UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, NEW YORK 10278-0012

SEP 30 1994

To Dredged Material Management Forum Participants, NY/NJ Harbor Estuary Program Management Conference and other Interested Parties.

On behalf of the Dredged Material Management Forum co-sponsors,[1] I am sending you the revised Dredged Material Management Straw Proposal. As you know, the original Straw Proposal was released on July 7, 1994, for comment and review. On July 14, 1994, Dredged Material Management Forum IV was held to discuss its contents and receive initial comments. At Forum IV, it was decided to establish a writing team to develop revisions to the Straw Proposal based upon comments received from Forum participants, the Forum Workgroups and other interested parties. The writing team (Enclosure 1) was chaired by Mario Del Vicario, Chief of the Marine and Wetlands Protection Branch. As suggested at Forum IV, a new workgroup was established to review the HEP Comprehensive Conservation and Management Plan's (CCMP) "Management of Toxic Contamination" module for its adequacy with respect to dredged material and sediment issues. This workgroup is chaired by Dennis Suszkowski, Ph.D., of the Hudson River Foundation.

The revised Straw Proposal (Enclosure 2), dated September 30, 1994, has been prepared after a review of all comments received; several meeting of the writing team and the four co-sponsor agencies, as well as the direction provided at the September 21, 1994 NY/NJ Harbor Estuary Program (HEP) Policy Committee (PC) Meeting (see Enclosure 3).

The writing team feels that consensus has been reached on the most substantive issues but that the document needs further refinement with respect to less substantive issues. Therefore the writing team has agreed on the following statement with respect to the revised Straw Proposal: **"This document's major policy issues have been reviewed by the Dredged Material Management writing team. The Forum co-sponsors and the HEP Policy Committee have made numerous changes which adequately reflect the views of the writing team on the major policy issues."**

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[1] U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (USACE), New York State Department of Environmental Conservation (NYSDEC) and New Jersey Department of Environmental Protection (NJDEP).

This version of the Straw Proposal is concurrently being sent to USEPA's HEP contractor to develop a condensed draft version for inclusion in the HEP CCMP. The writing team will review the condensed draft version to ensure its accuracy and adequacy with respect to dredged material and sediments.

The Straw Proposal will continue to remain as a stand alone document. At this time, I am requesting that you review it, and provide comments on the substantive elements. **Comments should be sent to the following address no later than October 14, 1994:**

U.S. Environmental Protection Agency
Marine & Wetlands Protection Branch
Attn: Patricia Pechko
26 Federal Plaza, Room 1137
New York, New York 10278

Several of the substantive changes to the Straw Proposal include:

Designation of an Expanded Ocean Disposal Site

A Supplemental Environmental Impact Statement and Site Designation will by prepared by USEPA that will propose to expand the existing Mud Dump Site and utilize portions of the surrounding historical disposal areas for the disposal of Category I and II materials. The use of the expanded site for Category II materials will be restricted to a specified period of time. The Straw proposal has been amended to delay a decision on the specified time until USEPA issues the proposed site designation.

Ocean Disposal Criteria

The Straw Proposal has been amended to implement the approach recommended by the Criteria Workgroup. The existing criteria will be used for permit decision-making until revised criteria has been inplemented by USEPA-Region II and USACE-New York District. The revised criteria will be developed by the Criteria Workgroup and be subject to peer and public review prior to USEPA/USACE making a decision. June 30, 1995 is the target date for this process.

Changes have also been made to strengthen other sections of the Straw Proposal (i.e. the reduction of contaminant inputs, ocean disposal site remediation, etc.). On behalf of the four co-sponsor agencies, I would like to thank everyone for their

continued participation in the Forum and for the comments received on the original Straw Proposal. We will be scheduling Dredged Material Management Forum V in the latter part of October and will advise you of the date and place.

Sincerely,

William J. Muszynski, P.E.
Deputy Regional Administrator

Enclosures

DREDGED MATERIAL MANAGEMENT PLAN STRAW PROPOSAL WRITING TEAM

NAME	ORGANIZATION
Mario Del Vicario, Chair	USEPA HEP Policy Committee Rep.
John Tavolaro	USACE HEP Policy Committee Rep.
Roberta Weisbrod	NYSDEC HEP Policy Committee Rep.
Larry Schmidt	NJDEP HEP Policy Committee Rep.
Lynne Tierney/Tom Wakeman	Port Authority of NY/NJ Non-governmental DMMIWG
James Tripp	Env. Defense Fund Non-governmental DMMIWG
Cindy Zipf	Clean Ocean Action Non-governmental DMMIWG
Sarah Clark Stuart/Derry Bennett	Clark/Stuart Res./ALS Non-governmental DMMIWG
Dennis Suszkowki	Hudson River Foundation HEP Policy Committee Rep.
Genie Flatow	Coalition for the Bight HEP Policy Committee Rep.
Phil Heckler	NYCDEP HEP Policy Committee Rep.

The writing team consists of the New York/New Jersey Harbor Policy Committee representatives and the non-governmental members of the Dredged Material Management Forum Integration Workgroup (comprised of the Forum Workgroup Chairs).

DREDGED MATERIAL MANAGEMENT PLAN STRAW PROPOSAL*

September 30, 1994

THE PROBLEM

Overview

New York-New Jersey Harbor and the New York Bight are extraordinary in many ways--their abundant resources, their beauty, and their many competing uses. The Harbor/Bight abounds with diverse natural resources, yet it is the heart of the most densely populated region of the nation. It provides recreational opportunities including fishing, boating, and swimming to over 20 million residents, and yet it supports a world class port for both passengers and cargo. It yields extensive commercial and recreational fisheries. It is also a repository for municipal and industrial effluents, for storm runoff from the vast metropolitan area, and for the disposal of dredged material.

For all these reasons and more, it must be considered a resource worthy of protection. The Dredged Material Management Forum ("The Forum") and the New York-New Jersey Harbor Estuary Program ("HEP") are testimony to the fact that people care about the Harbor/Bight. Elected officials have authorized the expenditure of millions of taxpayer dollars to better understand the problems of the ecosystem. Hundreds of people have participated in the Forum and HEP Management Conference to develop a plan for its future. These citizens represent federal, state and local government agencies, scientists, commercial and recreational fishermen, public interest groups, environmental groups, and business and industry.

Dredged Material and Dredged Material Disposal

The Port of New York and New Jersey ("The Port") plays a vital role in the economy of the NY/NJ Harbor region. It is also part of an estuary of ecological significance which supports recreational activities, tourism, and commercial and recreational fishing. In order to use and maintain the Port, parts of the Harbor need to be dredged regularly. This generates large quantities of dredged material requiring disposal. A portion of this dredged material contains contaminants of concern at concentrations which threaten the ecology of the region. This dredged material must be managed in an environmentally sound manner.

The Port is a major international port which handles more general and containerized cargo than any other east coast port. The Harbor is not naturally deep, and rivers continuously transport and deposit sediment, filling in navigational channels and berthing areas in the Harbor. Large quantities of sediment

* THIS DOCUMENT IS PRESENTED FOR DISCUSSION PURPOSES ONLY. WHILE THE CONTENTS HAVE BEEN REVIEWED BY USEPA, USACE, NJDEP AND NYSDEC, IT DOES NOT, AT THIS TIME, REFLECT THE FINAL VIEWS OF THE AGENCIES.

must be dredged to accommodate modern deep-draft vessels. Between 1970 and 1980, an average yearly volume of 12,694,000 cubic yards (cy) of material was dredged in the New York District, Corps of Engineers civil works boundaries[1]. A majority of this material was, and continues to be, ocean disposed at the Mud Dump Site (MDS). Between 1976 and 1994, the yearly average of dredged material disposed at the MDS was 6,731,000 cys based on reported scow volumes. The volumes for 1991, 1992 and 1993 were 6,217,000, 6,084,000 and 5,715,000 cys, respectively.

The sediments in and around the Harbor and Bight contain contaminants of concern at varying concentrations. These contaminants are generally associated with the fine-grained fractions of sediment. The following definitions are provided for clarification:

1. The Water Resources Development Act of 1992 (WRDA) defines a contaminated sediment as aquatic sediment which contains substances in excess of appropriate geochemical, toxicological or sediment quality criteria or measures or is otherwise considered by the U.S. Environmental Protection Agency's Administrator to pose a threat to human health or the environment.

2. U.S. Environmental Protection Agency's Contaminated Sediment Management Strategy[2] further defines contaminated sediments as "sediments which contain chemical substances at concentrations that pose a known or suspected threat to aquatic life, wildlife or human health."

The presence of these sediments can cause significant environmental problems, including: bioaccumulation[3] of contaminants within marine organisms (and up the food chain), and degradation of benthic community structure. Within the Harbor/Bight, certain contaminants (e.g., PCBs, cadmium) which may found in sediments are bioaccumulated in marine organisms (e.g., crustaceans, shellfish and fish such as bluefish, blue

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[1] Corps of Engineers, New York District FSEIS for Use of Subaqueous Borrow Pits for Disposal of Dredged Material from the Port of New York and New Jersey. January 1991.

[2] USEPA. 1994. "EPA's Contaminated Sediment Management Strategy." EPA 823-R-94-001. August 1994.

[3] Bioaccumulation - the accumulation of contaminants in the tissues of organisms through any route, including respiration, ingestion or direct contact with contaminated sediment or water.

crabs, striped bass, american eel) and "biomagnify"[4] up through the food chain and pose a threat to biota and public (human) health. Dredging contributes to resuspension of these sediments, thereby aggravating these problems. Ocean disposal raises concerns about exposing additional marine organisms and habitats to these contaminants of concern. Concern has also been expressed regarding the impact of dredged material, and its subsequent disposal, on water-dependent industries such as recreation, tourism, and commercial and recreational fishing.

Scientific concerns over these environmental problems have led to changes in the national testing protocols[5]. Uncertainties related to the implementation of these revised test protocols in the NY/NJ Harbor region, together with specific concerns about dioxin, and lack of available disposal options have contributed to delays in regulatory decisions regarding dredging/disposal.

Because there are over 30 Federal environmental laws, Executive Orders and other federal requirements, as well as a myriad of State and local regulations which can be applicable to dredging and dredged material disposal, many agencies are either directly or indirectly involved regulating these activities. In order to regulate better, all parties involved must work more closely with respect to regulatory actions to avoid further delays in decision making.

In an effort to address the dredged material management problems in the Port, a Dredged Material Management Forum was convened. The Forum brought together a wide spectrum of groups concerned with issues associated with the dredging and disposal of sediments. The Forum seeks to establish cooperation and develop implementable solutions.

SOURCES

The principle cause of the problem is the presence and movement of contaminants of concern included in the material that needs to be dredged and disposed. Contaminants of concern include heavy metals, PAHs, PCBs, pesticides and dioxin. These

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[4] Biological Magnification - refers to the process whereby certain substances such as pesticides or heavy metals work their way into rivers or lakes, move up the food chain, and are eaten by aquatic organisms such as fish, which in turn are eaten by large birds, animals or humans. The substances become concentrated in tissues or internal organs as they move the chain.

[5] EPA/COE. 1991. "Evaluation of Dredged Material Proposed for Ocean Disposal - Testing Manual." EPA-503/8-91/001, February 1991.

contaminants can be found in varying concentrations within the federal navigation channels, commercial berthing areas, private marinas and other areas throughout the Harbor.

In addition to contaminated sediments already in the Harbor and Bight, there are sources of pollutants which continue to contaminate water, sediment, and biota. Major sources include:

* Industrial discharges
* Sewage treatment plant discharges
* Combined sewer overflows
* Stormwater
* Non-point sources of pollution (including Superfund & RCRA sites)
* Atmospheric deposition
* Chemical and oil spills
* Transport of contaminated sediment from rivers and tributaries

It is stressed that until these sources are controlled through pollution prevention and waste minimization activities and regulations, the problems associated with dredged material management (i.e. - contaminated sediment) will continue. The threat to human health and the environment will continue.

Historically, ocean disposal has been the primary disposal option for materials dredged from the NY/NJ Harbor. Other disposal options in the region have generally not been used because of the readily available and relatively low cost of ocean disposal (until recently), as well as conflicting uses (e.g. population density) and environmental concerns associated with implementing other alternatives.

VISION

To establish and maintain a healthy and productive Harbor/Bight ecosystem with full beneficial uses.

GOALS

The goal of this dredged material management plan is to establish immediate (within 1 year), short- (1-3 years) and mid-term (3-9 years) environmentally sound, economically feasible, dredged material disposal alternatives. The U.S. Army Corps of Engineers is developing a long-term New York Harbor Dredged Material Management Plan (DMMP). A fundamental tenet of this goal must be the implementation of pollution prevention/waste minimization control measures which protect sediments from contamination. It is recognized that dredged material will always pose a disposal problem unless sources of pollutants are minimized.

While the plan is multi-faceted, all facets move along parallel tracks. The plan provides environmentally reasonable immediate and short-term disposal alternatives for dredged material which meets ocean dumping criteria while allowing for the selection, design and implementation of mid- and long-term non-ocean disposal alternatives for dredged material not suitable for ocean disposal. It provides an integrated approach which stresses early implementation of alternate disposal options and pollution control measures.

The final goal of the plan is to have on-going coordinated efforts with various state and federal groups and dredged material task forces. The plan seeks to have an integrated approach which seeks to benefit the work being performed by various groups.

Specific goals include:

- Maintaining the contribution of the Port to the economy and quality of life of the Region.

- Improving the dredged management plans for the harbor.

- Evaluating and implementing, where practicable, alternative methods of dredge disposal that will minimize potential adverse impacts on the environment.

- Determining, and then using, the best available technologies and methods for ocean disposal as an immediate option until non-ocean disposal alternatives are implemented.

- All sediment entering the NY/NJ Harbor estuary will meet Category I criteria. This will be accomplished through waste minimization, pollution prevention and other source control measures.

- Areas of the NY Bight Apex which have been adversely impacted by dredge material disposal activities will be restored to pre-anthropogenic conditions whenever possible.

OBJECTIVES

To explore options to address this problem, a Dredged Material Management Forum was convened in June 1993 under the sponsorship of the U.S. Environmental Protection Agency (USEPA)-Region II, the U.S. Army Corps of Engineers-New York District (USACE-NYD), and the New York State Department of Environmental Conservation (NYSDEC), and New Jersey Department of Environmental Protection (NJDEP). The Forum brings together a wide spectrum of governmental, environmental, commercial, and public interest

groups concerned with issues associated with the dredging and disposal of sediments from the Harbor. The Forum acknowledges that it is essential to maintain a viable Port, and this requires dredging and disposal of dredged material, including material containing contaminants of concern. It is also recognized that it is essential to maintain other water-dependent industries such as tourism and commercial and recreational fishing. The Forum maintains that dredging and disposal needs to be managed in an environmentally sound manner. Moreover, the Forum recognizes that pollutant source controls, waste minimization, and pollution prevention and remediation must be implemented to remove contaminants of concern from the Harbor ecosystem to improve the environmental quality of this important resource.

At its first meeting in June 1993, the Forum created the following work groups: (a) Dredging, Transport, and Disposal Technologies; (b) Disposal Criteria; (c) Mud Dump Site Closure; (d) New Ocean Disposal Site Designation; (e) Containment Facilities (including borrow pits and containment islands); (f) Decontamination Technologies; and (g) Site for Decontamination Facilities. Based on the subsequent recommendations of Forum participants, the Decontamination Technologies and Site for Decontamination Facilities Work Groups, as well as the Mud Dump Site Closure and New Ocean Disposal Site Work Groups, were merged on January 25, 1994 and August 12, 1994 respectively. A new workgroup (the "Sediment Contamination Reduction workgroup") was formed on August 12, 1994, to review work of the HEP Toxics Work Group with respect to dredged material.

In January, 1994, the conveners (USEPA, USACE-NYD, NYSDEC, NJDEP) of the Forum concluded that the most efficient and effective way to continue the work of the Forum is under the auspices of the NY/NJ HEP. The National Estuary Program was established by Congress under the Water Quality Act of 1987, and the New York/New Jersey Harbor Estuary was given "priority consideration" under Section 320 of the Act. The HEP enables USEPA to convene a Management Conference, a cooperative Federal, State and local planning effort to develop management plans to address estuary problems on a region-wide basis. With the recent addition of USACE-NYD, all of the initial Forum co-sponsor agencies (USEPA, USACE-NYD, NYSDEC, NJDEP) are now members of the HEP Policy Committee. A Dredged Material Management Integration Work Group, consisting of the chairs of the Forum Work Groups, has been formed to coordinate the efforts of their work groups, assist the USEPA, USACE-NYD, NYSDEC, and NJDEP in the preparation of the Dredged Material section of the HEP Comprehensive Conservation and Management Plan, and to work with USACE-NYD on USACE's long term plan for dredged material.

The interaction of the participants in the Forum has resulted in many interesting and unique proposals to address the dredging and disposal concerns. Based upon the discussions and

materials generated by the Forum, USEPA-Region II, USACE-New York District, NJDEP, and NYSDEC, have developed this comprehensive plan for the management of dredged materials[6]. Table 1 provides the actions associated with the following components which are included in this plan:

* reduce continuing inputs of toxic chemicals and of upland sediments/soils;
* characterize, categorize, and quantify material to be dredged;
* identify, evaluate, and select disposal and treatment/ decontamination alternatives;
* develop plans for closure (including remediation and restoration of the Mud Dump Site and historical disposal areas;
* improve dredging, transport, and disposal operations;
* expedite permit decisions and;
* develop a future dredged material management structure.

USACE-NYD is presently developing a Dredged Material Management Plan (DMMP). It is the intent of USACE-NYD that their Plan be the technical support to the Forum recommendations, as expressed in the Dredged Material Management Section of the New York/New Jersey Harbor Estuary Programs (HEP) Comprehensive Conservation and Management Plan (CCMP). This does not preclude USACE-NYD from investigating alternatives outside of the Forum recommendations. USACE-NYD desires to include Forum recommended alternatives within the scope of their DMMP.

Consistent with the current practices of the HEP, early (pre-CCMP) implementation of selected elements of the dredged material management plan will be undertaken including the pursuit and early implementation of non-ocean dredged material disposal alternatives. The regulatory mandate utilizing non-ocean alternatives may be found at 40 CFR § 227.16(a) which states that the need for ocean disposal will only be considered when it can be demonstrated that there are no practicable alternative locations for disposal which would have less environmental impacts or potential risk to other parts of the environment than ocean dumping. Each project proposed for ocean disposal will be evaluated to see if a non-ocean disposal alternative is available, practicable, and poses less overall risk to the

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[6] The "straw" proposal has been developed by USEPA, USACE, NYSDEC and NJDEP after consideration of the deliberations and recommendations of the Forum participants. It is understood that some of the provisions of the straw proposal do not represent a consensus opinion of all Forum participants. It will be modified, as appropriate, in response to further comments by the Forum for inclusion in the HEP Management Conference proposed HEP CCMP.

environment than ocean disposal[7]. In accordance with the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA), as amended, as non-ocean alternatives become available, ocean disposal will be denied in accordance with the above.

Reducing Continuing Inputs of Toxic Chemicals and Upland Sediments/Soils

Toxic Chemicals

The overall goal of this section is that, over the long term, all dredged materials within the NY/NJ Harbor complex will become sufficiently free of contaminants and therefore not pose a problem with respect to disposal. It is a goal that all sediment entering the NY/NJ Harbor estuary can meet Category I criteria through the implementation of waste minimization, pollution prevention and other source control measures.

The major factor constraining the selection of dredged material disposal techniques and disposal site locations is the contamination of harbor sediments by a wide range of chemicals of concern. Sediments which demonstrate problematic contamination through toxicity and bioaccumulation testing have limited disposal options. These sediments pose a potentially serious environmental risk when dredged and disposed, and may require costly containment and/or remediation techniques. Therefore, tremendous environmental and economic benefits would accrue if dredged sediments were free of harmful contaminants.

The successful long-range management of dredged sediments is dependent upon aggressive efforts to reduce and eliminate the sources of harmful contaminants. While the NY/NJ Harbor Estuary Program's (HEP) draft Comprehensive Conservation and Management Plan (CCMP) addresses toxic contamination, a more focused effort is needed--one that is specific to the reduction of sediment contamination, but contains commitments from a broader range of parties than USEPA, USACE-NYD, and the two states. A new workgroup has been formed. The charge of the new "Sediment Contamination Reduction Work Group" is to ensure that the toxic component of the CCMP meets the dredged material program needs as expressed in the Forum and in particular, the Dredged Material Management components of the CCMP. The new work group will review the existing Toxic Module for its adequacy with respect to sediments and recommend changes to the module as necessary and appropriate. The workgroup has recommended, and the HEP Policy Committee agrees, that the HEP CCMP Toxic Module will include the following goals and actions:

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[7] 33 CFR § 320.4(a)(2)

- develop loading information for sediment-associated chemicals which may bioaccumulate and/or cause toxicity. List actions necessary to develop this information and timelines associated with these actions.

- develop numerical reduction goals. Create the framework for doing so including actions and timelines.

- evaluate, with respect to numerical reduction goals, the programs identified in the HEP CCMP Toxic Module and make recommendations regarding these programs.

- project the impact of toxic reduction actions on the quantities of dredged materials in each dredged material disposal category.

The actions contained within the Toxic Module of the HEP CCMP which reduce continuing inputs of toxic chemicals that contaminate sediments presently include:

- Require municipal and industrial dischargers to identify, using sensitive monitoring techniques, and abate significant discharges of PCBs, dioxin, and other organic chemicals of concern exceeding enforceable standards (Action T-1.2).

- Conduct screening for ambient levels of organic chemicals of concern and mercury in proximity to potential sources, using sensitive monitoring techniques. Where significantly elevated levels are found, eliminate or require the elimination of the most significant sources (Objective T-6).

- Minimize the discharge of toxic chemicals from combined sewer overflows (CSOs), storm water discharges, and non-point sources (Objective T-3; see HEP CCMP section on Rainfall-Induced Discharges).

- Include additional industrial users in local pretreatment programs (Action T-2.2).

- Use existing information (e.g. Toxics Release Inventory) to identify the largest emitters of chemicals of concern to all media in areas draining to the Harbor. Give these facilities highest priority for pollution prevention actions (Objective T-8).

- Develop an integrated inventory of hazardous waste sites contributing or potentially contributing chemicals of concern to the Harbor/Bight. Develop schedules to expedite remediation of the most significant sites (Objective T-5).

- Implement the requirements of the Clean Air Act. Assess atmospheric loadings of contaminants to the Harbor/Bight (Objective T-4).

- Identify and remediate selected contaminated sediments (Objective T-9). This includes remediation of known areas (Action T-9.1) such as the Passaic River Dioxin site, the Hudson River PCB site and the Marathon Battery Site.

Key actions to better understand the toxics contamination problem include:

- Develop a system-wide mathematical model for organic chemicals of concern, to help understand relationship between contaminant loads and levels in water, sediments, and biota ("mass balance"). Use the model to help define the optimal management approach to address contamination (Action T-13.2).

- Assess sediment quality in the Harbor (Actions T-12.4 and T-12.5). Identify the chemicals responsible for sediment toxicity and other adverse ecological effects (Action T-12.2).

- Review, develop and adopt criteria for priority chemicals (Objective T-11).

For more details on these actions, including schedules and costs, and a description of additional actions, see the CCMP section on Management of Toxic Contamination.

Upland Sediments/Soils

Reducing the amount of clean sediment entering the waterways from the upland watershed will reduce the volume of material requiring dredging.

Several actions are being taken, through the HEP CCMP Habitat Module, to control point and non-point loadings of pollutants.

o NJDEP will develop and implement a pilot project to minimize the export of sediment from the Whippany River (Action H-1.1).

o NYSDEC will select a sub-watershed within the Hudson River drainage basin and develop and implement a pilot project to minimize the export of sediment to the Harbor (Action H-1.2).

o HEP, building upon the state pilot projects and programs, will develop a targeted basin-wide program to minimize sediment export to the Harbor Estuary (Action H-1.3).

In addition:

o The USACE-NYD will review options, such as sediment traps and bypass systems, that prevent sediments from entering navigational areas through engineering solutions. USACE-NYD will describe and include within its draft "New York Harbor Dredged Material Management Plan (DMMP) Phase 1 Initial Appraisal Report" these options and the steps required to study and implement these possible management options. The draft DMMP Phase 1 Report will be completed by September 30, 1994.

Characterize, Categorize, and Quantify Material to be Dredged

There is no single "best" disposal or management option for all dredged material; a combination of alternatives is needed. Identifying, evaluating, and implementing regional dredged material disposal alternatives will depend on the quality and quantity of sediments requiring dredging on both a short-term and long-term basis. In order to fully assess the practical management of dredged material, including alternatives to ocean disposal, it will be necessary to determine the actual proportions and quantities of dredged material which cannot be disposed in the ocean.

Dredged material is presently characterized through a series of physical, chemical, and biological tests which determine the suitability of the material for disposal in the ocean. The national "Green Book" for testing and evaluation of dredged material proposed for ocean disposal was first issued in 1978. A revised national "Green Book" entitled, "Evaluation of Dredged Material Proposed for Ocean Disposal", was issued by the Corps and USEPA in April 1991. The Region II/NYD Corps Regional Testing Manual was implemented on December 18, 1992.

In the tiered testing approach employed in these manuals, testing is conducted in increasing levels of complexity (and expense) to generate the information necessary to make a decision on the material's suitability for ocean disposal. Based on the results of these tests, Region II of USEPA and the New York District of the USACE-NYD have historically classified material within the NY/NJ Harbor area according to its suitability for ocean disposal. Table 2 describes the existing categories as described in the 1991 Corps of Engineers, New York District Subaqueous Borrow Pit Final Supplemental Environmental Impact Statement, the present bioaccumulation assessment approach, and an interim, regional refined chemical-specific approach for assessing bioaccumulation impacts with respect to dredged

materials. Table 3 is a description of the dredged material categories, their test result characteristics and disposal implications. The proposed bioaccumulation assessment approach will not change the classification of material within these categories.

The interim regional refined approach will be developed in phases by the Criteria Workgroup. It is a chemical-specific approach consistent with the Dredged Material Testing Manual (1991 Green Book). **The present approach will be used until the regional refined approach is peer and public reviewed**, as appropriate and USEPA and USACE-NYD determine that the proposed approach is suitable.

This interim regional refined approach will utilize an index of toxicological significance derived through risk-based methodology and reference and field background level databases for a decision-making framework in evaluating and categorizing dredged material. Preliminary information has been developed by the Criteria Workgroup for interim review. The Criteria Workgroup will, as expeditiously as possible, develop a plan for implementation of the proposed approach under the guidance of USEPA and USACE-NYD. This plan must include identification of critical data gaps including sampling and testing needs, schedules, milestones and resource/funding needs. The workgroup will reassess adequacy of preliminary databases and identify additional reference and background studies which may be deemed necessary to develop the regional refined approach. USEPA will distribute the draft guidance for peer and public review, as appropriate, after the adequacy of field and reference (chemical/biological) data, with respect to decision-making, is determined. The **target** date for distribution of draft guidance for peer and public review is December 31, 1994. The peer and public review period will be 6 months; therefore, the **target** date to finalize peer and public review is June 30, 1995. On or about June 30, 1995, USEPA and USACE-NYD will make a decision to implement all, none, or part of the guidance.

The interim regional refined approach will be employed until USEPA-Headquarters develops a national guidance document to assist the regions in bioaccumulation decision-making. This national guidance would not contain numerical bioaccumulation threshold values but would provide specific cancer and non-cancer effect levels to the extent that data are available for bioaccumulative contaminants; state-of-the-art ecological risk assessment will be included. The result of this effort will not be pass/fail bioaacumulative threshold values, but will provide the basis for conducting a site-specific risk assessment of the dredged material disposal actions. The interim regional approaches will be evaluated for applicability within the region.

Table 2 includes the interim, regional refined chemical-specific approach to assessing and categorizing dredged materials with respect to bioaccumulation. USEPA and USACE-NYD have added additional potential Bioaccumulative Chemicals of Concern (BCCs)[8] to the testing program. A preliminary effort in developing indices of toxicological significance utilizing risk based methodology and NY Bight background level information has been conducted which will be used in the chemical-specific decision-making framework. Not all of these BCCs may be actually present in detectable levels in many dredging projects tested. Conversely, as specified in the USEPA Region 2/NYD Corps Regional Testing Manual (December 1992), an attempt should be made by the test lab to identify other compounds detected in substantial quantities in the project sediment; these compounds may be required to be analyzed for in the bioaccumulation tests.

Presently, in compliance with the 1977 and 1991 Green Books, bioaccumulation is determined by statistical comparison of contaminants accumulated by organisms exposed to test and reference sediments. If there is no statistically significance increase, the dredged materials are considered to be Category I and can be ocean disposed without restrictions. If there is a statistically significant increase in test versus reference sediment bioaccumulation, then the test sediment is compared to "matrix" values. The comparison of test and matrix bioaccumulation values determines whether the material is Category I and II. Matrix values were developed in the early 1980's by collecting biological samples from areas around the MDS and establishing a grand mean for four BCCs: PCB, DDT, cadmium and mercury. Test results above matrix grand mean levels place the material in Category II. Appropriate management practices are applied to ensure environmental protection.

In 1992, in response to the concern surrounding the presence of dioxin (2,3,7,8-TCDD) in dredged material, USEPA-Region II developed an interim bioaccumulation guidance value for dioxin. Based on this chemical (dioxin) specific bioaccumulation value, dredged material could now be classified as Category I, II or III material.

To date, there are no evaluative criteria available for regional BCCs except for dioxin. An approach to evaluate test results is necessary. The interim regional refined chemical

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[8] Bioaccumulative Chemical of Concern (BCC) - a chemical with a potential to appreciably bioaccumulate in animal tissues from exposure to aquatic sediments (in the case of sediment BCCs). Two important factors in determining potential for bioaccumulation is hydrophobicity (water insolubility) and lipophilicity (affinity for organism fat, or lipids).

specific approach established the following hierarchy of assessment:

1. A comparison of bioaccumulation test results to applicable Food and Drug Administration Action Levels for poisonous or deleterious substances in fish and shellfish for human food.

- If tissue concentrations of one or more contaminants of concern are statistically greater than applicable FDA action levels, the dredged material does not meet ocean dumping criteria. (i.e. - Category III)

- If tissue concentrations of all contaminants of concern either are not statistically greater than applicable FDA action levels or there are no FDA levels for those contaminants, then the information is insufficient to determine compliance with ocean dumping criteria and next tier is applied.

2. A comparison of bioaccumulation test results to bioaccumulation reference results.

- If tissue concentrations of contaminants of concern in organisms exposed to dredged material do not statistically exceed those of organisms exposed to the reference sediment, the dredged material can be disposed of in the ocean. (i.e. - Category I).

- If tissue concentrations of contaminants of concern in organisms exposed to dredged material statistically exceed those of organisms exposed to the referenced sediment, the Green Book recommends the case-specific evaluation of the following factors will be used to determine the dredged materials compliance with ocean dumping criteria (Category I, II or III):

    1. Number of species in which bioaccumulation exceeds reference.
    2. Number of contaminants for which bioaccumulation exceeds reference.
    3. Magnitude by which bioaccumulation exceeds reference.
    4. Toxicological importance of the contaminants for which bioaccumulation exceeds reference.
    5. Phylogenetic diversity of the species in which bioaccumulation exceeds reference.
    6. Propensity of the contaminants in which bioaccumulation exceeds reference.
    7. Magnitude of toxicity and number and phylogenetic diversity of species exhibiting greater mortality

in dredged material as compared to reference material.

8. Magnitude by which contaminants in which bioaccumulation exceeds reference also exceed concentrations found in comparable species living in the vicinity of the proposed disposal site.

USEPA, USACE-NYD, NJDEP, and NYSDEC believe that potential impacts associated with some bioaccumulation of contaminants in dredged material disposed at the MDS can be managed by an appropriately planned and implemented capping program. Approximately 1% - 5% of sediments are dispersed during dredging and disposal operation according to Gordon (1974), Sustar and Wakeman (1977), Bokuniewicz, et al. (1978), Tavolaro (1982), and Truit (1986).

For practical applications, it will be necessary to estimate immediate, short, and long term proportions and quantities of dredged material falling within dredged material categories based on the regional refined approach. The estimates should initially be used to establish the implementability of alternatives to ocean disposal. Some Forum participants believe that additional data should be collected to give better estimates of the proportions and predicted quantities of dredged material within each Category. Other participant members feel that the existing data is adequate for the purposes of planning efforts. USEPA and USACE-NYD will assess the type and amount of data that may be available or necessary to establish these estimates.

When quantifying future volumes of dredged material, it will be necessary to address the fundamental concept of "the need to dredge" (see section on Volume Reduction/Selective Dredging). Port interests may voluntarily reduce dredging due to increased disposal cost. Port reconfiguration may reduce the need to dredge. The potential exists for the establishment of tipping fees for all new and existing disposal areas. It has been suggested that these potential tipping fees will provide additional incentive to minimize dredging.

- The Criteria Workgroup will, as expeditiously as possible, develop a plan to implement the interim refined chemical specific bioaccumulation evaluation methodology, under the guidance of USEPA and USACE-NYD. This plan must include identification of critical data gaps including sampling and testing needs, schedules, milestones and resource/funding needs. The workgroup will reassess adequacy of preliminary databases and identify additional reference and background studies which may be necessary to develop the regional refined approach. USEPA will distribute the draft guidance for peer and public review, as appropriate, after the adequacy of field and reference (chemical/biological) data, with respect to decision-making,

is determined. The **target** date for distribution of draft guidance for peer and public review is December 31, 1994. The peer and public review period will be 6 months therefore, the **target** date to finalize peer and public review is June 30, 1995. On or about June 30, 1995, USEPA and USACE-NYD will make a decision to implement all, none, or part of the guidance.

o USACE-NYD, USEPA, NYSDEC and NJDEP, et al. will seek authorizations or fiscal allocations for funding any necessary chemical and biological surveys to facilitate finalizing the chemical-specific bioaccumulation decision framework, as appropriate.

o The HEP recommends that USEPA-HQ develop, by June 30, 1997, a national guidance document to assist the regions in bioaccumulation decision-making. The guidance will provide specific cancer and non-cancer effects levels, to the extent such data are available.

o USEPA-Region II and USACE-NYD will modify, by June 30, 1995, the Mud Dump monitoring and management plan to incorporate any relevant aspects of the regional refined, chemical-specific, bioaccumulation approach. The regional refined monitoring and management plan will be released for public review and comments.

o USEPA and USACE-NYD will by, June 30, 1995, recommend an appropriate reference site. USEPA and USACE-NYD will peer and public review the recommendation, as appropriate, after the adequacy of field and reference (chemical/biological) data, with respect to regulatory decision-making, is determined.

o USEPA and USACE-NYD, in consultation with the Criteria Workgroup, will, by June 30, 1995, recommend an approach for establishing a reference sediment database instead of the existing practice of conducting separate reference tests for each tested project.

o USACE-NYD will, by June 30, 1995, compile all available data, and supplement data as necessary, to categorize sediments based on the regional refined bioaccumulation approach. USACE-NYD will then **estimate** the quantities of dredged material currently pending that could be expected using the above chemical-specific approach for evaluating bioaccumulation test results.

o USEPA, USACE-NYD, NYSDEC and NJDEP will, by June 30, 1995, perform pro-active sampling and testing (if determined necessary) to estimate quantities of dredged material in

each Category if given authority and additional funds are allocated and available for this specific task..

o NJDEP and NYSDEC, in conjunction with the Criteria and Containment Workgroups, will, by December 31, 1994, identify draft criteria for upland disposal. This will include, but not be limited to, siting, sediment types, sampling and testing, and facility operation. Formal rulemaking may be necessary in New Jersey.

o USEPA, USACE-NYD, NYSDEC and NJDEP will, by June 30, 1995 develop a table which matches ocean disposal (contained and uncontained) and non-ocean disposal dredged material disposal alternatives with respect to the regional refined chemical-specific bioaccumulation approach and framework for the dredge material categories.

Identify and Select Dredged Material Disposal Alternatives

The Mud Dump Site (MDS) is quickly reaching capacity, and the revised testing (Green Book, 1991 and RTM, 1992) is expected to increase the quantities of Category II and III dredged materials. Therefore, it is imperative that the remaining capacity of the site be carefully managed while readily implementable, environmentally sound disposal alternatives are identified for all categories of dredged material. Equally important is the selection and implementation of suitable mid-term and long-term disposal options. In addition, the site, its adjacent impacted environs and perhaps historical disposal areas must be managed.

Mud Dump Site, Adjacent Areas and Historical Disposal Sites

At Forum I, it was announced by USEPA and USACE-NYD that a new ocean site for Category II material would not be sought. Forum participants were charged with establishing alternatives to ocean disposal for Category II and III dredged materials and with reviewing options for the closure of the existing MDS and the surrounding ocean areas which have historically been used for disposal since the 1890's.

Subsequent to Forum I, some members of the New Ocean Disposal Site Work Group questioned the need for a new site for Category I material because they felt that other alternatives would be available for Category I material. Some members of this work group also suggested that Category I material be used to continuously cap the existing MDS and areas adjacent to it that may be impacted by dredged material disposal or were used as historic disposal areas. At a January 11, 1994 Mud Dump Site Closure Work Group meeting, the work group discussed the USEPA/USACE-NYD decision to designate a Category I only site and decided that they did not agree with this decision. At the

January 25, 1994, DMMIWG-HEP Policy Committee briefing, the Mud Dump Site Closure Work Group stated "the work group does not support a Category I only new ocean disposal site. It is unrealistic to close the MDS without other alternatives being available which would allow necessary dredging to continue." At Forum III, held on March 4, 1994, the New Ocean Disposal Site Workgroup noted that concern has been raised regarding the decision to exclude Category II material at a new ocean disposal site because of the lack of available disposal option. With this in mind, the Forum recommended that the HEP Policy Committee resolve the issue of the future of the new ocean disposal site.

In order to provide for the orderly phase-out of ocean disposal of Category II material, the USEPA, USACE-NYD, NJDEP and NYSDEC are proposing to expand the MDS (USEPA has designation authority), through the federal Environmental Impact Statement (EIS) process described below, for the disposal of Category I and II materials. The use of the expanded MDS for Category II materials will be restricted to a specified period of time. This period will be determined by USEPA prior to the issuance of the proposed site designation. As part of the analysis and EIS process, alternatives will be evaluated including the no-action alternative (i.e., no expansion of the site). A case-by-case analysis for all ocean disposal applicants will be made and in all cases where environmentally preferred, practicable (cost, logistics, technology, availability) non-ocean disposal alternatives exist for Category II materials, the use of the MDS will be denied. The Mud Dump Site/New Ocean Disposal Workgroup will consider and make recommendations to USEPA, USACE-NYD, NJDEP and NYSDEC regarding the number of years that an expanded Mud Dump Site could remain open for disposal of Category II material, the maximum volumes of Category II material that may be disposed of there, a reduction schedule for Category II material volumes, and site management and monitoring activities. In doing this, the Workgroup should take into account the anticipated volumes of Category II material based on the testing criteria, the pace of development of alternatives, and detoxification techniques, pilot project implementation schedules, volume reduction and containment input abatement opportunities and disposal incentive fees.

Historical disposal areas, MDS and areas impacted by the MDS will be covered by Category I dredged material at no additional cost. Category I materials can indefinitely continue to be ocean disposed at an appropriately designated site while always being used for beneficial purposes. (See discussion on Plans for Existing MDS, Adjacent Areas and Historical Disposal Sites for further information on remediation and restoration)

Previous monitoring efforts at the MDS indicate that dredged material extends beyond the MDS boundaries. Surveys performed for USACE-NYD show an accumulation of dredged material along the

northern, eastern and western boundaries[9]. REMOTS® photographs from approximately 1000 meters east of the MDS provide evidence of long-term accumulation resulting from frequent resuspension and transport of small volumes of dredged material eastward from the Mud Dump site.

The MDS, adjacent impacted areas, and historical disposal areas should be covered. Currently, USACE-NYD-Waterways Experiment Station is evaluating the risks associated with creating mounds at the MDS if water depths, capping thickness, and storm event magnitudes are varied. (Survey data provided to USACE-NYD after one storm event indicated that significant erosion of fine-grained sediments did not occur below -75' MLW in a specific area of the MDS. Based on this limited data, a conservative determination was made to limit disposal of dredged material and cap from one project to the -75' MLW level). USACE-NYD will, by no later than March 31, 1995, provide design criteria for various mound placement and capping options to USEPA.

Areas with depths greater than the recommended depth may be used for disposal of Category II sediments with an added measure of environmental protection - subsequent expeditious capping. These areas may be filled until they reach the recommended depth[10]. Areas with depths between the recommended depth and a controlling depth of -45' MLW will be used for the disposal of Category I only materials. This scenario allows for Category I de facto capping of the MDS, adjacent impacted areas and historical disposal sites.

The implementation of this proposal will be through an expedited supplemental EIS and appropriate rulemakings be prepared by USEPA-Region II, in cooperation with the Mud Dump Site/Ocean Disposal Site workgroup, to extend the existing MDS to include adjacent areas and historical disposal sites. The benefits of this proposal are two-fold: 1) it allows for short-term disposal of Category II material below the recommended depth while alternatives are implemented and 2) it allows Category I disposal to continue indefinitely (until closure requirements are met) with a beneficial use as a cover.

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[9] Science Applications International Corporation. 1990. "Monitoring and Reconnaissance Cruise of the New York Mud Dump Site and Eastern Adjacent Area", Report # SAIC-91/7607&255, submitted to U.S. Army Corps of Engineers, New York District.

[10] The historical disposal areas north and west of the existing dump site are generally shallow and therefore, Category II material would not be disposed in these areas. In effect, all historical disposal areas would receive Category I materials (i.e. - cap) only.

USACE-WES is studying different controlling depths and associated risk. The remaining capacity of the site and immediately adjacent impacted areas will be dependent on the controlling depth which is chosen. There is a very large capacity for the beneficial use of Category I material as cap for the existing MDS and as cover for adjacent impacted areas and for historical disposal areas.

USEPA, USACE-NYD, NYSDEC and NJDEP believe the above dual track approach will provide for the orderly phase-out of disposal of Category II dredged material. It also allows the use of the MDS, adjacent impacted areas, and historical disposal areas for the disposal of Category II material and, in the long-term, Category I material. However, it also ensures, that the MDS and adjacent areas are covered at no additional cost.

USEPA designates sites and time periods for ocean dumping under Section 102(c) of the Marine Protection, Research, and Sanctuaries Act of 1972. Additionally, USEPA's voluntary environmental impact statement (EIS) policy (39 FR 16186 and 37119) mandates the preparation of EISs to support site designation rulemakings. Expanding the area, or otherwise increasing the capacity of a site, or extending a time period over which dumping can take place at a site are actions that require preparation of an EIS and rulemaking.

USEPA has evaluated procedural options for expanding the Mud Dump Site (MDS), including: proceeding directly to rulemaking (i.e., based on the decision to expand the site the 1984 EIS for the MDS); preparing a supplemental EIS; and preparing of a full EIS. USEPA has determined that preparation of a supplemental EIS is the proper option for expanding the MDS. This option allows USEPA to satisfy its obligation under the voluntary EIS policy (thus meeting the requirements of the National Environmental Policy Act), ensure development of a solid technical basis for the site designation decision, and provide for appropriate public participation.

With respect to public participation in the SEIS process, USEPA will rely on the Mud Dump Site/New Ocean Site Workgroup and the Forum to provide input on the scope of the supplemental EIS. Also, there will be opportunities for the public to participate throughout the SEIS process, including Forum and public meetings and required public hearings following the release of the supplemental EIS/proposed rulemaking package to the public.

The schedule for completing the supplemental EIS and rule making process for expanding the MDS is ambitious, but achievable, providing the following issues are resolved prior to the initiation of the process:

- the controlling depth for the disposal of Category II dredged material (USACE-NYD to determine based on USACE-WES analysis and recommendations. Combined MDS work groups will review and comment. USEPA to concur on controlling depth for MDS);

- the remaining capacity within the MDS below this controlling depth is determined (this area should be filled before Category II dredged material is disposed of outside of the current MDS boundary); and

- the future volumes of dredged material by category.

Moreover, the need for additional data on the physical and chemical make-up of the area surrounding the MDS must be determined for inclusion in the supplemental EIS. Towards this end, the USEPA, USACE-NYD and the Mud Dump Workgroup will review the sampling plan developed by USEPA (as part of the former Mud Dump Closure Workgroup's effort) and make recommendations to ensure that it is comprehensive enough to address the needs of the supplemental EIS.

USACE-NYD will fund the preparation of the supplemental EIS; USEPA had sufficient funds for the sampling plan that has been proposed for the Mud Dump Site closure. USEPA does not, however, have funds to pay for the necessary expansion of the sampling plan to adequately address the expansion of the MDS. Accordingly, USACE-NYD has been asked to investigate funding sources for the expanded sampling plan. In order to keep to the schedule, USEPA and the Corps should resolve the funding questions, and effect the necessary transfers of funds by October 30, 1994.

The Forum has requested that more specific information be added to the straw proposal regarding the potential areas to be considered for Mud Dump Site expansion. The following discussion on potential areas for future dredged material disposal sites is provided for informational purposes only. It is preliminary in nature and requires review, as discussed above.

An approximate 16 square nautical mile remediation study area surrounding the MDS, has been identified based upon historical dredged material disposal and impacts from the MDS (See attached chart). The corner coordinates for this area are as follows:

40° 26.00' N 73° 53.00' W
40° 20.00' N 73° 53.00' W
40° 20.00' N 73° 48.00' W
40° 26.00' N 73° 48.00' W

This area is proposed for study for expansion of the MDS for Category I and II dredged material disposal. Any site designation would be sensitive to the depths required for safe navigation.

Historical disposal of dredged material occurred mainly to the North, Northwest, and West of the currently designated MDS from 1903 to 1973 (Boxes 1, 2, and 4 on the attached chart). During the later years some of the material was dispcsed inside the boundaries of the current MDS. Of concern is that material dredged from Newark bay between 1936 to 1`73 was disposed in the historical disposal area.

The remaining portion of the 16 square nautical mile area (Boxes 3, 5, 6, 7, and 8) was chosen based upon chemical and physical data indicating that dredged material disposed inside the MDS has spread and/or migrated outside the boundaries of the designated MDS (1984). In addition, previous studies have detected dioxin in sediment and worm tissue sampled from these areas.

The current minimum depth requirement for the ocean disposal of Category II dredged material is below -75 feet MLW, inclusive of a 1 meter sand cap. Boxes 2, 3, 4, 5, 7, and 8 have sufficient depths for Category II dredged material with cap (Box 6 does not) however, Boxes 3, 5, and 8 are located in areas of high commercial and recreational fishing value (the Christianson Basin and Hudson Shelf Valley). These areas slope down to the Hudson Shelf Valley and it is likely that dredged material disposed in these areas would slough off and disperse along the Hudson Shelf Valley. Dredged material would be transported out of these areas, not contained. As such, these areas would be unsuitable for the disposal of Category II dredged material. Boxes 2, 4, and 7 remain as suitable candidate areas for the ocean disposal of Category II dredged material. The SEIS will address these issues in accordance with USEPA's Ocean Dumping Regulations 40 CFR § 228.

Category I dredged material could potentially be disposed anywhere in the 16 square nautical mile area designated for ocean disposal, with priority given to those areas that would benefit from capping/cover.

o USEPA and USACE-NYD, in consultation with the Mud Dump Closure/Ocean Disposal Site Workgroup, will, by December 31, 1994, confirm a controlling depth for Category II materials at the MDS and surrounding environs.

o USACE-NYD will use existing high resolution bathymetry, and the controlling depth scenario, to define the capacity,

by category of material, remaining at the MDS and adjacent environs. This should be presented in grid fashion.

o USACE-NYD will by, March 31, 1995, provide design criteria for various mound placement and capping options to USEPA.
o USACE-NYD will, by October 31, 1994, effect the necessary transfer of funds for USEPA to begin preparing a SEIS for the Mud Dump Site and expanded areas.

o USEPA, in cooperation with USACE-NYD and the Mud Dump Closure/Ocean Disposal Site workgroup, will begin preparing a supplemental EIS, and appropriate rulemakings, for the expansion of the MDS for the disposal of Category I and II materials. This will include defining the areas previously impacted by dredged material disposal. This will have an expedited timeframe of 18 months. Workplans will be made available for comment from the public at large and Forum participants. USACE-NYD has agreed to expedite the development of the DMMP so that preliminary alternatives may be considered by USEPA when designating the expanded MDS.

Non-Ocean Disposal Alternatives

As is the current practice, in all cases where practicable, environmentally preferable, non-ocean disposal alternatives are available, disposal at the existing MDS or, if designated, expanded MDS will be denied. Each project proposed for ocean disposal will be evaluated to see if a non-ocean disposal alternative is available, practicable, and poses less overall risk to the environment than ocean disposal.

Because of the potential environmental impacts posed by Category III sediments, only alternatives with an acceptable degree of protection will be considered. This will include immediate, short and long-term alternatives such as on-site containment, site-adjacent borrow pits, existing Lower Bay Pits, interpier disposal, upland disposal and treatment prior to disposal.

There is no single "best" disposal or management option for all dredged material. The USACE-NYD is examining the use of multiple disposal alternatives, including:

- pits excavated in, or adjacent to, areas of highly contaminated sediments,
- pits excavated in the process of sand mining,
- existing subaqueous borrow pits,
- confined disposal facilities (CDFs),
- ocean subaqueous borrow pits (ocean disposal),
- containment islands, and
- upland disposal.

The other co-sponsors of the Dredged Material Management Forum (USEPA, NJDEP, NYSDEC) agree to participate in the USACE-NYD efforts via coordinated workplans, concurrent EIS processes, siting and permitting.

The Containment Facilities Work Group has recommended that a pilot subaqueous disposal pit be constructed in Newark Bay. The USACE-NYD will develop options for implementation of this recommendation. It is recommended that the Port Authority of New York and New Jersey be the project sponsor and determine the technical practicality of this plan; conduct site studies; and design, construct, and monitor the effectiveness of this disposal alternative. USACE-NYD and USEPA will actively participate and expedite Federal reviews and permitting processes, as necessary. The States of New York and New Jersey will do the same for reviews and permits within their legal purview.

The USACE-NYD has issued a Record of Decision on its Final Environmental Impact Statement for operational scale borrow pits and has requested water-quality certification from NYSDEC for the existing borrow pits in the Lower Harbor. In response, NYSDEC has expressed a number of concerns including the potential conflict between the USACE-NYD proposal and a sand mining proposal by the NY State Office of General Services. In June 1994, New York State announced an eight month moratorium on borrow pit disposal. This however, should not affect the technical issues of the WQC application being reviewed by the NYSDEC. Therefore, it is recommended that NYSDEC continue to expedite its WQC process and consider that USACE-NYD implement a demonstration scale study of subaqueous borrow pit disposal using an existing pit, preferably the Lower East Bank Pit. With satisfactory monitoring and conclusive results, this could be implemented as a short-term disposal alternative.

Presently, sand mining operations are taking place in Ambrose Channel under a Department of the Army permit. Other sand mining proposals exist for other areas of the Lower Bay. It is recommended that USACE-NYD, NYSDEC, NJDEP and the Dredging, Transport and Disposal Work group study the feasibility of modifying excavation aspects of the sand mining proposals to facilitate the creation of suitable borrow pits outside of the navigation channels. The pits created through modified or new sand mining proposals should be designed to provide the greatest level of environmental protection. USEPA agrees to participate in these efforts via coordinated scopes of work, workplans, siting, permitting, etc.

USACE-NYD is developing a long-term management Dredged Material Management Plan (DMMP) that evaluates all disposal alternatives with the aim of permanently isolating large quantities of Category II and III materials from the marine environment, including ocean and near-shore borrow pits,

containment islands, CDFs, and upland disposal. This has begun and the target date for completion is December 31, 1996. USACE-NYD has agreed to expedite the development of the DMMP so that preliminary alternatives may be considered by USEPA when designating the expanded MDS.

As part of USACE-NYD's DMMP, they are beginning to scope a containment island study. Containment islands can accommodate Category II and III materials. Containment islands accommodate large volumes of material, they are permanent, and, when properly managed, isolate contaminants from the marine and terrestrial environment. The other co-sponsors of the Dredged Material Management Forum (USEPA, NJDEP, NYSDEC) agree to participate in the USACE-NYD efforts via coordinated scopes of work, workplans, EIS processes, siting, permitting, etc. USACE-NYD will report out to the Forum participants at all plenary Forum meetings. All participating agencies recognize the need for federal and non-federal financial and regulatory commitments necessary to implement construction, management and monitoring of selected alternatives. The Dredged Material Management Integration Work Group will be the Forum work group to work directly with USACE-NYD in developing a long-term management plan.

It is the intent of USACE-NYD that their Plan be the technical support to the Forum recommendations, as expressed in the Dredged Material Management Section of the New York New Jersey Harbor Estuary Programs (HEP) Comprehensive Conservation and Management Plan (CCMP). This does not preclude USACE-NYD from investigating alternatives outside of the Forum recommendations. USACE-NYD desires to include Forum recommended alternatives within the scope of their DMMP.

In those instances where a dredged material disposal site might permanently destroy benthic habitat (eg - containment islands), mitigation, as determined to be necessary and appropriate, might be provided.

New Jersey Governor Christine Todd Whitman, in an effort to identify non-MDS alternatives to be implemented at the earliest possible opportunity (except for Category I), recently announced the formation of a State Dredged Materials Management Team - a Task Force to recommend interim plans for dredging and disposal. The Team convened in July 1994 and will focus it efforts on urgent dredging needs. Recommendations will be formulated within six months. This Task Force will concentrate efforts on identification of upland site, near-shore containment facilities, and possible sites for treatment/decontamination technology.

New York Governor Mario Cuomo has established an interagency task force to coordinate the New York State agencies' position/approach to dredging issues. The New York State Task Force is not looking for upland disposal sites and will not

attempt to determine the need for a new ocean disposal site. The New York State Task Force will assist, as appropriate, the Port Authority's upland site efforts.

These State Task Forces will concentrate their efforts on State actions such as the identification of upland disposal sites, sites for demonstration of treatment/decontamination technologies and near-shore borrow pits for interim disposal. Recommendations of both Task Forces will be given consideration by the Forum at large.

It is recognized that New York and New Jersey are focusing attention and commitment to addressing dredging and disposal issues. State support and approvals are required for most, if not all, of the actions contained in this plan. Because of the timing of the NY and NJ Governors' Task force actions (approximately 6 months) and the federal site designation procedures (approximately 18 months), it is not believed that conflicts will arise from these parallel efforts. The federal agencies responsible for site designation will know the recommendations of the task forces prior to their decision making (which includes the determination of the need for an ocean disposal site). When practicable, environmentally preferable, non-ocean disposal alternatives for Category II material are available, approval for ocean disposal will be denied. The Forum will look to incorporate the recommendations and alternatives of the Governors Task Forces into any dredged material management plans developed by the regulatory agencies.

Should an expanded site be designated, a statutorily required, case-by-case, evaluation of the need to dredge and the need to ocean dispose would be performed in the USACE-NYD regulatory process. Two of the general criteria to be considered in every USACE-NYD permit evaluation are the need for the proposed work and the practicability of using reasonable alternative methods to accomplish the objective of the proposed work when there are unresolved conflicts as to resource use[11] . Prior to USACE-NYD issuing any dredging permit, the need for the dredging component of a project must, by regulation, be established. For ocean disposal, the regulatory mandate for utilizing non-ocean alternatives may be found at 40 CFR § 227.16(a) which states that the need for ocean disposal will only be considered when it can be demonstrated that there are no practicable alternative locations for disposal which would have less environmental impacts or potential risk to other parts of the environment than ocean dumping.

The Port Authority of New York and New Jersey has proposed to prepare an assessment of the possible use of upland sites for

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[11] See 33 CFR § 320.4(a)(2).

disposal within the region. This proposal has been made to the Governors' Task Forces and to the Forum. This assessment should continue with active State participation. Neither the State of New York nor the State of New Jersey will undertake an upland disposal site pilot project because they believe that construction technology and management of these sites have already been demonstrated. The States will monitor the progress of private sector applicants seeking to site or operate upland disposal areas with respect legal, political and social aspects.

- o The Port Authority of New York and New Jersey will be the lead to determine the technical practicality of a subaqueous borrow pit in Newark Bay with support from USEPA and USACE-NYD, as requested. They will conduct site studies to support and demonstrate environmental compliance with all applicable laws, design, construct, and monitor the effectiveness of this disposal alternative. A feasibility report, including plans and specifications, will be presented to USACE-NYD no later than September 30, 1995.

- o The Containment Work Group is undertaking a comparison analysis of federal and non-federal sponsorship for implementing a pilot subaqueous pit in Newark Bay and plans to make a recommendation to the Forum by (TBD) as to which type of sponsorship holds most promise for implementing a pit within the fastest time frame.

The Port Authority has stated that they are willing and prepared to "discuss with the federal and state governments the most efficient and environmentally safe way to construct subaqueous borrow pits so that issues of liability, permitting, mitigation and monitoring can be fairly taken into account."

The Containment Work Group is also working closely with Port Authority staff in seeking federal funding for a 250,000 cy subaqueous pit.

- o NY State will expedite its WQC determination and consider requiring that USACE-NYD plan a demonstration program for existing borrow pits in the Lower Harbor. The WQC will have a monitoring and management plan to ensure adequate environmental assessment. Should the project be approved, USACE-NYD will implement the project as soon as possible, given timing and funding constraints.

- o Should a conditional WQC allow for a demonstration project (see above paragraph), then within 6 months of demonstration project completion and data submittal and review, the State of New York will review the demonstration project and make a determination on whether the WQC conditions were satisfied to allow for an operational scale borrow pit program.

o USACE-NYD, NYSDEC, and NJDEP will assess the feasibility of modifying existing sand mining proposals so that suitable borrow pits, outside of navigation channels, might be created through sand mining practices. This will be done by (TBD). This will take place in consultation with the Dredging, transport and Disposal Work Group.

o USACE-NYD will, in consultation with, USEPA, NYSDEC and NJDEP by December 31, 1996, prepare a comprehensive long-term management plan for dredged material evaluating alternatives such as the containment islands, CDFs, and upland disposal. This plan will be coordinated with the Dredged Materials Management Forum through the DMMIWG. The DMMIWG will work directly with USACE-NYD on this plan. USACE-NYD will report out at all plenary Forum meetings.

o The States of New Jersey and New York will monitor the progress of private sector applicants seeking to site and operate upland disposal areas in the Port Region. These actions will take place in consultation with the Criteria, Containment and Dredging, Transport and Disposal Work Groups.

Treatment Methods

Treatment (including but not limited to decontamination, physical separation, etc) is not a disposal alternative. Rather, it is a method which may facilitate the management of contaminated dredged material within the Harbor (whether dredged for navigation and/or remediation). The main goal of the current investigations is to identify effective technologies, which may be readily applied to large volumes of contaminated dredged material, in a cost-effective, and environmentally sound manner, and which yields products(s) which may be used beneficially. It is the vision of the Decontamination Technologies/Siting Work Group, less USACE-NYD and USEPA, that within four years an operational treatment program is viable of treating 1.5 million cubic yards/year (minimum), or 1 - 2 3,500 cubic yard scows/day. USEPA and USACE-NYD will await results of bench and pilot scale tests before attempting to assess the viability of treatment technologies.

The Water Resources Development Act (WRDA) of 1992 mandated that the USACE-NYD and USEPA jointly select decontamination technologies for contaminated sediments. Resources of $2.7 million and $2.3 million were appropriated to USEPA-Region 2 in fiscal years (FY) 1993 and 1994 respectively.

Of the FY 93 funding, $1 million was designated by USEPA to conduct bench- and pilot-scale demonstrations using the Base-Catalyzed Decomposition (BCD) because they believe BCD is a promising treatment for dioxins, furans, PCBs, chlorinated

pesticides & other chlorinated organics as well as PAHs. A workplan has been approved by USEPA, sediment samples have been collected, chemical analysis of the untreated sediment sampling has been performed, and bench-scale testing (beaker-sized) is being implemented. It is anticipated that the bench-scale studies (including a pilot design report) will be completed by February 1995. If the bench-scale testing show promise, a pilot-scale demonstration will be conducted in 1995 provided that a site is located, acquired and permitted.

For the remaining FY 93 funds, $1.5 million (FY 93) has been obligated through an Inter-Agency Agreement (IAG) to USACE-NYD. A portions of these funds have been given to the U.S. Department of Energy, Brookhaven National Laboratory (BNL) through an IAG with USACE-NYD. The IAG allows BNL to facilitate "Request for Proposals" which will identify potential vendors for bench-scale decontamination/treatment technologies, evaluate the success of bench-scale tests, implement pilot-scale programs and other support service. In addition, the USEPA is developing a SOW ($100,000) for BNL to conduct public outreach, particularly to identify sites for decontamination/treatment facilities. Additional WRDA funds ($100,000) are being used for Phase I Whole Sediment Toxicity Identification Evaluations (TIEs) on Harbor sediments. Since decontamination/treatment technologies may be contaminant specific, the TIEs indicate which contaminant is causing sediment toxicity and thus give managers/policy makers a better understanding of where to target resources into the most appropriate decontamination/treatment technology. Some of this money will be used to examine methods of removing organic contaminant toxicity from whole sediments.

A workplan is being finalized for FY 94 funds. Eight work assignments are proposed including Phase II Sediment TIEs, Pilot/Production Level Demonstrations, Non-Proprietary bench-scale testing, integration of technologies into treatment trains, technology application study, end product disposal criteria, 3-D visualization of contaminants in Harbor sediments and public outreach.

Congress is proposing additional funding in WRDA 1994 to continue decontamination technology work. The proposed language is "Extend § 405 of Public Law 102-580 (WRDA 92) by replacing $5,000,000 with $10,000,000 and '92 with '94". In addition, §§ (a) is amended by adding the following: "The intent of this section is to make possible the development of one or more sediment decontamination technologies on a pilot scale demonstrating a capacity of at least 400 cubic yards per day. The Administrator and the Secretary shall report to Congress on the progress made toward that end of fiscal year 1995 and every year thereafter."

o USEPA, in consultation with the USACE-NYD and the Decontamination Work Group, is conducting bench-scale studies (and if promising, will conduct pilot-scale ones) of the Base-Catalyzed Dechlorination (BCD) technology on Harbor sediments. The bench-scale with a pilot design report will be completed by February 1995. If the bench testing looks promising, the pilot-scale studies will begin will begin in March 1995.

o The USACE-NYD, in consultation with USEPA and the Decontamination Work Group, will arrange for bench- and pilot-scale studies of viable technologies for treating sediments. This is scheduled to be completed by June 1996 but may be delayed.

Develop Plans for Closure (Remediation and Restoration) of the Existing Mud Dump Site, Adjacent Areas and Historical Disposal Areas.

As previously discussed, the MDS, adjacent areas and historical disposal areas need to be managed in the short term and eventually closed when practicable non-ocean alternatives become available. The Mud Dump Closure/New Ocean Site Workgroup is to develop pre- and post-closure monitoring and management plans for the MDS and adjacent and historical disposal areas. Pre- and post-closure monitoring plans will include physical, chemical, and biological sampling. The following issues will be addressed: remaining capacity, frequency of post-closure surveys, costs and funding, and the erosion potential of the existing mounds.

Dredged material has been disposed in the ocean since 1914. Consequently, large areas of the ocean floor have been, at a minimum, physically impacted. Prior to 1977, dredged material was disposed without bioassay/bioaccumulation analysis and very little chemical analysis. Therefore, the chemical and biological impact of dredged material in areas outside of the existing MDS is, at present, unknown. Dredged material disposed prior to the implementation of water pollution control laws may contain higher concentrations of contaminants of concern than dredged materials disposed at the MDS today. The expansion of the MDS offers the potential opportunity for providing remediation of contaminated areas by disposing of normal harbor maintenance dredged material and, as a goal, restoration of contaminated areas by disposing of materials which are beneficial to the marine environment (sands, muds, large rubble, etc).

Because of this, the Mud Dump Site Closure/New Ocean Site Workgroup will develop a plan to evaluate all dredged material disposal areas and determine if they have been adversely impacted by disposal activities. The plan will address remediation of the impacted areas with Category I materials for the protection

of human and ecological health, with restoration as a goal. The value of sand or other material as a final cap will be reviewed by the workgroup. It is the expressed consensus of the Dredged Material Management Forum to seek opportunities to restore, to the maximum extent practicable (cost, logistics, technology availability), areas of the Bight Apex which have been adversely impacted by dredged material disposal.

- o USEPA, in consultation with the USACE-NYD and the Mud Dump Site Closure/New Ocean Site Workgroup, will develop a closure management and monitoring plans for the MDS, adjacent areas and historical disposal sites. This will incorporate the controlling depth strategy for Category I and II materials as previously described in the "Identify and Select Disposal Alternatives" section. It will be hierarchial in nature with remediation as a primary action and opportunities for restoration as a goal when suitable materials are available.

- o USEPA, in consultation with the USACE-NYD, will implement the Closure Monitoring and Management plan when appropriate.

Improve Dredging, Transport and Disposal Operations

The dredging operation, subsequent disposal and final management of the sediment must be compatible. Dredging contaminated sediments for navigation and cleanup involves many of the considerations discussed above.

Information on the selection of dredging equipment and on the advantages and limitations of various types of dredges is available. However, its applicability to the NY/NJ Harbor Region is uncertain. With respect to dredging operation, there are two main concerns: resuspension of sediments and removal precision. Resuspension during the dredging operation can be caused by excavation, barge/hopper overflow, spillage, leakage, spud movement, barge movement, etc. Removal precision refers to how accurately a given dredge can remove desired areas and thicknesses of contaminated sediment. Precision is important from the standpoint of the ability to segregate contaminated and uncontaminated materials so that they may each be handled in the most appropriate manner possible.

This issue of using improved or innovative disposal techniques depends on the disposal site selected. Confined disposal may involve the use of flocculents, treatments, liners, hydraulic pumps, etc. In open-water disposal of contaminated sediments, options may include modifications of operations, use of subaqueous discharge points, diffusers, subaqueous lateral confinement of the material and/or capping. Since there are no disposal sites yet selected for the work group to recommend project specific equipment, the Dredging, Transport and Disposal

Workgroup has requested that USACE-NYD contact USACE-Waterways Experiment Station (USACE-WES) to determine if hydraulic dredging is feasible for borrow pit disposal and very confined sites.

USACE-NYD will address and investigate (as appropriate) innovative dredging technologies are part of their Dredged Material Management Plan.

The Dredging, Transport, and Disposal Work Group of the Dredged Material Management Forum, with input from the USACE-WES, has reviewed existing and near-future technologies and evaluated their suitability for use in the Harbor, including their cost effectiveness. The group is also studying the advantages and disadvantages of "no barge overflow" restrictions and will, in conjunction with this effort, coordinate with the State of New Jersey and the Port Authority of New York & New Jersey in reviewing the barge overflow study recently performed by the Port Authority for the Port Newark/Elizabeth dredging. The workgroup will develop a map of the Harbor which identifies the best dredging technologies (based on depths, sediment types, contaminants, and disposal alternatives) for the different Harbor locations. In addition, the group is recommending a pilot scale demonstration of the use of geotextile bags or tubes for containing dredged material.

Containment of dredged material in geotextile bags, tubes and containers, filled in-place or filled in large bottom dump scows and dumped below the water level, has helped solve several difficult construction problems in the past few years. More recently, with many commercial harbors facing delays in dredging due to contaminated sediments, the focus has turned to large scale contaminated dredged material disposal in geotextile bags and containers. In response to this expressed national interest in using this technology for disposal, USACE-WES and Nicolon Corps have initiated an $800,000 engineering and environmental study of geotextile containment. The purpose of the study is to develop and demonstrate dredged material containment systems that are technically feasible, environmentally sensitive and cost effective.

Early demonstration projects have indicated that the geotextile material can be used fitted inside a barge and withstand the stresses of being mechanically filled and dumped. The bags are not known to break down in the marine environment. They can be lined with filter material which reduces sediment particle loss through the bags (additional study includes assessing contaminant loss). The only impact on the dredging and disposal *operations* is the need for additional personnel to close the bags and sew them shut prior to disposal. The bags and filter fabric are inexpensive. The current cost of capping may be greatly reduced by using the geotextile containers since they will limit the amount of spreading that occurs when the

containerized dredged material impacts the seafloor. It is herein stressed that further study of this potentially useful technology is necessary.

The Port Authority of New York and New Jersey is proposing to develop a pilot project utilizing the geotextile containers. They have begun preliminary engineering and environmental design work for the pilot.

- o The Dredging, Transport, and Disposal Work Group will, by December 31, 1994, recommend specific improvements fo· equipment and methods used in dredging, transport ano disposal operations. (Separate recommendations will be developed for each disposal option, for each relevant category of material.

- o USACE-NYD will, by (TBD), determine if hydraulic dredging is feasible for borrow pit disposal and very confined sites.

- o The Port Authority of New York and New Jersey will select a dredging project for a pilot disposal utilizing dredged material placed in the geotextile bags. The Port Authority will provide funding to a USEPA or independent contractor for monitoring of the disposal.

Volume Reduction/Selective Dredging

As previously stated, it is necessary to address the fundamental concept of minimization of the quantities of material needing to be dredged. Alternatives to dredging must continue to be considered. It may be feasible to dredge only limited areas of a facility and still not effect a marine facility's operations. Two of the general criteria to be considered in every USACE permit evaluation are the need for the proposed work and the practicability of using reasonable alternative methods to accomplish the objective of the proposed work when there are unresolved conflicts as to resource use.[12] Prior to USACE-NYD issuing any dredging permit, the need for the dredging component of a project must, by regulation, be established. For federal projects containing Category III sediments, the USACE-NYD will continue to ensure that there is sufficient commerce to justify dredging. Innovative dredging technologies utilizing precision equipment need to be developed and evaluated to reduce the amount of dredged materials generated. It is important to note that disposal alternatives are still necessary. A reduction in the volume of material to be dredged provides greater flexibility for management of disposal alternatives because of limited capacity for disposal of dredged materials.

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[12] See 33 CFR § 320.4(a)(2)

Federal navigation channels, including their physical dimensions, are authorized through acts of Congress. Many of these channels were designated at a time when the number of ships utilizing the Harbor was greater than it presently is. MARAD will assess the impact of reducing the width or depth of specific channels if, through computerized simulations. Channel reconfigurations have been done in Norfolk, Va. and significantly reduced the cost of dredging and maintaining channels handling large vessels.

- USACE-NYD will, in coordination with the applicable State jurisdiction, review each permit application and federal projects, before USACE-NYD and the State, to ensure that volume reduction and dredging techniques have been reviewed in an effort to reduce the quantities of material requiring disposal. This may include limiting the extent and depth of dredging. Annual reports on efforts to reduce volumes from both federal and private projects will be compiled and provided to the public on request. Reports will be available in January beginning 1995.

- MARAD will assess the impact of reducing the width or depth of specific channels if, through computerized simulations.

Tipping Fees

The potential exists for the establishment of tipping fees for all new and existing disposal areas. These fees could be recycled into the dredging program to offset general management and operational costs. It is also envisioned that there could be a regional trust fund established via an amendment to the Clean Water Act or MPRSA.

It has been suggested that the addition of tipping fees to Port user costs may be premature and counter productive considering that maritime and related industries are struggling to remain in the region due to the negative and uncertain regulatory climate. A nation-wide tipping fee would need to be implemented (including federal projects) for ocean and inland waters so as not to result in a competitive disadvantage to this port. Some members of the shipping industry have stated that they would not necessarily oppose tipping fees as a means of reimbursing the government for services which ultimately benefit the industry through disposal alternatives such as containment island, borrow pits, geoxtextile bags and upland disposal. Several Forum participant groups, including the Port Authority and NYSDOS strongly object to the use of tipping fees to support the agencies general management and operational costs of disposal sites.

Based on these comments, prior to making a decision to seek congressional authority to pursue the establishment of a tipping fee program[13], an economic study must be sponsored by (TBD). This study will include the analysis of 1) the impact of tipping fees both regionally and nationally 2) the use of funds for conducting site management and monitoring 3) the use of funds for siting other disposal alternatives 4) the use of funds from the Federal Harbor Maintenance Trust Fund and 5) the establishment of "hammer dates" for dredged material disposal alternatives and associated penalties. Upon completion of the study, HEP may seek Congressional input on tipping fees.

- o (TBD) will, by June 30, 1995, sponsor an economic assessment of tipping fees in the Port of New York and New Jersey.

- o HEP may, by August 30, 1995, seek Congressional input on tipping fees.

Designation of Lead Agencies to Track Demonstration Projects

This dredged material management plan identifies several specific bench/pilot/demonstration scale projects each with a multitude of implementing issues associated with it (empirical data, sponsorship, liability, funding, authorization, siting, public coordination, etc). A lead agency has been designated to identify and coordinate major issues associated with the projects. **This does not mean lead that the agency is the sponsor nor is responsible for technical or environmental reviews.** Agencies with regulatory authority maintain regulatory authority. The lead agency has only the initial responsibility to provide substantive answers regarding major issues and to report out on those issues, as appropriate (Forum meeting at a minimum). The lead agencies for tracking and reporting out on demonstration projects are as follows

- Newark Bay subaqueous borrow pit - Port Authority

- Lower East Bank subaqueous borrow pit - USACE-NYD

- Upland disposal - NJDEP

- Treatment technologies - NYSDEC

Expedite Permit Decisions

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[13] It is not herein meant to imply that the investigation of tipping fees is a precursor to pursuing, with Congress, the establishment of tipping fees.

The key to expediting permit processing is having appropriate regulatory coordination and disposal sites available for the category of material to be dredged. In order to reduce the delays associated with determining the suitability of dredged material for disposal at the MDS, USACE-NYD and USEPA, Region II are finalizing a Memorandum of Understanding (MOU). USEPA, Region II and USACE-NYD will utilize the regional MOU to facilitate implementation of Title I of MPRSA.

The Regional MOU was prepared to effectively execute statutory responsibilities associated with technical and administrative procedures under MPRSA pertaining to: monitoring and management of ocean disposal sites; dredging and disposal permit review and approval, including regionally appropriate sediment testing and evaluation protocols; dredging and ocean disposal permit compliance and enforcement; and appropriate reporting and record keeping of documents pertaining to MPRSA activities.

It is the intent of the agencies, through the MOU, to minimize duplication of effort, paperwork and delays in the management of ocean disposal sites, including the MDS, and dredging and disposal permits and authorizations. Conflicts between NYD and Region 2 offices will follow an agreed-upon procedure that will seek to resolve conflicts quickly at appropriate staff and management levels.

If other disposal sites were designated, it is envisioned that the regulating agencies would develop MOUs for these in accordance with their statutory responsibilities.

Joint permit application packages for federal and state regulatory agencies and development of unified testing requirements would likely expedite permit processing and regulatory decisions. When feasible, joint permit applications and unified testing should be developed. Associated with this might be a public domain database supported by the federal and state government which contains application information and tracks the progress of each permit necessary.

Since there are many federal agencies involved in the protection of marine resources, there must be an effort to clearly and concisely understand all agency concerns (seasonal dredging windows, habitat conservation, endangered species) and resolve these concerns within a unified regional Regulatory Guidance document including generic special conditions for permits.[14] USACE-NYD, in cooperation with the federal resource

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[14] This does not obviate the need for individual permit reviews and case-by-case special conditions. The document would be used only as guidance. Individual project reviews, including

agencies, will explore developing such a document. This document would ensure that there is general agreement between federal agencies with respect to dredging and disposal permits. The State regulatory agencies (NYSDOS-CZM, NYSDEC, and NJDEP) will prepare a similar document drawing on their state resources agencies. USACE will explore the formation of a federal and state interagency group to attempt to integrate, on a regional basis, federal and State Regulatory Guidances.

Despite the development of regional Federal and State regulatory guidance documents, there may be conflicts with respect to resource use. The State and Federal resource agencies will establish a unified regulatory process for resolving resource use concerns. USACE-NYD will be the lead.

- o USACE-NYD and USEPA, Region II will, by December 31, 1994 finalize a draft MOU for ocean disposal site management and site designation. In accordance with WRDA, the ocean disposal site management plans will be subject to full public review and comment.

- o USACE-NYD, NJDEP and NYSDEC will explore, by December 31, 1994, development of joint permit application packages for projects proposing ocean and/or non-ocean disposal.

- o USACE-NYD, in cooperation with USEPA, NOAA-NMFS, USFWS, NYSDEC, NJDEP, et. al. will explore, by December 31, 1994, development of a federal regional Regulatory Guidance document which addresses the concerns of the federal resource agencies with appropriate generic, and recommended specific, special permit conditions for federal permits.

- o NYS (DOS and DEC) and NJDEP will, by December 31, 1994 develop a regional state Regulatory Guidance document which addresses the concerns of the state resource agencies with appropriate generic, and recommended specific, special permit conditions for state permits.

- o USACE will explore, by June 30, 1995, the formation of a federal and state interagency group to integrate federal and state Regulatory Guidances.

- o USACE-NYD, in cooperation with USEPA, NOAA-NMFS, USFWS, NYSDEC, NJDEP, et. al. will explore, by December 31, 1994,

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compliance with all applicable laws and regulations (NEPA, CWA, MPRSA, Endangered Species Act, Fish and Wildlife Coordination Act, Wild and Scenic Rivers Act, etc.) would be performed by the authorized regulatory agency.

* **THIS DOCUMENT IS PRESENTED FOR DISCUSSION PURPOSES ONLY. WHILE THE CONTENTS HAVE BEEN REVIEWED BY USEPA, USACE, NJDEP AND NYSDEC, IT DOES NOT, AT THIS TIME, REFLECT THE FINAL VIEWS OF THE AGENCIES.**

establishment of a unified regulatory process for resolving resource use concerns.

o USEPA, USACE-NYD, NJDEP and NYSDEC will explore, by, March 31, 1995, development of unified testing requirements for dredged material disposal for both ocean and non-ocean disposal alternatives. This will be coordinated with the Criteria Workgroup and the Dredged Material Management Forum.

o USACE will provide a status report to the Dredged Material Management Forum every 6 months on the efforts of the regulatory agencies to streamline permit processing. If any of the above recommended actions cannot be implemented, USACE will provide an explanation as to the reasons, including any obstacles encountered.

Future Dredged Material Management Structure

The HEP Policy Committee has directed the HEP Management Committee Chair, the DMMIWG Chair and the Citizens Advisory Committee co-chair to suggest options for a Forum/HEP structure.

o The Forum, through the DMMIWG, in consultation with HEP, will identify responsible parties for all actions and commitments and will assist in the development of implementation programs for these recommendations through its work groups.

o Within the HEP structure, the Dredged Material Management Forum will continue to review and comment on work plans, SOW, work products, etc.

o The DMMIWG, on behalf of the Forum, will interact with USACE-NYD in the development of the USACE-NYD long-term DMMP.

o USACE-NYD, USEPA, NYSDEC and NJDEP will discuss plans, proposals, and alternative courses of action pertaining to any matters that fall within the scope of this document with the relevant work groups of the Forum, including the DMMIWG. This will be done at the earliest possible opportunity and throughout the development of a project.

o Work products of the work groups, DMMIWG and the Forum will reflect strong-held minority opinions.

ALL DATES NEED TO BE "REALITY CHECKED" AND DISCUSSED WITH RESPONSIBLE AGENCIES.

TABLE 1 - BEING REVISED

TABLE 2 - DESCRIPTIONS OF DREDGED MATERIAL DISPOSAL CATEGORIES and PRESENT and REFINED BIOACCUMULATION APPROACHES

CATEGORY I General Description	Sediment which meets ocean dumping criteria. Test results indicate no unacceptable toxicity or bioaccumulation in biological test systems. They are acceptable for "unrestricted" disposal. They offer no potential short-term (acute) impacts or long-term (chronic) impacts to the marine system, and therefore would require no special precautionary measures during disposal.
CATEGORY I Present Approach	Do not cause unacceptable toxicity or bioaccumulation in biological test systems. Five bioaccumulative contaminants (PCB, DDT, mercury, cadmium and petroleum hydrocarbons) are analyzed and compared statistically to the reference results. If statistically greater than reference, they were compared to "matrix" values developed for each of these (except petroleum hydrocarbons). The matrix values were developed from a "grand mean" field background assessment from available biota tissue level data in the surrounding areas of the Mud Dump Site. Exceedances above reference must not be above the matrix levels for Category I materials. Water quality standards cannot be exceeded at the site. Dioxin level is ≤1 pptr bioaccumulated in tissue.
CATEGORY I Refined Approach	Do not cause unacceptable toxicity or bioaccumulation in biological test systems. Levels of bioaccumulative substances must be within those determined to be acceptable through a chemical-specific decision-making framework that includes reference, toxicological and field background information. Toxicological indices, along with field background tissue levels will be used to assess acceptable exceedances of reference results for this category. Water quality standards cannot be exceeded at the site. Dioxin level is ≤1 pptr bioaccumulated in tissue. If tissue concentrations of all contaminants of concern in organisms exposed to dredged material do not statistically exceed those of organisms exposed to the reference sediment, then no further evaluation is necessary.
CATEGORY II General Description	Sediments which meet ocean dumping criteria. Test results indicate no significant toxicity but a potential for bioaccumulation. To protect from this potential for bioaccumulation, Region 2 and the New York District will require appropriate management practices. For instance, capping is used to isolate the sediments from organisms that could potentially accumulate contaminants from exposed sediments. This is referred to as "restricted" ocean disposal.
CATEGORY II Present Approach	Test results indicate no significant toxicity. Five bioaccumulative contaminants (PCB, DDT, mercury, cadmium and petroleum hydrocarbons) are analyzed and compared statistically to the reference results. If statistically greater than reference, four of the above contaminants were compared to "matrix" values developed for each of these (except petroleum hydrocarbons). The matrix values were developed from a "grand mean" field background assessment from available biota tissue level data in the surrounding areas of the Mud Dump Site. If exceedances are above matrix values, disposal management practices (capping) are required. Dioxin action level for Category II sediments is > 1 but ≤ 10 pptr bioaccumulated in tissue. Water quality standards cannot be exceeded at the site.

CATEGORY II Refined Approach	Test results indicate no significant toxicity. Levels of bioaccumulative substances exceed those determined to be acceptable through a chemical-specific decision-making framework that includes reference, toxicological and field background information. Toxicological indices, along with field background tissue levels will be used to assess acceptable exceedances of reference results for this category. Exceedances will be managed through disposal and disposal site management practices. Dioxin action level for Category II sediments is > 1 but ≤ 10 pptr bioaccumulated in tissue. Water quality standards cannot be exceeded at the site. If tissue concentrations of contaminants of concern in organisms exposed to dredged material statistically exceed those of organisms exposed to the referenced sediment, a case-by-case evaluation will be performed to determine whether special management practices are necessary.
CATEGORY III General Description	Sediments which do not meet ocean dumping criteria. These sediments are those that fail acute toxicity testing or pose a threat of significant bioaccumulation that cannot be addressed through available biological and chemical management practices. These sediments cannot be disposed in the ocean.
CATEGORY III Present Approach	Sediments are those that fail acute toxicity testing or pose a threat of significant bioaccumulation that cannot be addressed through available biological and chemical management practices. These sediments cannot be disposed in the ocean. Dioxin action level is >10 pptr bioaccumulated in tissue.
CATEGORY III Refined Approach	Sediments are those that fail acute toxicity testing or pose a threat of significant bioaccumulation that cannot be addressed through available biological and chemical management practices. If upper actions levels are developed for BCCs (analogous to upper dioxin tissue levels), they will be issued for peer and public review for inclusion in this approach. These sediments cannot be disposed in the ocean. Dioxin action level is >10 pptr bioaccumulated in tissue.

TABLE 3 - DREDGED MATERIAL DISPOSAL CATEGORIES, CHARACTERISTICS AND DISPOSAL IMPLICATIONS

CATEGORY	TEST RESULT CHARACTERISTICS	DISPOSAL IMPLICATIONS
I	Does not cause unacceptable toxicity or bioaccumulation in test systems.	**Should always be used for beneficial purposes.** Suitable for unrestricted ocean disposal. Course-grained sand may be used for beach nourishment; Coarse grain and fine grained material may be used as interim or final cap for borrow pits or Mud Dump Site. May be used for cover of historical disposal area.
II	Does not meet criteria for unrestricted ocean disposal but does not pose a definite threat of mortality.	Suitable for ocean dumping with capping; suitable for disposal at landfills or as daily or interim landfill cover, disposal in containment facilities; disposal in borrow pits or contained facilities.
III	Fails to meet ocean dumping criteria.	Not suitable for ocean disposal; suitable for disposal at confined facilities; suitable as sanitary landfill cover, borrow pit disposal.

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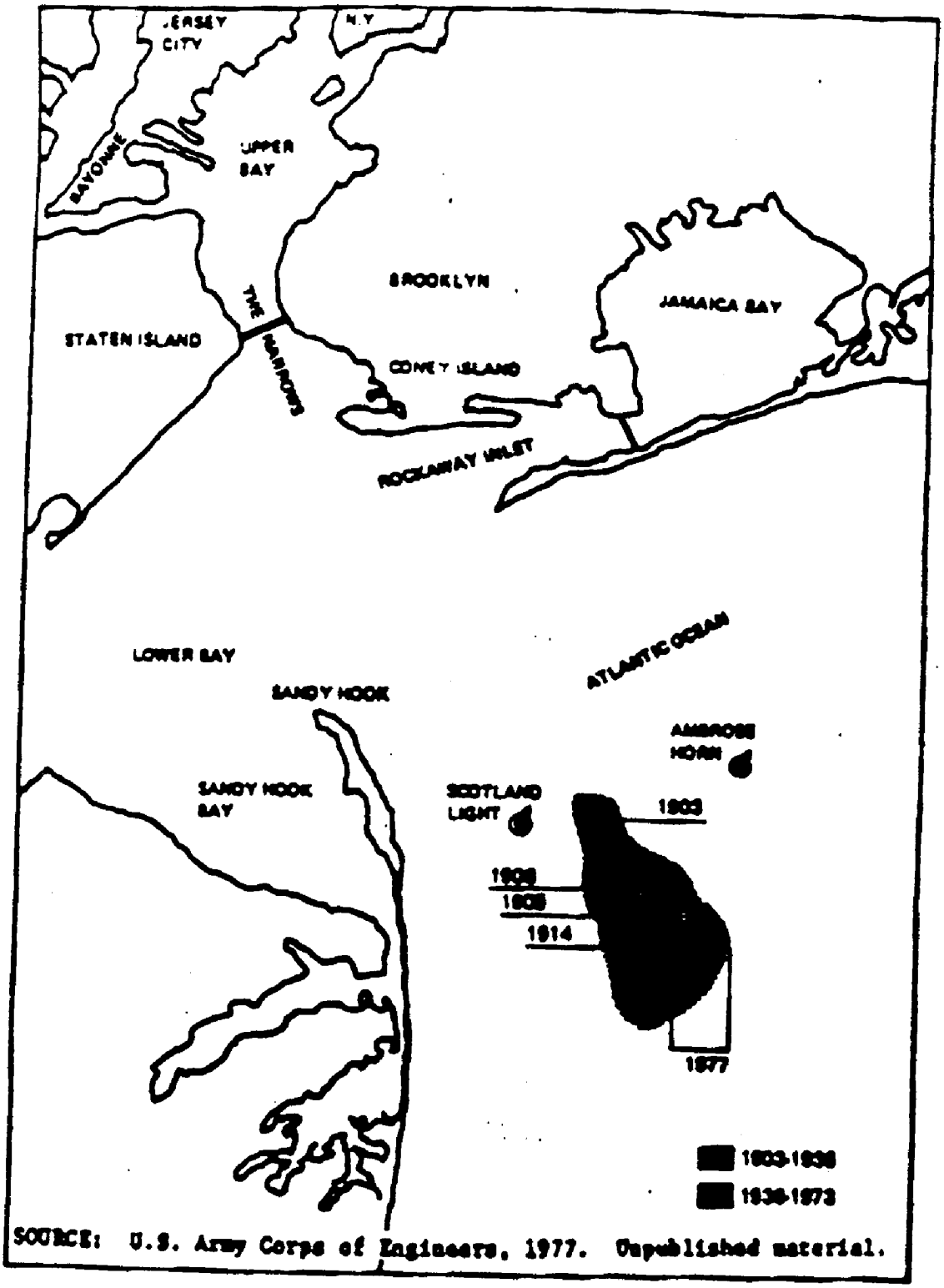
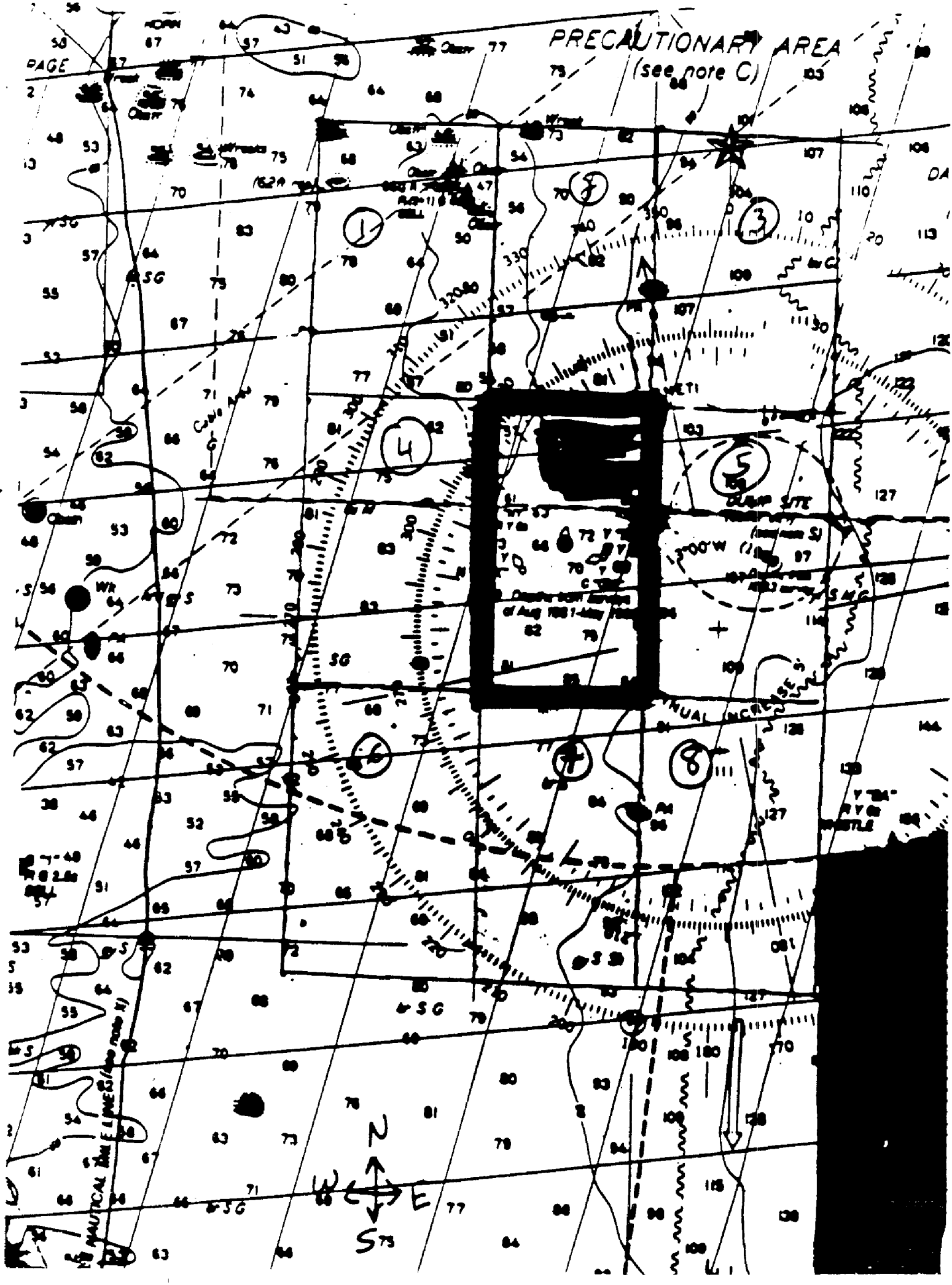


FIGURE 16
HISTORICAL DREDGING DISPOSAL SITES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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

ENCLOSURE 3

DATE: September 23, 1994

SUBJECT: Direction and guidance of the HEP Policy Committee with respect to Dredge Material Management portion of the CCMP/Straw Proposal.

FROM: Mario Del Vicario, Chair
Dredged Material Management Writing Team

TO: Dredged Material Management Writing Team

On September 21, 1994, Jim Tripp (DMMIWG chair), Dennis Suszkowski (STAC chair), Eugenia Flatow (CAC co-chair) and I (Writing Team chair) briefed the HEP Policy Committee (PC) on the dredged material portion of the HEP CCMP/Straw Proposal and the remaining outstanding issues. As directed by the PC, I am providing a summary of the issues discussed and the direction given by the PC.

EPA has revised the HEP CCMP/Straw Proposal in accordance with the PC's direction. This revised version will be discussed on Monday (9/26). Please be prepared to give comments on substantive issues.

1. **ISSUE**: Pollution Prevention as a goal

DIRECTION: The PC supports the Pollution Prevention Goal. The straw proposal should indicate that a visionary goal of the program is that all sediments entering the system can meet Category I criteria. This will be accomplished through waste minimization, pollution prevention and other source control measures.

2. **ISSUE**: Restoration vs. Remediation as a goal

DIRECTION: The PC supports the goal of the restoration of the Mud Dump Site, adjacent areas and historical disposal areas. The straw proposal should state this. However, our actions must also be practicable. Therefore, as we move towards the goal, the straw proposal should indicate that we will "remediate and seek opportunities to restore, to the maximum extent practicable (cost, logistics, technology, availability), areas of the Bight Apex which have been adversely impacted by dredged material disposal."

3. **ISSUE**: Contaminant Inputs - need for commitments

DIRECTION: The PC agrees with all the general recommendations made by the Sediment Contamination Reduction workgroup and has advised Seth Ausubel to incorporate these general recommendations into the Toxics Module.

4. **ISSUE**: Designation of lead agencies to track demo. projects.

DIRECTION: The PC supports the clear assignment of responsibilities for all actions. In addition, the PC supports

the designation of lead agencies for tracking and reporting purposes in implementing demonstration projects. The issue of ocean borrow pits will be addressed by USACE in their Dredged Material Management Plan (DMMP).

5. **ISSUE:** Criteria timefimes and implementation

DIRECTION: The PC has directed, and the straw should reflect, that the Criteria workgroup, as expeditiously as possible, will develop a plan for implementation of the proposed approach. As part of this plan a thorough analysis of the impact on existing and future harbor dredging projects will be included. Included in this analysis must be identification of data gaps, sampling and testing needs, schedul-s and funding. Target dates at this time are to develop draft guidance for peer and public review by December 31, 1994 (if data is available) and to finish peer and public review by June 30, 1995. These dates may be revised in accordance with the workgroups recommendations.

6. **ISSUE:** Forum/HEP Structure

DIRECTION: The HEP PC has directed the HEP Management Committee Chair, the DMMIWG Chair and the CAC co-chair to suggest options for a Forum/HEP structure.

7. **ISSUE:** Expanded site SEIS and Rulemaking precede USACE LTMS and other outputs in the straw proposal.

DIRECTION: The PC wants all elements of the DMM straw proposal to be implemented as soon as practicable. However, there was general agreement by the PC that the expanded site SEIS and Rulemaking cannot be delayed pending release of a final USACE DMMP and pending the final completion of some other key commitments that were in Jim Tripp's memo. The SEIS and rulemaking must proceed as expeditiously as possible base on the information that can be made available in that timeframe.

8. **ISSUE:** Schedule (i.e. - charge to the Writing Team)

DIRECTION:

▸ EPA will revise the straw proposal consistent with the guidance provided by the PC and provide a summary of the issues and direction (this memo).

▸ the Writing Team will review EPA's change in text and ensure consistency with the guidance provided by the PC. <u>The Writing Team will limit itself to substantive issues</u> (little, if any, wordsmithing).

▸ by COB September 30, 1994, the straw proposal will be sent to the HEP Management Conference and Forum Participants (≈ 500 people) for review of substantive elements of the proposal. This version will concurrently be mailed to EPAs HEP contractor to develop a condensed draft version for inclusion in the HEP CCMP. The EPA contractor edited version is scheduled to be available October 14. The amended, detailed straw proposal will remain as a stand alone document.

▸ The Writing Team will have opportunity, prior to the October 27 PC meeting, to verify that the contractor version is substantively the same as the Writing Team stand alone document.