sub-account, further coordination to be accomplished as part of the NEPA process will include correspondence among Federal, state, and local agencies; and preparation of the integrated EIS.

Management
Coordination of study efforts (Planning study team leader), oversight and guidance of technical work performed (Planning study team leader, and Engineering design team leader), preparation of reporting information (Planning study team leader, and Project Manager), response to study inquiries (Planning study team leader, and Project Manager), and oversight of schedule and budget (Project manager, Planning study team leader, and Engineering design team leader) will be performed throughout the study phase. The non-Federal sponsor will provide oversight, management, and guidance of technical work performed by their contractors.

Study Costs – Problems, Needs, and Objectives

Total Federal Labor Cost:	**$215,400**
Other Federal Cost:	**$17,000**
Total MPA Labor Cost:	**$85,000**
Other MPA Cost:	**$14,000**
TOTAL STEP 1:	**$331,400**

STEP 2: INVENTORY AND BASELINE CONDITIONS

Following problem identification, the team will develop an inventory and forecast of critical resources relevant to the problems and restoration goals identified. This information will be used to further define and characterize the problems and opportunities. A quantitative and qualitative description of these resources will be made, for both current and future conditions, and will be used to define existing and future without project conditions. Existing conditions are those at the time the study is conducted. The future without-project conditions provide the basis from which alternative plans are formulated and impacts are assessed (ER 1105-2-100).

Data Collection

The non-Federal sponsor is responsible for conducting, collecting, obtaining, analyzing, monitoring, and reporting the following data and information for this study:

Water Resources Studies

Coastal data for wind, tides, currents, storm propagated and ship generated waves, sediment depositions, shoaling rates; hydrodynamic characterization, compilation of wave analysis including wave heights, frequency, periods, run-up and overtopping; erosion and sediment control measures, protection of existing and proposed wetland areas, shoreline protection devices including breakwaters, jetties, dike embankments, hydrodynamic modeling and digital bathymetric surveys and information using NOAA charts, including navigation channels.

Geotechnical Studies

Soil type and characteristic (samples tested for Attenberg limits, natural water content, sieve analysis, consolidated characteristics, unconfined compressive strength), boring locations using a global positioning system, water depth, and subsurface and foundation conditions using side scan sonar, and electronic cone penetrometer tests.

Environmental Studies

The non-Federal sponsor or their contractors will be responsible for conducting, collecting, obtaining, analyzing, monitoring, and reporting the following environmental data and conditions throughout the entire feasibility study. The Baltimore District will prepare a scope of work for these assessments for implementation by the non-Federal sponsor. The Baltimore District will review and approve the applicability and conclusions of the environmental data. The non-Federal sponsor will be required to revise any information not accepted by the Baltimore District.

Water quality (temperature, dissolved oxygen, pH, conductivity); nutrients and anoxia; plankton production; eutrophy potential; benthic community structure; submerged aquatic vegetation (SAV) historical surveys; currently existing SAV surveys; sediment quality; shallow water habitat issues; finfish and shellfish surveys; essential fish habitat and habitat of particular concern; fisheries: recreation, commercial, spawning; licensed oyster bars, designated beds, fossil shell area; rare and endangered species; plankton, and ichthyoplankton; groundwater; avian and terrestrial species and habitat, upland

As part of the study team, the Corps will actively coordinate with the other Federal agencies including the USFWS and NFMS throughout the entire study. A contract to the USFWS and NFMS will be prepared and issued by the Baltimore District to these agencies for participation of these agencies throughout the study. USFWS and NFMS will provide biological and rare, threatened, and endangered species as well as essential fish habitat information including any reporting requirements. The USFWS and NFMS will also review environmental data collected by the non-Federal sponsor.

Cultural Studies

The cultural resource investigations to be conducted are required to comply with the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 Code of Federal Regulations Part 800, Protection of Historic Properties. The National Historic Preservation Act requires that all Federal undertakings be subjected to a review process to determine whether the undertaking may affect historic properties, and if historic properties are found, that the Federal agency take actions to avoid or minimize the effects of the undertaking on the historic property. The results of the cultural resource investigations will be used in project planning to minimize the potential effects of this project on significant cultural resources.

Phase I Cultural Resource Survey

As part of this feasibility study, the MPA and its contractors will conduct a Phase I cultural resource investigation for compliance with Section 106 of the National Historic Preservation Act. The initial Phase I investigation will be limited to terrestrial investigations. The Baltimore District will write a scope of work for the cultural assessment for implementation by the non-Federal sponsor. The District will review and approve all cultural resource work performed by the non-Federal sponsor or their contractors.

Phase I cultural resource analysis will be conducted for all project locations proposed for alternatives analysis. In general, the likely locations for site selection are known to have a high sensitivity to both prehistoric and historic cultural resources. The Phase I survey will be conducted by District personnel, and will consist of a review of existing State site files, historical documentation, and other pertinent information. Unless the project location can be documented as disturbed, the Phase I will also consist of a pedestrian reconnaissance and initial field investigations. The objective of the Phase I will be to document the presence or absence of potentially significant cultural resources for each study location. The results of the Phase I will be forwarded to the appropriate State Historic Preservation Officer for review and comment.

Project locations or portions of project locations containing known or potentially culturally significant archeological or architectural resources will be incorporated into the

alternatives development, and an attempt will be made to avoid impacting the archeological or architectural resources. Phase II studies will only be conducted on those portions of sites that cannot be avoided.

The District staff will collect and provide the following data and information to the study:

Socioeconomic
Planning will collect historical and current social, demographic, economic and land pattern and use data.

Real Estate Studies
Real Estate-related work includes the development of ownership data that is obtained by researching tax records using the study area. The proposed study area is reviewed to determine the potential lands, easements, rights-of-way, relocations, and disposal areas including any temporary work area/staging areas required for the project. The non-Federal cost-sharing partner will assist the District staff in determining land ownership.

If any cultural, environmental, HTRW, survey, or geotechnical analyses are required as part of the feasibility study, rights-of-entry for survey and exploration will be obtained by the Real Estate Division from the property owners. All rights-of-entry will be for a minimum of 1 year unless property owners request otherwise.

Data Review/Without Project Conditions
Presentation of the information listed in the preceding paragraphs will provide a good basis for the establishment and documentation of the without-project condition. Through discussions with others, interpretation of data, trend analysis, and informed judgment, this information will be molded into a plausible and cohesive presentation of what is likely to transpire in the study area without implementation of a project. This information will then be used to prepare alternative designs (Step 3).

Environmental Studies
The Planning Division environmental lead will review information on aquatic habitat, upland and wetland habitats, water quality indicators, adjacent land use, and fish migration provided by the non-Federal sponsor in order to characterize the conditions and specifically quantify the environmental baseline conditions. The environmental lead will identify any missing information for baseline conditions and relay that information to the non-Federal sponsor for collection. The level of detail for data collection will be at a level of detail that will result in the identification of type, location, extent, magnitude (qualitative and quantitative), and restoration potential of the opportunities identified within the study area.

A Planning Division biologist will review data on benthos, finfish, reptilian, avian, and other mammalian sampling. The inventory will focus on species diversity, size, and health. This information will be used to assess current conditions, and determine quantitative and qualitative environmental benefits.

Engineering Studies

Engineering Division, Foundations and Dams (F&D) and Water Resources Sections will review all geotechnical and hydraulic information relative to this project and previous studies for use in the development of alternatives. Existing geotechnical information consists of the results of subsurface exploration completed by the State's consultant, and preliminary evaluation of dike material sources and dike construction methods. F&D Section will perform geotechnical evaluations considering boring data and testing results to determine foundation conditions and borrow source potential for alternative designs. The evaluation of the existing subsurface soil conditions will determine foundation conditions beneath potential perimeter dike alignments and the availability of suitable borrow material for dike construction.

Water Resources Section will consider existing coastal and hydraulic information and recommend a field data collection effort relating to the design of the stone armor sections and selection of the preferred layout. Water Resources Section will develop a hydrodynamic model to provide a necessary tool to predict the tidal and wind driven flow in the vicinity of the proposed island site. The primary modeling recommended is ADCIRC (ADvanced CIRCulation Multi-dimensional Hydrodynamic Model), a latest-generation multidimensional hydrodynamic model based on the solution of the generalized wave equation formulation of the governing equations on a highly flexible unstructured grid. The model domain will include the entire Chesapeake Bay, and will be validated to available measured tide and current data and new data collected during the feasibility study. Information collected will be used in the baseline conditions, and the evaluation of alternative plans (Step 4).

Water Resources Section will also review hindcast wave information provided by the sponsor to characterize offshore wave conditions for use in detailed nearshore wave transformation modeling. Nearshore processes such as refraction, shoaling, bottom diffraction, and breaking will be examined in detail. This information will be used to develop preliminary island perimeter dike cross-sections. The preliminary sections will be developed with consideration given to structural stability, allowable overtopping rates, and scour protection. STWAVE will be used for a limited number of normal and extreme wave conditions to examine areas where there may be hotspots or special protection requirements.

Civil Engineering section will review existing survey data and develop scope of work for additional survey for the design of the selected plan, including borrow areas and access.

Team Meetings

Internal and external team meetings will be conducted regularly (bi-monthly to monthly on a formal and informal basis) to ensure the team is operating together and that there is a free exchange of information and ideas. Planning Division will coordinate and lead formal study team meetings. The non-Federal sponsor and other study partners will be included in team meetings. Other technical meetings with different team members will also occur to exchange and discuss information.

Workgroup Meeting

The plan formulation workgroup comprising other interested parties and other Federal, state, and local entities will meet with the study team to provide available data and existing resource information of the study area and study components. Input received from the group will be used to formulate the project planning.

Management

Coordination of study efforts (Planning study team leader), oversight and guidance of technical work performed (Planning study team leader, and Engineering design team leader), preparation of reporting information (Planning study team leader, and Project Manager), response to study inquiries (Planning study team leader, and Project Manager), and oversight of schedule and budget (Project manager, Planning study team leader, and Engineering design team leader) will be performed throughout the study phase. The non-Federal sponsor will provide oversight, management, and guidance of technical work performed by their contractors.

Study Costs – Inventory and Baseline Conditions

Total Federal Labor Cost:	**$261,900**
Other Federal Cost:	**$169,700**
Total MPA Labor Cost:	**$116,700**
Other MPA Cost:	**$645,000**
TOTAL STEP 2:	**$1,193,300**

STEP 3: DEVELOP ALTERNATIVE PLANS

The team will develop alternative plans that identify specific ways to achieve planning objectives within constraints, so as to solve the problems and realize the opportunities that were identified in Step 1. If appropriate, alternative plans would not be limited to those that only the Corps could implement, but plans that could be implemented under the authorities of other Federal agencies, state and local entities and non-government interests (ER 1105-2-100).

This feasibility process will identify and develop potential alignments to the restoration objective. [Five alternatives have been identified for budgetary purposes only in scoping this PMP. If more alternatives are identified, additional study costs will be necessary.] These alignments will consist of wetland and upland habitats. These environmental restoration solutions will consist of a system of structural and/or non-structural measures, strategies, or programs formulated to alleviate specific problems or take advantage of specific opportunities associated with the study goals. The conceptual designs will be developed, evaluated, and assessed for the purpose of generating environmental outputs, unit costs, conceptual construction costs, and determining engineering feasibility. Upon completion of this step, the study team will be able to define environmental outputs between various restoration measures and compare the effectiveness of each

measure within a given site in addressing the specific problem statements, resource objectives, and performance criteria. Then, a cost-effectiveness analysis (Step 4) will be conducted for the purpose of identifying the most cost-effective restoration solutions for each resource objective.

Develop Conceptual Alternatives

Engineering Division (Water Resources Section, Foundations and Dams Section, Geology & Investigations Section, and Civil Engineering Section), Planning Division, Civil Project Section, Operations Division (Navigations and Regulatory Branches) and the non-Federal sponsor will work together in the preparation of the conceptual plans. These concept designs will be general in nature (but will include costs) and in sufficient detail to convey the nature of the potential environmental benefits and impacts of the specific project to be used in cost-effectiveness and incremental analysis. Detailed drawings will not be prepared. Bathymetric, wave and water level information, sediment content and analysis, survey data and existing subsurface exploration and testing results provided by the non-Federal sponsor will be used in developing the conceptual designs.

Plans will be developed for each alternative alignment using simple geometric layout. Typical cross sections based on coastal and geotechnical analysis for wave action and stability will be applied to each alignment to determine quantities of construction materials and storage volumes. Since exposure conditions are similar to Poplar Island, it is assumed that each alignment will require three typical cross sections. It is also assumed that a maximization of possible future dike raising scenarios for upland cells will be required. Potential borrow sources will be identified, the quality of borrow materials will be assessed, and preliminary borrow quantity estimates will be performed. The conceptual dike alignment will be adjusted as appropriate for the available borrow materials based on engineering judgment. Quantities will include exterior and interior dike materials, drainage facilities, borrow sites and access channels and/or causeways.

Planning Division will determine the environmental outputs of each potential restoration solution. This information will be used and be further defined in Steps 4 and 5.

Conceptual Design Cost Estimate

The Engineering cost estimator will develop accurate baseline cost estimates for each of the conceptual plans. The cost estimate will be in the MicroComputer Aided Cost Estimating System (MCACES) format and include summary sheets for direct costs, indirect costs, and owner costs to the third title level for all features addressing inflation through project completion. It should be noted that Real Estate costs are not included in conceptual plan estimates. The cost estimator will document the methodology used in the preparation of each concept design cost estimate.

Public Meeting

A second public meeting will be conducted to discuss the conceptual plans, to gain additional information into the conceptual plans, to learn public and agency concerns and to discuss the study process. Planning Division and the sponsor will share in the responsibility of preparing materials, including visual aids (i.e., maps, poster boards, slide presentations, handouts, photographs) for the public workshop. The non-Federal sponsor will identify a meeting location,

and will attend and participate in the meeting. Members of the District study team will attend the meeting, record and document public comments, and coordinate information from the meeting.

Team Meetings

Internal and external team meetings will be conducted regularly (bi-montly to monthly on a formal and informal basis) to ensure the team is operating together and that there is a free exchange of information and ideas. Planning Division will coordinate and lead formal study team meetings. The non-Federal sponsor and our other study partners will be included in team meetings. Other technical meetings with team members will also occur to exchange and discuss technical information and issues.

A P7 meeting (Plan Formulation meeting) will be conducted with the Corps' Headquarters and Division staff. As part of the P7 meeting, a plan formulation report will be prepared and sent to Corps' Headquarters and Division staff. The report will document the alternatives along with the benefits and impacts of each plan. The Planning study team leader and the project manager will coordinate and conduct this meeting. All team members (Baltimore Corps and non-Federal sponsors, including our other study partners) will attend to discuss project alternatives and the study process.

Workgroup Meeting

The plan formulation workgroup comprising other interested parties and other Federal, state, and local entities will meet with the study team to provide input, information, concerns, and agency interest into the development of the conceptual plans. Input received from the group will be used to formulate the conceptual plans.

Agency Coordination

Planning Division will coordinate conceptual plans with resource agencies and interested parties. Information gained from these resources will be valuable in the selection and recommendation of the final project. Distribution and coordination of these conceptual plans will be in an easily understood format.

Management

Coordination of study efforts (Planning study team leader), oversight and guidance of technical work performed (Planning study team leader, and Engineering design team leader), preparation of reporting information (Planning study team leader, and Project Manager), response to study inquiries (Planning study team leader, and Project Manager), and oversight of schedule and budget (Project manager, Planning study team leader, and Engineering design team leader) will be performed throughout the study phase. The non-Federal sponsor will provide oversight, management, and guidance of technical work performed by their contractors.

Study Costs – Develop Alternative Plans

Total Federal Labor Cost:	**$336,000**
Other Federal Cost:	**$22,900**
Total MPA Labor Cost:	**$100,300**
Other MPA Cost:	**$12,000**
TOTAL STEP 3:	**$471,200**

STEP 4: EVALUATE ALTERNATIVE PLANS

The evaluation of effects is the comparison of the with-project and without-project (No-Action) conditions for each alternative. The evaluation will be conducted by assessing or measuring the differences between each with-and without-project condition and appraising or weighting those differences (ER 1105-2-100).

As stated in ER 1105-2-100, evaluation consists of four tasks. 1) Forecast the most likely with-project conditions expected under each alternative plan. Criteria to evaluate the alternative plans include all significant resources, outputs, and plan effects. 2) Compare each with-project condition to the without-project condition (No-Action) and document the differences between the two. 3) Characterize the beneficial and adverse effects by magnitude, location, timing and duration. 4) Identify the plans that will be further considered in the study, based on a comparison of the adverse and beneficial effects and the evaluation criteria. All Corps water resources development projects are evaluated in terms of acceptability; completeness; effectiveness; and efficiency.

Defining Future Projections

This study task will involve defining future with-project conditions for the same parameters as those identified in Step 2, Baseline Conditions. Through discussions with others, interpretation of data, trends analysis, and professional judgment, conditions will be formed into what is likely to transpire in the study area with the proposed project implementation. This conclusion will be compared to the existing and most probable future without-project conditions in order to identify the potential impacts of the proposed projects on the environmental, natural, and social and economic resources in the study area. Standards and regulations concerning water quality, air quality, public health, wetland protection, and endangered resources will be given specific consideration. Planning Division biologists, economists, and planners, with assistance from the non-Federal sponsor, will work together to identify future with-project conditions of each alternative plan. Information will be coordinated and shared with all team members to ensure that the most all inclusive with-project conditions are considered.

Identify Project Impacts

This task involves identifying impacts of alternative plan implementation. This impact assessment will consider and compare benefits or drawbacks of the existing (without project) and proposed plans from a technical perspective as well as from a perceived perspective. The

impacts will be described by type and location of impact, as well as by level of concern. This analysis will consider changes as a result of implementation on various environmental and social resources in the study area. Planning Division biologists, economists, and planners, and the non-Federal sponsor will work together to identify future with-project conditions of each alternative plan. Information will be coordinated and shared with all team members to ensure that the most all inclusive with-project impacts are evaluated.

Cost-Effectiveness Analysis

Cost effectiveness and incremental cost analyses (discussed below) assist in the evaluation of project alternatives for environmental restoration planning studies. The purpose of the analyses is twofold - (1) to ensure that the economically efficient, least cost solution is identified for each possible level of environmental output, and (2) to produce a comparison of the changes in costs associated with increasing levels of outputs in order to provide the study team with the necessary data from which to make an informed decision.

At a minimum, two categories of effects will be evaluated; costs and outputs. Environmental outputs (benefits) are the desired or anticipated measurable products or results of restoration measures and plans. A cost effectiveness analysis is used to show that an alternative restoration plan's output cannot be produced more cost effectively by another alternative. "Cost effective" means that, for a given level of non-monetary output, no other plan costs less, and no other plan yields more output for less money. Planning biologists and planners will identify plan benefits. Planning Division biologists, economists, and planners with assistance from the non-Federal sponsor, will work together to conduct the cost-effective analysis. Plan costs will be provided from Engineering Division, Cost Engineering Branch. Information will be coordinated and shared with all team members to ensure all costs and benefits were considered.

Incremental Analysis

For an incremental cost analysis, a variety of implementable alternatives and various-sized alternatives are evaluated to arrive at a "best" level of output within the limits of both the sponsor's and the Corps' capabilities. The subset of cost effective plans are examined sequentially (by increasing scale and increment of output) to ascertain which plans are most efficient in the production of environmental benefits. Those most efficient plans are called "Best Buys." They provide the greatest increase in output for the least increase in cost. They have the lowest incremental costs per unit of output. In most analyses, there will be a series of Best Buy plans, in which the relationship between the quantity of outputs and the unit cost is evident. As the scale of Best Buy plans increases (in terms of output produced), average costs per unit of output and incremental costs per unit of output will increase as well. Usually, the incremental analysis by itself will not point to the selection of any single plan. The results of the incremental analysis must be synthesized with other decision-making criteria (for example, significance of outputs, acceptability, completeness, effectiveness, risk and uncertainty, reasonableness of costs) to help the team select and recommend a particular plan. Planning Division biologists, economists, and planners, with assistance from the non-Federal sponsor, will work together to conduct the incremental analysis.

Risk and Uncertainty Considerations

As defined in ER 1105-2-100, when identifying the National Ecosystem Restoration (NER) plan, the associated risk and uncertainty of achieving the proposed level of outputs will be considered. Risk-based analysis is defined as an approach to evaluation and decision making that explicitly, and to the extent practical, analytically incorporates considerations of risk and uncertainty. Risk-based analysis will be used to compare plans in terms of the likelihood and variability of their physical performance, economic success and residual risks. A risk-based approach to water resources planning captures and quantifies the extent of risk and uncertainty in the various planning and design components of an investment project. The total effect of risk and uncertainty on the project's design and viability will be examined and conscious decisions made reflecting an explicit trade-off between risk and costs. Planning Division biologists, economists, and planners, with assistance from the non-Federal sponsor will conduct a risk and uncertainty analysis on all alternative plans.

Real Estate Analysis

Real Estate Division will evaluate the alternative plans and coordinate with the team as to any potential problems or added costs to do the type of real estate necessary, such as agricultural versus industrial, or expensive relocations that might be located in one alternative versus another.

HTRW Analysis

The conceptual plans will be screened for potential HTRW contaminants at the project site. In general, any alternative identified as having a potential for HTRW will be excluded from further planning stages. It should be noted that per EPA guidelines, dredged materials from the Bay channels is not classified as HTRW. The non-Federal sponsor will conduct the HTRW preliminary assessment. This assessment will be reviewed by the Engineering, HTRW Branch.

Water Resources Studies

Physical model tests will be performed by Engineering Water Resources Section on a limited number of cross-section alternatives to verify design assumptions and parameters, and assess constructability issues. Testing will be on design-level conditions only to assess stability, overtopping, toe scour, etc.

Team Meetings

Internal and external team meetings will be conducted regularly (bi-montly to monthly on a formal and informal basis) to ensure the team is operating together and that there is a free exchange of information and ideas. Planning Division will coordinate and lead formal study team meetings. The non-Federal sponsor and our other study partners will be included in team meetings. Other technical meetings with team members will also occur to exchange and discuss technical information and issues.

Workgroup Meeting

The plan formulation workgroup comprising other interested parties and other Federal, state, and local entities will meet with the study team to provide analysis of the conceptual plans. Input received from the group will be used to recommend the final project design.

Management
Coordination of study efforts (Planning study team leader), oversight and guidance of technical work performed (Planning study team leader, and Engineering design team leader), preparation of reporting information (Planning study team leader, and Project Manager), response to study inquiries (Planning study team leader, and Project Manager), and oversight of schedule and budget (Project manager, Planning study team leader, and Engineering design team leader) will be performed throughout the study phase. The non-Federal sponsor will provide oversight, management, and guidance of technical work performed by their contractors.

Study Costs – Evaluate Alternative Plans

Total Federal Labor Cost:	**$329,500**
Other Federal Cost:	**$59,300**
Total MPA Labor Cost:	**$58,100**
Other MPA Cost:	**$160,000**
TOTAL STEP 4:	**$606,900**

STEP 5: COMPARE PLAN ALTERNATIVES

Alternative plans that qualified for further consideration will be compared against each other in order to identify the plan to be recommended for implementation. A comparison of the effects of various plans must be made and tradeoffs among the differences observed and documented to support the final recommendation. The effects include a measure of how well the plans do with respect to planning objectives including the outputs and costs. Effects required by law or policy and those important to our study partners and the public will be considered. Previously, in the evaluation process, the effects of each plan were considered individually and compared to the without-project condition. In this step, plans are compared against each other, with emphasis on the important effects or those that influence the decision-making process. The comparison step concludes with a ranking of plans.

Trade-off Analysis
Trade-off analysis is the procedure to identify the potential gains and losses associated with producing a larger or lesser amount of a given output or outputs. The results of trade-off analysis are used in the formulation, evaluation, comparison and selection of the recommended plan. Assessing trade-offs is common in Corps project planning.

Plan Comparison
The team, including the non-Federal sponsor and other study partners, will compare each plan against each other to determine the optimum plan.

Team Meetings
Internal and external team meetings will be conducted regularly (bi-montly to monthly on a formal and informal basis) to ensure the team is operating together and that there is a free exchange of information and ideas. Planning Division will coordinate and lead formal study team meetings. The non-Federal sponsor and our other study partners will be included in team meetings. Other technical meetings with team members will also occur to exchange and discuss technical information and issues.

Workgroup Meeting
The plan formulation workgroup comprising other interested parties and other Federal, state, and local entities will meet with the study team to provide input into the comparisons between the conceptual plans. Input received from the group will be used to recommend the final project design.

Management
Coordination of study efforts (Planning study team leader), oversight and guidance of technical work performed (Planning study team leader, and Engineering design team leader), preparation of reporting information (Planning study team leader, and Project Manager), response to study inquiries (Planning study team leader, and Project Manager), and oversight of schedule and budget (Project manager, Planning study team leader, and Engineering design team leader) will be performed throughout the study phase. The non-Federal sponsor will provide oversight, management, and guidance of technical work performed by their contractors.

Study Costs – Compare Alternative Plans

Total Federal Labor Cost:	**$192,800**
Other Federal Cost:	**$20,000**
Total MPA Labor Cost:	**$39,400**
Other MPA Cost:	**$0**
TOTAL STEP 5:	**$252,200**

STEP 6: SELECT RECOMMENDED PLAN

When selecting a single alternative plan for recommendation from all those that have been considered, the criteria used to select the National Ecosystem Restoration (NER) plan include all the evaluation criteria discussed above. Selecting the NER plan requires careful consideration of the plan that meets planning objectives and constraints and reasonably maximizes environmental benefits while passing tests of cost effectiveness and incremental cost analyses, significance of outputs, acceptability, completeness, efficiency, and effectiveness.

Plan Selection

The team, including the non-Federal sponsor and other study partners, using all the criteria and information identified in Steps 4 and 5 will select the optimum environmental restoration plan.

Cultural Phase II Assessment

The Baltimore District will write a scope of work for the cultural assessment identified below for implementation by the non-Federal sponsor. The District will review and approve all cultural resource work performed by the non-Federal sponsor or their contractors.

Phase II Terrestrial Cultural Resource Investigations

Phase II cultural resource investigations will be conducted for those locations or portions of project locations of the recommended plan that have a known or high potential for containing culturally significant archeological or architectural resources. The Phase II investigations will be conducted in a manner to identify the nature, extent, and cultural significance of the cultural resources within the study locations. It will also include recommendations for the avoidance or mitigation of the cultural resources, should these locations be selected for project implementation.

Phase I Submarine Cultural Resource Investigations

Phase I submarine investigations will be conducted of the recommended plan. They will consist of an electromagnetic survey of the entire project area to determine the presence or absence of any potentially eligible submarine archeological resources.

Phase III Cultural Resource Mitigation

Phase III investigations will only be recommended for unavoidable impacts to culturally significant resources, either terrestrial or submarine, and will be conducted during the Plans and Specifications phase of the project.

Cultural Technical Appendix

A cultural technical appendix will be prepared. This information will be summarized in the main report. Tasks involved will consist of coordination with project planners to identify avoidance or mitigation potential, preparation of a summary document reporting the nature of cultural resources within the watersheds, and recommendations for their management.

Environmental Studies

Detailed sediment and water quality, and benthic sampling and analyses will be conducted by the non-Federal sponsor or their contractors at the recommended project site. A specific protocol will be developed as the information becomes more defined through the study process. Water quality sampling may include testing for pH, conductivity, metals, nutrients, total suspended solids, cyanide, and total organic carbon. Sediment sampling may include testing for chlorinated pesticides, PAHs, PCB congeners, metals, dioxin/furan congeners, and butytlins. Benthic sampling will include samples from benthic bivalve species. If appropriate and if necessary, tissue sampling may include testing for metals, chlorinated pesticides, PAHs, PCB congeners, and lipids. Information collected will be used for biological monitoring of the project during subsequent phases.

Surveys and Mapping

Additional surveys and mapping will be required in the preparation of the recommended plan. Current mapping is assumed to include NOAA Coast charts and is insufficient for design of the selected plan. A detailed bathymetric survey scope with one-foot contour interval based on mean lower low water will be conducted by the Baltimore District Operations-Navigation Branch, potentially identifying on-site borrow areas, and access routes. Only the immediate shoreline of the existing remnant islands up to mean high water will be mapped. Additional surveys may be required for the selected plan should on-site borrow areas be expanded as a result of geotechnical investigations. All surveys will be tied to the Maryland State Plane Coordinate System, NAD83.

Model Terrain: Upon receipt of the new bathymetric survey (conducted by Operations Navigation Section) in digital format, a computer digital terrain model will be developed for use in calculating borrow and storage volumes for the selected alignment. The model will enable efficient analysis of various alignments, including borrow area and storage volumes.

Geotechnical Investigations

A second phase of subsurface investigations and laboratory testing to support detailed engineering analyses of the proposed dike sections, more detailed information about dike foundation conditions, and better definition of the location and quantity of potential borrow materials, will be conducted prior to final design preparation. These investigations will be conducted as a joint effort between the Corps and MPA.

Proposed drill hole locations will be laid out in the field and located by survey. MPA will procure the barge and boat needed to conduct the drilling and in-situ field testing based on a scope of work prepared by the Corps. Foundation drilling will be accomplished by District crews. Standard Penetration Test (SPT) methodology will be utilized in obtaining split spoon samples. In-situ shear strength testing will consist of vane shear tests in SPT borings accomplihsed by the Corps and Cone Penetrometer Tests (CPT) testing accomplished by contract through the MPA. Undisturbed Shelby tube samples will be taken in fine-grained material. The drilling will be monitored by a geotechnical engineer. Field logs will be prepared by the drill inspector. It is estimated that up to 70 holes, ranging from 20 (approximately 50 holes) to 40 (approximately 20 holes) feet in depth will be accomplished. Geotechnical investigations will be coordinated with HTRW drilling and sampling requirements whenever practical.

Most testing will be accomplished by District personnel and will consist of visual classification, mechanical analysis, Atterberg limits determinations, water content determinations, organic content determinations, unconfined compression tests, consolidation tests, and other tests necessary to classify the soil. Additional shear strength testing will be performed on undisturbed samples as necessary.

Geotechnical input into the design of the project will be accomplished utilizing appropriate design criteria and analyses. A senior geotechnical engineer will be involved in the evaluation and selection of the dike alignment and various dike sections based on information obtained from subsurface investigations of the dike alignment and borrow sources. Geotechnical design of

proposed dike sections will include filter design, slope stability and settlement analyses. Evaluation of potential borrow sources will include delineation of such areas, evaluation of borrow material quality and quantity. Evaluation of potential dike fill and armor stone placement construction methods will be performed to assess impact on construction cost. Final logs will be prepared for all drilling and testing accomplished for presentation in the design report, and eventually in the contract plans and specifications. Appropriate sketches, drawings, and text will be prepared for the feasibility report. An estimate of cost for work required to continue design through the development of plans and specifications will be provided for the report.

The project geologist will evaluate potential stone sources for armor and the information will be provided to cost engineers. Site visits to evaluate potential stone quarries will be accomplished as necessary. Documentation of stone source evaluations will be presented in the report. The project geologist will also provide support to HTRW as necessary to coordinate field work to obtain samples for HTRW investigations.

HTRW Investigations

The non-Federal sponsor or their contractors will collect and analyze samples for HTRW investigations if the preliminary assessment indicates the potential for contamination at the project site. A scope of work will be prepared by the Engineering HTRW and Geotechnical Branch for implementation by the non-Federal sponsor. The Engineering HTRW Branch will review, and approve all work conducted and prepared by the non-Federal sponsor or their contractors.

Preparation of Detailed Designs

Engineering Division will be the lead in developing the final detailed plan with close coordination and review support from all team members including the non-Federal sponsor. This includes a second phase of subsurface investigations and materials testing, supplemental mapping as needed along the selected alignment and borrow areas, and the development of the design of the selected plan to approximately 65 percent complete. This work will include design of the dike and armor stone sections, site layout, grading, wetland development, inlet and outlet works and associated structures. Design of the site will include the layout of habitat features such as wetland plantings, bank erosion material, tree plantings for reforestation, and other preferred wildlife habitat. The civil engineer is responsible for incorporating all design details provided by the geotechnical and hydraulic engineers and the environmental designers and incorporating their input into the overall project design.

Foundations and Dams Section will develop a Phase II subsurface investigation and testing plan to provide data for the final design of the selected plan. This plan will consist of approximately up to 70 borings and appropriate laboratory testing to identify detailed foundation conditions along the selected alignment and to identify potential borrow sources (Geology and Investigations Section will coordinate with the MPA to obtain samples of foundation and borrow materials for screening for potential contaminates.) Based on the collected data, the final dike sections will be developed in terms of foundation treatment, dike materials and zoning, seepage control and filter design, erosion control of embankment surfaces, and dike slope stability analysis. Borrow sources will be evaluated to determine the quantity and quality of available

materials for the proposed dike section. Geology and Investigations Section will identify potential stone armor sources for use in developing cost estimates.

Water Resources Section will perform coastal and hydraulic engineering analysis required to finalize the dike armor section, and identify potential adverse impacts on the hydraulic regime in the immediate vicinity of the dike alignment. Changes in armor size will be coordinated with changes in dike section developed as a result of geotechnical and civil considerations. Attention shall be given to filter and constructability issues in the development of armor sections.

Civil Engineering Section (Civil Works Branch) will develop project details using AutoCADD. The selected plan will be developed in greater detail to refine cross sections, quantities, drainage structures, temporary and permanent access channels, roads, piers and operation and maintenance facilities. New bathymetric mapping will be utilized to more accurately define quantities for the selected plan. Plans, dike sections and details will be refined in close coordination with Foundation and Dams and Water Resources Sections. Layout and design of all wetland plantings and reforestation is assumed to be provided by Planning, Operations Divisions and/or other resource agencies.

Planning biologists, managers, and planners, and the non-Federal sponsors will provide input and support to Engineering Division during the development of the detailed designs. As part of the final design, Planning will investigate and consider environmentally and educationally acceptable recreational features as appropriate.

Detail Design Cost Estimates

The cost engineer will prepare a detailed feasibility-level cost estimate for the recommended project. The estimate will be developed in accordance with the guidance addressed in ER 1110-2-1302, Civil Works Cost Engineering using the MicroComputer Aided Cost Estimating System software and will be presented in the Civil Works Breakdown Structure. The cost estimate will include summary sheets for direct costs, indirect costs, and owner costs to the third title level for all features addressing inflation through project completion. The estimate will be documented with notes to explain the assumed construction methods, crews, productivities, sources of materials, and other specific information. Labor costs will be based on the prevailing Davis-Bacon wage rates for each trade. Equipment costs will be based on the ER 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule. Contingencies will be developed and applied where areas of uncertainty exist. Detailed costs for all of the non-construction cost items (lands and damages, pre-construction engineering and design, construction management) will be provided by the appropriate offices (RE, PP, PL, EN, OP) and incorporated into the estimate. The cost estimator will write narrative summaries of the cost estimates for incorporation into the final feasibility report.

Baseplan

ER 1105-2-100 states that where environmental beneficial use of dredged material is the least cost, environmentally acceptable method of disposal, it is cost shared as a navigation cost. When it is not the least costly method for disposal, the incremental cost of the disposal for ecosystem

restoration purposes over the least cost method of disposal is cost shared, with a non-Federal sponsor responsible for 25 percent of the costs.

It is anticipated that the base plan will be determined as part of the Dredged Material Management Plan currently under development by the Corps.

Report Preparation/Integrated Detailed Project Report (DPR) and EIS with Appendices

An integrated detailed project report (DPR) and EIS document will be prepared, including an alternatives analysis, in order to justify the restoration project that will be proposed for implementation. The non-Federal sponsor or their contractors will be responsible for preparing, and producing the DPR/EIS. The DPR/EIS includes all activities leading to the approval of the final feasibility report and NEPA documentation by the Office of the Chief of Engineers. It entails all problem identification and formulation activities required to identify and to recommend plans of improvement. The environmental documentation details the impacts of the alternatives considered and the recommended plan. It also includes NEPA, Section 106 (archaeological and cultural resource documentation and compliance), and other environmental compliance documentation; coordination of the study and results with all interested parties; initial and final independent technical review; and ultimately, transmittal to Congress. The feasibility report is a complete decision document that presents the results of the reconnaissance and feasibility phases and provides the basis for recommending the construction of a project, and serves as the necessary NEPA documentation.

Other tasks include documenting and assessing the effects of proposed Federal actions and their alternatives on significant natural resources, and completing the feasibility report and integrated EIS. The focus of NEPA compliance will be to provide information to other agencies, the public, and decision-makers on the study and to ensure that the report adequately addresses environmental requirements. Coordination, compliance, and documentation of other laws and regulations that require environmental compliance actions will be completed. This includes Sections 401 and 404 of the Clean Water Act, Section 7 of the Endangered Species Act, Clean Air Act, U.S. Fish and Wildlife Coordination Act, Section 106 of the National Historic Preservation Act, Prime and Unique Farmlands, and National Pollutant Discharge Elimination System Act. All appropriate environmental documentation (i.e., state water quality certificates) must be obtained and included as part of the feasibility report and integrated EIS.

Draft Report Preparation with Engineering, Environmental, and Cultural, Appendices

The non-Federal sponsor or their contractors will be responsible for in preparing the draft DPR/EIS and environmental appendix. The environmental appendix will include the cost effectiveness and incremental analysis evaluations. Work tasks include assembling, writing, editing, typing, drafting, reviewing, reproducing, and distributing study reports, environmental statements/assessments, surveying and design appendices, and other related documentation required for transmittal by the Corps to higher authorities. Appropriate technical information prepared by Engineering Division and presented in the appendices will then be incorporated into the main report by the non-Federal sponsor. Sections of the main report to which Planning Division will contribute include baseline conditions, future with- and without-project conditions, problem identification, plan formulation, alternative assessment and evaluation, plan selection,

selected plan descriptions, and public involvement. This information will be provided to the non-Federal sponsor for incorporation into the report and EIS. Since the report will be an integrated feasibility study and EIS, all the incorporated information will be prepared in compliance with NEPA and all other applicable environmental laws and regulations.

As part of the feasibility report an engineering appendix will be prepared. The geotechnical, water resource, and civil engineers will prepare narrative summaries of the detailed designs for incorporation into the report. The lead civil engineer will organize and show the detailed calculations to properly justify the detailed design. This work also includes the preparation of tables, charts, and smaller scale plates. Sketches of all alignments and typical sections will be also be presented in addition to quantity estimates and summaries for all schemes investigated with special detail for the selected plan.

The USFWS will prepare a Fish and Wildlife Coordination Act (FWCA) report, which will include the Section 7 consultation of the Endangered Species Act, if required. The completed FWCA will be included as an appendix to the main report and sections of the text will be incorporated by MPA into the main report, as applicable.

Real Estate Plan

Real Estate Division will prepare a Real Estate Plan (REP) that describes the real estate requirements including the access for construction of the project. It identifies and describes the lands, easements, rights-of-way, relocations, and disposal area (LERRD's) required for the construction of the project. The REP will include ownership and tract data, acreage, gross appraisal values for LERRD's required, real estate mapping and descriptions of the project, required relocations, an acquisition schedule and other pertinent data relating to real estate issues. The gross appraisal will provide a gross estimate of real estate costs associated with the acquisition of real property interests. The function of a gross appraisal is to provide an estimate of the real estate costs for lands, improvements and damages, for planning purposes. The gross appraisal provides support for the baseline or Micro-Computer Aided Cost Estimating System cost estimate required in the REP that provides an estimate of all real estate costs for the project including the non-Federal cost sharing partner and Government administrative costs and LERRD and damage costs. Attorney's Opinions of Compensability will be prepared for each utility relocation associated with the project to determine whether the owner has a compensable interest and the best measure of just compensation. Real Estate Division will provide the REP and other information to the non-Federal sponsor for incorporation into the DPR.

Report Review

An independent technical review team of District staff and the MPA will review the findings, plan formulation and documentation of the study. The technical reviewers will also review the environmental, economic, engineering and public involvement matters.

The technical review of the feasibility report focuses on compliance with established policy, principles, and procedures using clearly justified and valid assumptions. The technical review team is comprised of experts throughout all Corps divisions (Planning, Engineering, Operations,

Real Estate, Counsel, etc.) not involved in the day-to-day activities of the project. The technical review will include verification of the following:

- Assumptions;
- Methods, procedures, and material used in analysis;
- Alternatives evaluated;
- The appropriateness of data used and level of data obtained, and
- The reasonableness of the results including whether the product meets the customer's needs consistent with law and existing public policy.

The design team leader will coordinate quality control reviews in accordance with Engineering Division guidance. Single discipline reviews will be consolidated by the design team leader into a single Engineering Division review and furnished to the study team leader. The study team leader will coordinate all technical comments and determine what Division should provide responses. The study team leader will provide the non-Federal sponsor with the responses for incorporation into the reports. It is anticipated that up to four reviews by the District team (team through technical) will be required on the draft report and EIS.

It is expected that all in-progress review actions, study and review team meetings, and other significant review-related actions will be documented in the form of a written memorandum. A quality control report consisting of a summary of major issues and resolutions will be provided.

Division

Quality Assurance

North Atlantic Division (NAD) will be responsible for overseeing the District's quality control process relating to the development of decision and implementation documents. In its quality assurance role, NAD will assure that the Baltimore District has the mechanisms and procedures in place to produce quality products that comply with established criteria, methods, policies, laws, and procedures, and apply competent technical resources in execution and review. NAD's quality assurance responsibility will include the following:

- Assess and provide feedback to the Baltimore District's quality control process;
- Evaluate the District s quality control plan for the study;
- Assure compliance with the quality control plan;
- Attend jointly selected District meetings in accordance with NAD guidance (NAD-ET-P memorandum dated 28 March 96, subject: Planning Program Management);
- Conduct spot checks of District products and technical review documents;
- Facilitate and/or assist in the resolution of policy and technical issues.

The non-Federal sponsor or their contractors will be responsible for incorporating all NAD comments into the draft DPR and EIS. It is anticipated that up to three review of the draft reports

will be necessary. The MPA or their contractors will be responsible for finalizing the draft report based on all NAD and team comments, producing the draft reports, and distributing to the public.

The Baltimore District, Planning Division, will be responsible for distribution of the reports to the U.S. EPA and announcement into the Federal Register.

QC/QA Funding
Project-specific quality control activities performed by the District will utilize study funds. All NAD quality assurance activities will be funded through the general expense account for NAD. Study funds will also be used to cover expenses incurred by the non-Federal cost-sharing partner and the Baltimore District during higher authority review.

Respond to Comments
Engineering Division (Civil, Geotechnical, Design Management, Cost Engineering, and Water Resources Section), Planning Division (Civil Projects Branch), Operation Division (Navigation Branch) and Project Management will be responsible for addressing comments on the draft and final reports depending on the technical specifics of the comment. Revised information or responses to comments will be provided to MPA for incorporation into the report. MPA will be responsible for responding to comments on that portion of the work provided as in-kind service. Additionally, representatives of MPA along with representatives of the Corps Baltimore District, may be required to attend a meeting at the project site with representatives of the Corps of Engineers Headquarters.

Headquarters/North Atlantic Division Feasibility Review Conference Meetings
Following submittal of the draft feasibility report to the Corps' North Atlantic Division and Headquarters, a feasibility review conference will be held with all study team members to resolve questions and policy issues prior to public release of the draft report. MPA will be responsible for incorporating any final comments into the draft report prior to public release.

Final Report and EIS Preparation
The MPA or their contractors will be responsible for the preparation and production of the final DPR and EIS. It is anticipated that up to three technical reviews by the District team may be necessary. The non-Federal sponsor is responsible for incorporating any revisions to the reports based on team review. The MPA or their contractors are responsible for responsible for the reproduction and distribution of the final report. The District, Planning Division, is responsible for announcement into the Federal Register and distribution to EPA.

Preparation of the Record of Decision
The MPA or their contractors are responsible for the preparation and production of the Record of Decision (ROD). It is anticipated that up to four technical reviews by the District team and USACE Headquarters may be ncecessary. The MPA is responsible for incoporating any revisions to the ROD based on team review. The Baltimore District, Planning Division will be responsible for distribution to Corps Higher Authority for signature.

Project Management Plan Input

Development and coordination of the updated project management plan for the preconstruction engineering and design phase and the construction phase will be prepared by the Project Manager. The Project Manager is responsible for preparation, comment/response and submittal of the PMP. All team members including the non-Federal sponsor will provide information to the PMP.

Workgroup Meeting

The plan formulation workgroup conprising other interested parties and other Federal, state, and local entities will meet with the study team to provide input to the selection of the recommended plan.

Agency Coordination

Planning will coordinate the recommended plan with resource agencies and interested parties. Information gained from these resources will be valuable in the selection and recommendation of the final project. Distribution and coordination of these conceptual plans will be in an easily understood format.

Public Meeting

A third public meeting will be conducted to discuss the recommended plan. Planning Division and the sponsor will share in the responsibility of preparing materials, including visual aids (i.e., maps, poster boards, slide presentations, handouts, photographs) for the public meeting. The non-Federal sponsor will identify a meeting location, and will attend and participate in the meeting. Members of the District study team (EN, RE, OP, PP, PL) will attend the meeting. Planning will record and document public comments, and coordinate information from the meeting.

Coordination with Non-Federal Cost-Sharing Partner

Coordination of routine activities is to be accomplished by telephone conversations between the study team leader and the non-Federal cost-sharing partner. Fax, e-mail, or written communication will be used when necessary. The study team leader will also coordinate with the study and management team.

Team Meetings

Internal and external team meetings will be conducted regularly (bi-montly to monthly on a formal and informal basis) to ensure the team is operating together and that there is a free exchange of information and ideas. Planning Division will coordinate and lead formal study team meetings. The non-Federal sponsor and our other study partners will be included in team meetings. Other technical meetings with team members will also occur to exchange and discuss technical information and issues.

Management

Coordination of study efforts (Planning study team leader), oversight and guidance of technical work performed (Planning study team leader, and Engineering design team leader), preparation of reporting information (Planning study team leader, and Project Manager), response to study inquiries (Planning study team leader, and Project Manager), and oversight of schedule and

budget (Project manager, Planning study team leader, and Engineering design team leader) will be performed throughout the study phase. The non-Federal sponsor will provide oversight, management, and guidance of technical work performed by their contractors.

Financing Plan

The financing plan consists of a clear and convincing description of how the non-Federal sponsor plans to financial obligations for the project. The purpose of producing a financing plan is to ascertain that MPA understands its financial obligations for project implementation, operation and maintenance, and is capable of meeting those obligations. The financing plan reduces the risk of having a partially built project or one that is not maintained after it is built. The financing plan for the post-feasibility phases should include the following information:

1. A general distribution of Corps and non-Federal sponsor expenditures by Federal fiscal year, for non-Federal contributions, and non-Federal lands, easements, rights-of-ways, relocations, and disposal areas. The total Corps and non-Federal sponsor's shares should reflect the appropriate cost-sharing for each year.

2. A schedule of the sources and uses of non-Federal sponsor's funds during and after construction. The schedule of the sources and uses of funds should be consistent with the schedule of estimated Corps and MPA expenditures.

3. The method of finance for all sponsor outlays including operation, maintenance, replacement, repair, and rehabilitation.

As part of the financing plan, the sponsor should provide a statement of financial capability. This statement should provide evidence of authority to utilize the identified source(s) of funds. The statement should also provide information on the sponsor's capability to obtain remaining funds, if any. The statement of financial capability will be at a level of detail necessary to demonstrate its capability for the projects recommended in the feasibility study. The level of detail will be determined by the method the sponsor uses to obtain remaining funds.

In a situation where the sponsor is relying on its full faith and credit to obtain remaining funds (i.e., general obligation bonds, appropriations, or a repayment agreement), the statement of financial capability should include a preliminary credit analysis that demonstrates that the sponsor is credit worthy for the required amount and purpose.

If the sponsor is relying on non-guaranteed debt (i.e., particular revenue source or limited tax, or bonds backed by such a source) to obtain remaining funds, the statement of financial capability should include an analysis that demonstrates that the projected revenues or proceeds are reasonably certain and are sufficient to cover the sponsor's stream of costs through time.

The non-Federal sponsor will be responsible for preparing the documentation demonstrating legal financial capability to support project construction. The Corps will be responsible for coordinating with the sponsor for the required forms of financial documentation. Financial analysis by the Corps will proceed after complete financial documentation packages have been

provided. If the sponsor is relying on third party contributions, the statement should include comparable data for the third party together with evidence of its commitment to the sponsor.

Assessment of Financial Capability

The purpose of the assessment of the non-Federal sponsor's financial capability is to determine whether it is reasonable to expect that ample funds will be available to satisfy the sponsor's financial obligations for the project. The assessment will be done by Planning Division when sponsor's initial draft of the financing plan is submitted to the Corps. The assessment will consider the sponsor's plan as submitted. Consideration will be given to the certainty of revenue sources and method of payment, as well as to the overall financial position of the sponsor.

Study Costs – Selected Recommended Plan

Total Federal Labor Cost:	**$846,000**
Other Federal Cost:	**$529,500**
Total MPA Labor Cost:	**$271,100**
Other MPA Cost:	**$1,499,200**
TOTAL STEP 6:	**$3,145,800**

XI. ESTIMATED FEASIBILITY STUDY COST

Total Federal Hours	Federal Costs	Total Other Federal Costs	Total Federal Costs	Non-Federal Hours	Non-Federal Costs	Other Non-Federal Costs	Non-Federal In-kind Services
22,345	$2,181,500	$818,400	$2,999,900	7,891	$670,700	$2,330,200	$3,000,900

Subtotal feasibility study costs:	$6,000,800
Escalation @ 6%:	$360,100
Contingencies @ 10%:	$636,100
TOTAL STUDY COSTS:	**$6,997,000**
Total Federal Costs:	$3,498,500
Total Non-Federal Costs:	$3,498,500
Non-Federal In-kind Service with Contingency: Escalation	$3,499,100
Total Non-Federal Cash:	($600)

XII. ABBREVIATIONS USED IN THE PREPARATION OF THE FCSA AND PSP

C2K	Chesapeake Bay 2000 Agreement
CPT	Cone Penetrometer Tests
DE	Delaware
DTL	Design Team Leader
DPR	Detailed Project Report
EC	Engineering Circular
EIS	Environmental Impact Statement
EN	Engineering Division
ER	Engineering Regulation
FCSA	Federal Cost-Sharing Agreement
F&D	Foundations and Dams
GIS	Geographic Information System
HTRW	Hazardous, Toxic, and Radioactive Wastes
IBI	Index of Biotic Integrity
LERRD	Lands, Easements, Rights-of-Way, Relocations, and Disposal Areas
MCACES	MicroComputer Aided Cost Estimating System
MD	Maryland
MDOT	Maryland Department of Transportation
MD DNR	Maryland Department of Natural Resources
MDE	Maryland Department of the Environment
MES	Maryland Environmental Services
MGS	Maryland Geological Service
MPA	Maryland Port Administration
NAD	North Atlantic Division
NEPA	National Environmental Policy Act of 1969
NER	National Ecosystem Restoration
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resource and Conservation Service
PED	Pre-construction Engineering and Design
PL	Planning Division
PMP	Project Management Plan
PP	Programs and Project Management Division
QA/QC	Quality Assurance/Quality Control
O&M	Operation and Maintenance
OP	Operations Division
RE	Real Estate Division
REP	Real Estate Plan
SAV	Submerged Aquatic Vegetation
SPT	Standard Penetration Test
TRT	Technical Review Team
U.S. EPA	U.S. Environmental Protection Agency
U.S. FWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

XIII. ASSUMPTIONS

The feasibility phase will be completed within 36 months and begin October 2002 with completion in September 2005. For the purpose of estimating the total feasibility study cost. the following were assumed:

- Level of interest from the general public will be moderate (150 people).
- MPA will play a major role in participating in the public involvement program (providing input to the mailing list for newsletters, coordinating and arranging the workshops, existing displays, participating in public meetings, etc).
- MPA will be an active team member throughout plan formulation and development of the recommended plan.
- Concept Designs: no more than 5 design/alignment (for budgetary purposes only).
- It is assumed that the existing NOAA coast chart mapping is sufficient for concept design preparation.
- If more than 5 concept designs are developed, additional study costs will be required.
- Detailed Designs: no more than 1 final design/alignment.
- Surveying to 1-ft. contours will be needed for detailed design. Feasibility final design site will be surveyed to this detail.
- The Corps will be primarily responsible for complying with NEPA, assessing pre- and post-project benefits, evaluating cost and project benefits, conducting an incremental analysis, preparing designs, draft and final reports including the real estate plan, leading plan formulation, convening and conducting team meetings, and managing study and project tasks.
- Main report summaries of the technical findings will be provided by the team member who conducted the technical work.
- Technical appendices will be provided to Planning Division (photocopy ready) by the team member(s) who conducted the technical work.
- Following completion of the feasibility phase, it is assumed that the project proceeds through the typical Civil Works process, including upfront funding of the preconstruction engineering and design phase. As such, the feasibility phase includes negotiation and execution of a PED agreement.
- In order to minimize project management costs, it is assumed that the project will proceed normally without interruption or the need for any feasibility study cost-sharing agreement amendments. Any deviation from this assumption may result in additional task costs.

Baltimore Harbor and Channels
Dredged Material Management Plan

Project Management Plan

Appendix H

Cox Creek Dredged Material Containment Facility Decision Document

October 2002

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

CENAB-PL-P (1105-2-1150c)

20 June 2002

MEMORANDUM FOR Commander, North Atlantic Division, U.S. Army Corps of Engineers, ATTN: CENAD-ET-P

SUBJECT: CSX/Cox Creek Dredged Material Containment Facility, Anne Arundel County, Maryland, Section 217(c) Decision Document and Response to HQUSACE Team Comments

1. References:
   a. Memorandum, CENAB-PL-P, 22 June 2000, subject as above.
   b. Memorandum, CECW-PC, 7 August 2000, subject as above.

2. The purpose of this memorandum is to transmit the subject final decision document and the Baltimore District's responses to the comments provided in Reference 1b for approval. The decision document was originally submitted for CENAD and HQUSACE review per Reference 1a. The final environmental assessment for the project and the construction permit were completed in January 2002, and are included in the decision document. The Baltimore District has performed a technical review of the document as certified by the enclosed quality control review report. It is requested that CENAD forward this report for approval to HQUSACE. Per guidance memorandum, dated 2 July 1999, from CECW-B/CECW-A, the Baltimore District requests that CENAD prepare draft letters for signature by the ASA(CW) to the chairpersons of the appropriate Congressional subcommittees for notification of the reimbursement agreement. A draft notification letter is enclosed.

3. The decision document is favorable and recommends that the Corps of Engineers approve the use of the CSX/Cox Creek Dredged Material Containment Facility for placement of dredged material from Baltimore Harbor under Section 217(c) of Water Resources Development Act (WRDA) 1996. Section 217(c) allows the Corps of Engineers to reimburse the construction and operation of a non-Federal placement site through the payment of user fees (tipping fees). These fees are calculated based on a formula contained within the decision document and will be paid on a per-use basis. The funds for the tipping fee will come from the Corps Operations and Maintenance, General Program and the Construction General Program, as discussed in the report and in Reference 1.b. The CSX/Cox Creek site, as designed, will accommodate 6 million cubic yards of material from Baltimore Harbor. The site design and operations plans have been reviewed and approved by the Baltimore District. Once the decision document is approved, the Baltimore District will begin negotiations with the non-Federal sponsor, the Maryland Port Administration, on a Project Cooperation Agreement.

4. If there are any further questions on the [illegible] memorandum, please contact Mr. Mark Mendelsohn, [illegible]

Encls

ROBERT W. LINDNER
Chief, Planning Division

US Army Corps of Engineers
Baltimore District

Maryland Port Administration

CSX/Cox Creek
Dredged Material Containment Facility

Anne Arundel County, Maryland

Decision Document

Section 217(c) of the Water Resources Development Act of 1996

May 2002