

**ENVIRONMENTAL ASSESSMENT
ON THE
NEWARK BAY AREA
OF THE NEW YORK AND NEW JERSEY HARBOR
DEEPENING PROJECT**

VOLUME I

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EXECUTIVE SUMMARY

Volume I and Volume II

As a result of an Administrative Order on Consent (AOC) for the Remedial Investigation / Feasibility Study (RI/FS) in the matter of the Diamond Alkali Superfund Site, specifically the Newark Bay Study Area, Comprehensive Environmental Response and Compensation Liability Act, as amended (Superfund) 42 U.S.C. 9601-9675 (NBSA; U.S. EPA Index No CERCLA-02-2004-2010), it has been suggested by interested parties that significant new circumstances and information were not addressed in any NEPA documentation for the HDP (New York and New Jersey Harbor Deepening 50' and Arthur Kill 41/40 Projects combined) project. This Environmental Assessment (EA) has been prepared to (1) review EPA's designation of Newark Bay and parts of Arthur Kill and the Kill Van Kull, as contained within the NBSA, pursuant to CERCLA; (2), review the alleged new information contained in the Contaminant Assessment and Reduction Program (CARP; NYSDEC 2003) and Inventory Report (Tierra Solutions, 2004); (3) evaluate whether the dredging activities of the New York and New Jersey Harbor Deepening Project (HDP) will significantly affect the NBSA RI/FS and (4) determine if impacts will significantly differ from those previously identified in the USACE's 1999 Final EIS and the associated Record of Decision (June 2002), and the 2004 Environmental Assessment and the associated Finding Of No Significant Impact.

As the issuance of the AOC is an administrative change to the classification of the area, it must be noted that no physical, chemical, or biological change to the environment in the NBSA has occurred as a result of this administrative process.

USACE's previous assessments of the NBSA with respect to dredging the Federal channels are still valid as biological, chemical, and physical sampling efforts, data analysis and dredging decisions would not have changed. Designation of the Newark Bay Study Area as a study area of the Diamond Alkali Superfund Site does not alter the existing characterization of the resources in the study area or the proposed dredging plans, and therefore designation has no effect on the previous analysis of impacts presented in the 1999 Final EIS or 2004 EA. No significant environmental impacts other than from those impacts identified in the 1999 Final EIS are expected to occur as a result of the EPA designation of Newark Bay and portions of the Kill Van Kull and Arthur Kill as a study area under CERCLA.

Two reports were identified as containing potentially significant new information. These reports are the Contaminant Assessment and Reduction Program (CARP) and Inventory Report (Tierra Solutions, 2004). The USACE examined data bases from the EPA's Regional Environmental Monitoring and Assessment Program (REMAP), and National Oceanic and Atmospheric Administration's (NOAA) Query Manager (that revealed 26 potentially relevant data sets within the NBSA) which assessed levels of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) and its congeners. With regard to 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) and its congeners in the Newark Bay Study Area, USACE has determined the CARP, the Inventory Report, the EPA REMAP, and the NOAA Query Manager contain no new pertinent sediment data concerning dioxin that would alter the analysis of contaminant impacts conducted for the 1999 Final EIS, updated in the 2004 EA and subsequently analyzed in this EA.

A main concern raised by interested parties regarding USACE's HDP dredging in the NBSA, as currently proposed, was whether the authorized deepening project will significantly affect the execution of the RI/FS or the analysis of data obtained through that study. To address this issue, a thorough and detailed qualitative and quantitative analysis using the best available information (extensive sediment characterization data and widely accepted methods of analyses; see Volume II, 2.1.2.4 Conclusions) was performed to evaluate the potential effects of the Federal dredging actions within the NBSA on the RI/FS study execution and goals (Volume II); a Coordination Plan was formally adopted by the participating Federal, state and local resource and regulatory agencies to provide continual feedback between the dredging and RI/FS programs; and an expanded Alternative Analyses was performed to reevaluate Best Management Practices (BMP) that may be applicable, as justified and practicable, to the NBSA dredging contracts. Sediment data from future dredging activities [and USEPA's RI/FS] will be analyzed to determine whether the foregoing conclusion remains valid.

It was determined by USACE, after reviewing the extensive qualitative and quantitative analysis performed to support the EA that the proposed dredging of the Harbor Deepening Project in the NBSA would not result in any significant environmental impacts beyond those identified in the 1999 Final EIS and 2004 EA as it pertains to (1) the Administrative Order on Consent; (2) the literature review contained in the CARP or the Inventory Report and (3) the qualitative and quantitative analyses of the potential effects of the HDP on the RI/FS study goals. Therefore, the recommended plan, as identified in the 1999 Final EIS and 2004 EA, represents sound engineering practices and meets environmental protective and sustainability standards and a Finding of No Significant Impact is recommended.

ACRONYMS

2,3,7,8-TCDD - 2,3,7,8-tetrachlorodibenzo-p-dioxin
AK-41/40 - Arthur Kill Channel 41/ 40 foot Federal Navigation Project
AOC - Administrative Order on Consent
BMP - Best Management Practice
CARP - Contaminant Assessment and Reduction Program
CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
CFR – Code of Federal Regulations
CWA - Clean Water Act
EA - Environmental Assessment
EIS - Environmental Impact Statement
EPA – U.S. Environmental Protection Agency
HARS - Historic Area Remediation Site
HDP - New York and New Jersey Harbor Deepening Project 50’ and the Arthur Kill 41/40’ Project combined
HTRW - Hazardous, Toxic, and Radioactive Waste
KVK/NB-45 - Kill Van Kull and Newark Bay Channels 45 foot Federal Navigation Project
NEPA - National Environmental Policy Act
NBSA - Newark Bay Study Area
N.J.A.C. – New Jersey Administrative Code
NJDEP - New Jersey Department of Environmental Protection
NOAA - National Oceanic and Atmospheric Administration
NYSDEC - New York State Department of Environmental Conservation
PAH - polycyclic aromatic hydrocarbon
PCB - polychlorinated biphenyl
PCDD - polychlorinated dibenzo-p-dioxin
PCDF - polychlorinated dibenzofuran
PJ-41 - Port Jersey Channel 41 foot Federal Navigation Project
REMAP - Regional Environmental Monitoring and Assessment Program
RI/FS - Remedial Investigation and Feasibility Study
TEQ - Toxicity Equivalency Quotient
TSS - Total Suspended Solid
USACE - United States Army Corps of Engineers
U.S.C. – United States Code
WQC - Water Quality Certification

Part 1 PURPOSE AND NEED

As a result of an Administrative Order on Consent (AOC) for the Remedial Investigation / Feasibility Study (RI/FS) in the matter of the Diamond Alkali Superfund Site, specifically the Newark Bay Study Area (U.S. EPA Index No. CERCLA-02-2004-2010), certain interested parties claimed that *significant new circumstances and information* warranting a Supplemental EIS were present. The Newark Bay Study Area (NBSA) as currently defined by the U.S. Environmental Protection Agency (USEPA) includes Newark Bay, and portions of the Hackensack River, Arthur Kill and Kill Van Kull. This Environmental Assessment (EA) has been prepared to 1) review USEPA's designation of only Newark Bay and portions of Arthur Kill and the Kill Van Kull as the NBSA pursuant to CERCLA, 2) evaluate whether the dredging activities of the New York and New Jersey Harbor Deepening Project (HDP) will significantly affect the NBSA RI/FS and determine if impacts will significantly differ from those previously identified in the USACE's 1999 Final EIS and the associated Record of Decision (June 2002), and the 2004 Environmental Assessment and the associated Finding Of No Significant Impact and 3) review the information in the Contaminant Assessment and Reduction Program (CARP; NYSDEC 2003) and Inventory Report (Tierra Solutions, 2004) as cited. For purposes of this assessment, the USEPA's designation of portions of the Hackensack River as part of the NBSA will not be evaluated as the Hackensack River is not located within the HDP's project area. The portions of the NBSA that were evaluated were only the areas that coincided with USACE dredging project areas. USEPA's designation of site boundaries will be further delineated with the completion of the RI/FS within the NBSA.

An amendment to the "*Environmental Assessment on the Newark Bay Area of the New York and New Jersey Harbor Deepening Project Volume I*" has been prepared to provide a detailed evaluation of the potential effects of USACE dredging on the USEPA's NBSA RI/FS. See document titled, "*Amendment to the Environmental Assessment on the Newark Bay Area of the New York and New Jersey Harbor Deepening Project, A Qualitative and Quantitative Analysis of the Potential Effect of USACE Dredging on the Newark Bay Study Area Remedial Investigation/Feasibility Study Volume II*", (hereinafter Volume I and Volume II shall be referred to as "the EA").

An EA is prepared in conformance with procedures established by the National Environmental Policy Act (NEPA) of 1969 to evaluate the environmental effects expected to result from implementation of a proposed action. The assessment ensures that the decision-maker is aware of the environmental effects of the action prior to the decision to proceed with its implementation. An EA concludes with one of two determinations: (1) that the proposed action will not result in significant adverse environmental impacts, in which case a Finding Of No Significant Impact would be prepared, or (2) that significant adverse impacts would indeed result from the proposed action and that an EIS or a Supplemental EIS (as the circumstances may warrant) should be prepared to more fully document those impacts before a decision is made to proceed or not proceed with the action. USACE has previously completed NEPA documentation with extensive environmental analysis regarding the Harbor Deepening Project: this documentation includes the 1999 Final EIS and the associated Record of Decision (June 2002), and the 2004 Environmental Assessment and the associated Finding of No Significant Impact.

1.1 Project Background

Deep-draft navigation occurs in New York and New Jersey Harbor from outside of the Verrazano Narrows Bridge to the various terminals lining Upper New York Bay, the Kill Van Kull, Newark Bay, and the Arthur Kill. The Federal channel deepening of the Kill Van Kull and Newark Bay Channels to 45 feet (KVK/NB-45), the Arthur Kill Channel to 41 and 40 feet (AK-41/40), and the Port Jersey Channel to 41 feet (PJ-41) (referred to collectively as predecessor projects) were authorized as §101, §102, and §202a of the Water Resources Development Act of 1986, P.L. 99-662.

The Recommended Plan from the 1999 New York and New Jersey Harbor Navigation Study included a fourth Federal Channel Deepening Project in the New York and New Jersey Harbor (USACE 1999). The Recommended Plan consisted of deepening the main shipping channels within the New York and New Jersey Harbor to 50 feet (52 feet in rock or otherwise hard material). This action is referred to as the “Recommended Plan” as it became the recommendation in the Report of the Chief of Engineers on the New York and New Jersey Harbor Navigation Study, May 2, 2000 and authorized by Congress in §101 (a) (2) of the Water Resources Development Act of 2000, P.L. 106-541, 11 December 2000.

In 2002, Congress directed the Corps to evaluate opportunities to consolidate implementation of the predecessor projects with the implementation of the Recommended Plan (U.S. Congress 2002). In 2004, the USACE completed a Limited Reevaluation Report and EA to ensure that the Recommended Plan remained environmentally acceptable and economically justified. The Harbor Deepening Project (HDP) is the consolidated implementation of the predecessor projects with the Recommended Plan.

Construction of the channel deepening will impact benthic fish and invertebrate species in the immediate construction area. Those animals unable to move out of the construction area may be lost. Repopulation of the area will occur rapidly; thus much of the loss is temporary. Permanent changes in species composition may occur in areas where habitat types are permanently altered (*e.g.* soft bottom to rock bottom).

Hydrodynamic and water quality modeling indicate that the proposed future with-project deepening will produce minor changes in water surface elevations under low flow conditions (*i.e.*, maximum difference in tidal range is less than 1.6 inches). The changes in salinity between with- and without-project conditions are small with a maximum average change of 0.7 parts per thousand (ppt). The largest relative change occurred near Howland Hook with the maximum average salinity change in the remaining areas of the study area at 0.4 ppt or less. Overall, the average differences in dissolved oxygen between future and baseline conditions are very small. The maximum reduction in New York and New Jersey Harbor dissolved oxygen was 0.18 mg/L. Aquatic life is not expected to be adversely impacted by any predicted changes in Harbor water quality (USACE 1999).

1.2 Study Area

This evaluation is limited geographically to the area of USACE dredging project areas that coincides with the NBSA. The evaluation includes the Newark Bay and portions of the Kill Van Kull and Arthur Kill Federal channels, ending at the Bayonne and Goethals Bridges to the east and south, respectively, and includes the area to the northern extension of the Federal channels including Elizabeth and South Elizabeth Channels (see Figure titled, “Harbor Deepening Project within the Newark Bay Study Area”).

Part 2 EXISTING ENVIRONMENT

The USEPA designation of Newark Bay and portions of the Arthur Kill and Kill Van Kull as a CERCLA Study Area represents an administrative action and therefore does not change the existing habitats at the site and their chemical, physical and biological characteristics. A comprehensive description of the existing environment within the Newark Bay Study Area is adequately described in the 1999 Final EIS (USACE 1999). Those descriptions will not be repeated here. It should be noted that the Port Authority of New York and New Jersey has already dredged Contract Area 5 in the vicinity of Bergen Point, NJ to its authorized depth (50 ft.) under a Section 10 Rivers and Harbors Act and Clean Water Act Section 404 permit action. In addition, the USACE has completed the KVK/NB-45 Deepening Project and is currently dredging the AK-41/40 Deepening Project. These three actions all lie within the NBSA.

Part 3 ENVIRONMENTAL EFFECTS AND CONSEQUENCES

The environmental effects and/or the identification of impacts for the HDP were considered in the 1999 Final EIS and were further evaluated in the 2004 EA. This section is organized by resources, and identifies and evaluates potential additional effects to those considered in the 1999 Final EIS and 2004 EA. Impacts from the no-action alternative have been previously identified in Section 4.4 of the 1999 Final EIS. Potential impacts considered here are those additional effects that would be envisioned to occur 1) with the designation of the Newark Bay Study Area as a CERCLA Study Area per the AOC, 2) with the RI/FS conducted in the HDP project area by the USEPA and 3) from any new information regarding contaminants that might have not been considered in preparing either document.

3.1 Administrative Order on Consent and the Harbor Deepening Project

This section discusses the potential effects of the AOC on the HDP. As this is an administrative change to the classification of the area, it must be noted that no physical, chemical, or biological change to the environment in the NBSA has occurred as a result of the AOC.

3.1.1 BENTHIC COMMUNITIES

No additional impacts to benthic communities in the NBSA from the impacts identified in the 1999 Final EIS and 2004 EA are expected. Refer to the Contaminated Sediment discussion in this Section and the Biological Exposure Potential Section in the 1999 Final EIS, pages 6-11 through 6-19. The designation of the NBSA as a CERCLA study area does not alter either of these analyses.

3.1.2 CONTAMINATED SEDIMENT

Paragraphs 6.59 through 6.65 on pages 6-14 through 6-17 of the HDP's 1999 Final EIS discusses the potential of exposure of contaminants to biota within the Harbor. Paragraphs 6.74 and 6.75 on pages 6-19 of the HDP's 1999 Final EIS summarize biological exposure risk. The designation of the NBSA as a CERCLA study area does not alter either of these analyses.

As described in detail in Part 4 of this EA, Best Management Practices (BMPs) will be used during dredging operations to minimize the suspension of fine/silty sediments and thus contaminants into the water column. This minimizes potential for exposure of biological receptors to contaminants. See also Appendix B – MFR titled, “Approaches on Minimizing Resuspension of Sediment in Dredging through the use of Best Management Practices”. In addition sediment contaminant analysis for each contract area, where applicable, is performed in coordination with the appropriate regulatory agencies. These measures would not be revised or their effectiveness altered as a result of the CERCLA study area designation.

Individual Water Quality Certification (WQC) requirements allow for the States to review the supporting technical evaluations (e.g., sediment testing data and analysis) for the Newark Bay project contract areas on an individual basis. The state(s) review, conducted under the auspices of the Clean Water Act Guidelines at 40 CFR Part 230, includes the identification of potential adverse impacts to the environment and public health from any discharge of dredged material, including resuspension, which could result from a proposed activity. New Jersey Department of Environmental Protection (NJDEP) requires Bulk Sediment Chemistry testing of raw sediments and end product (dredged material mixed with Portland cement to make structural fill material) and a Multiple Extraction Procedure (MEP) leachate test (both of which include dioxin analysis) on end product. Testing is performed on a substantial number of samples for every dredging project that would require upland beneficial use of the dredged material in order to fully characterize potential impacts from the placement of the material to human health and the environment (e.g., 66 samples in 22 composites were required for the upland component of Arthur Kill contract areas 2/3). Sample locations are chosen with regard to previous historic potential contaminant levels, areas of significant shoaling in the channel, and/or known sources of pollution. New York State Department of Environmental Conservation (NYSDEC) and NJDEP participate in development and review of all sediment testing plans and must approve the plans prior to the onset of said sampling event.

No additional impacts from those identified in the 1999 Final EIS or 2004 EA are expected to result from the study designation. As these analyses are conducted in advance of each dredging reach any new data that might be produced from the CERCLA study would be considered in defining testing requirements and conducting the analyses.

States issue WQCs to each dredging project only after project specific test data is reviewed by USACE, NYSDEC, and NJDEP; in addition, the USEPA evaluates test data for projects proposed for ocean placement. Their analysis of that data allows them to determine that the dredging will ensure that state waters are protected pursuant to federal and state statutes.

3.1.3 ENVIRONMENTAL JUSTICE

No additional impacts from the impacts identified in the 1999 Final EIS (Section 6.8 and Section 5.7) are expected as a result of the USEPA designation of Newark Bay and portions of the Kill Van Kull and Arthur Kill as a study area.

3.1.4 ESSENTIAL FISH HABITAT

No additional impacts from the impacts identified in the 1999 Final EIS and 2004 EA are expected as a result of the USEPA designation of Newark Bay and portions of the Kill Van Kull and Arthur Kill as a study area. Refer to Section 6.4 in the 1999 Final EIS and Appendix E of the 2004 EA.

3.1.5 FISHERIES

No additional impacts to fisheries from the impacts identified in the 1999 Final EIS and 2004 EA are expected as a result of the USEPA designation of Newark Bay and portions of the Kill Van Kull and Arthur Kill as a study area. Refer to the Contaminated Sediment discussion in this Section and the Biological Exposure Potential Section in the 1999 Final EIS, pages 6-11 through 6-19.

3.1.6 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)

During the planning phase of the HDP (reconnaissance and feasibility phases), USACE conducted investigations to determine the potential for HTRW in the study area. Those results are documented in the 1999 Final EIS. Because the project involves dredged material and sediments beneath the navigable waters, the USACE HTRW Engineering Regulation 1165-2-132 does not define this material as HTRW except when it is within a designated CERCLA site.

Dredged material is excluded (Sec. 261.4(g)) from the definition of Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq) hazardous waste when the dredged material is subject to a permit that has been issued under section 404 of the Clean Water Act or under section 103 of the Marine Protection, Research and Sanctuaries Act of 1972.

The USACE made an initial characterization of the dredged material for this project during the feasibility phase based on previous characterizations of dredged material in the NBSA and geological data obtained from previous studies and during the feasibility study. The USACE has also tested the majority of the sediments in the NBSA as a result of prior or interim dredging activities, i.e. KVK/NB 45 and AK 41/40 projects. Since then, the USACE has continued to obtain additional geological data. From the initial sediment characterization and the additional geological data, the USACE has or will develop a sampling and testing plan for each contract area and for each sediment type prior to any dredging in the contract area. This sampling and testing plan is then submitted to both the USEPA (HARS testing only) and the two state regulatory agencies (HARS and non-HARS testing) for their review, modification and approval. Once USACE receives the test results, it provides the results to the USEPA (HARS test data) and state regulatory agencies for their review and designation of the suitability of the proposed dredged material to be deposited at the identified placement site requested based on the characterization of the material.

Every reach tested in Kill Van Kull, Newark Bay and Arthur Kill deepening projects that falls within the NBSA that has not been beneficially used to remediate the HARS or create artificial reefs has been found to be acceptable by both State's regulatory agencies for beneficial use in remediating upland landfills and contaminated sites in the region. For example, the recently deposited soft, silty dredged material that overlies some areas of the deepening contracts that the USACE has or is proposing to construct has met the NJDEP criteria established for beneficial use at upland placement sites in New Jersey. Said placement criteria are established for each contaminated site and/or landfill based on the institutional and engineering controls necessary to remediate the site to be protective of human health and the environment. Dredged material from a particular contract is then evaluated for its use as structural fill material (as a barrier layer or low permeability cap) to aid in the remediation of the site through a NJDEP process referred to as an Acceptable Use Determination. The AUD process as detailed in Appendix E of the NJDEP's technical manual entitled "The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters" (October 1997) regulates the use, processing or transfer of dredged material or products containing dredged material. It is noted that the Acceptable Use Determination process does not authorize any dredging project or beneficial use of dredged material or product that contains hazardous wastes pursuant to New Jersey's Hazardous Waste Regulations at N.J.A.C. 7:26G et seq. To date, no dredged material removed from the deepening projects that fall within the NBSA has been deemed a hazardous waste, and in fact only one area of the AK 41/40 project south of the Newark Bay was found unacceptable for beneficial use as structural fill material at upland sites in New Jersey. This material was disposed of in the Newark Bay Confined Disposal Facility, a fully permitted and operational open water disposal site which lies central to the NBSA.

If for some reason, material proposed for dredging does not meet the standards for remediation purposes at the HARS, is unable to be receive an Acceptable Use Determination for upland placement, or cannot be placed in the Newark Bay Confined Disposal Facility, then USACE, in conjunction with the non-Federal sponsor, would perform the necessary investigations and analyses to determine the best course of action. This would be fully coordinated with the USEPA, the appropriate state regulatory agencies and the public.

See Appendix C for additional clarification of HTRW regulations pertaining to Civil Works Projects and specifically Navigation Projects (*e.g.* HDP) titled, "HTRW Guidance".

No additional impacts from the impacts identified in the 1999 Final EIS are expected as a result of the USEPA designation of Newark Bay and portions of the Kill Van Kull and Arthur Kill as a study area.

3.1.7 MIGRATORY BIRDS

No additional impacts from the impacts identified in the 1999 Final EIS are expected. Refer to the Contaminated Sediment discussion in this Section and the Biological Exposure Potential Section in the 1999 Final EIS, pages 6-11 through 6-19.

3.1.8 THREATENED AND ENDANGERED SPECIES

No additional impacts from the impacts identified in the 1999 Final EIS are expected. Refer to the Contaminated Sediment discussion in this Section and the Biological Exposure Potential Section in the 1999 Final EIS, pages 6-11 through 6-19.

3.1.9 WATER QUALITY

All dredging operations produce some turbidity. The 1999 Final EIS and 2004 EA identified and committed to the use of environmentally acceptable and approved mechanical dredges, such as bucket and clamshell dredges to reduce sediment resuspension protect water quality. Potential water quality impacts associated with dredging were addressed in the 404(b)(1) evaluation included in the 1999 Final EIS, and updated in the 2004 EA. The designation of the CERCLA study area would not warrant revising these procedures nor would it alter the analysis of impacts already addressed. No additional 404(b)(1) evaluation for this proposed work is deemed necessary and no impacts are expected to arise from the study area designation.

3.1.10 WETLANDS

No significant additional impacts beyond those identified in the 1999 Final EIS and 2004 EA are expected as a result of the USEPA designation of Newark Bay and portions of the Kill Van Kull and Arthur Kill as a study area.

3.1.11 WILDLIFE

No additional impacts to wildlife from the impacts identified in the 1999 Final EIS are expected as a result of the USEPA designation of Newark Bay and portions of the Kill Van Kull and Arthur Kill as a study area. Refer to the Contaminated Sediment discussion in this Section and the Biological Exposure Potential Section in the 1999 Final EIS, pages 6-11 through 6-19.

3.1.12 CUMULATIVE IMPACTS

Since, as discussed above, the study area designation does not warrant any changes in the analysis of any individual impacts, there will be no changes in any cumulative impact assessment (Section 6.3 of the 1999 Final EIS) as a result of the EPA designation of Newark Bay and portions of the Kill Van Kull and Arthur Kill as a study area.

In summary, the environmental analyses addressed in Section 3.1 and USACE's previous assessments of the NBSA with respect to dredging the Federal channels are still valid as biological, chemical, and physical sampling efforts, data analysis and dredging options would not have changed. Designation of the Newark Bay CERCLA study area does not alter the existing characterization of the resources in the study area or the proposed dredging plans and therefore has no effect on the previous analysis of impacts presented in the 1999 Final EIS or 2004 EA. Should pertinent data be developed during the course of the study related to this resource or its impact analysis it would be considered on a case-by-case basis and a new EA may be prepared to address any data that may be considered as being substantially new or different. No such data currently exists to warrant such an action. No additional impacts from those impacts identified in the 1999 Final EIS are expected as a result of the USEPA designation of Newark Bay and portions of the Kill Van Kull and Arthur Kill as a CERCLA study area.

3.2 Remedial Investigation/Feasibility Study and the Harbor Deepening Project

An amendment to the “*Environmental Assessment on the Newark Bay Area of the New York and New Jersey Harbor Deepening Project Volume I*” has been prepared to provide a detailed evaluation of the potential effects of USACE dredging on the USEPA’s NBSA RI/FS. See document titled, “*Amendment to the Environmental Assessment on the Newark Bay Area of the New York and New Jersey Harbor Deepening Project, A Qualitative and Quantitative Analysis of the Potential Effect of USACE Dredging on the Newark Bay Study Area Remedial Investigation/Feasibility Study Volume II*”.

The section below discusses the potential effects of the HDP on the RI/FS (and vice-versa). The main concern is whether the authorized deepening project will significantly affect the execution of the RI/FS or the analysis of data obtained through that study. Included below is a discussion on the proposed goals of the RI/FS and the current coordination that has occurred between the USACE and USEPA since the AOC.

Tierra Solutions, Inc. (Tierra), on behalf of Occidental Chemical Corporation (formerly known as Diamond Alkali Company), is undertaking a RI/FS for the NBSA in accordance with the terms and provisions of the AOC.

Three Remedial Investigation-related goals are established in the AOC:

- *RI Goal 1:* Determine the horizontal and vertical distribution and concentration of polychlorinated dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), pesticides, and metals for the NBSA sediments (AOC Scope of Work Section A.1);
- *RI Goal 2:* Determine the primary human and ecological receptors (endpoints) of PCDDs, PCDFs, PCBs, PAHs, pesticides, and metals contaminated sediments in the NBSA (Scope of Work Section A.2); and
- *RI Goal 3:* Determine the significant direct and indirect continuing sources of PCDDs, PCDFs, PCBs, PAHs, pesticides, and metals to the sediments in the NBSA (Scope of Work Section A.3).

USACE dredging project areas (*i.e.* navigational channels) that coincide with the southern half of the NBSA account for approximately forty six percent of the HDP area. The proposed sampling plan in the RI/FS shows there are 20 chemical sampling locations and 8 radiochemical sampling locations in areas that are HDP channels. It should be noted that as of the June 2005 public release of the Draft EA, that the USEPA had not yet approved the RI/FS draft work plan. The RI/FS work plan has since been approved by the USEPA on September 2, 2005.

The only RI/FS goal which could be potentially impacted by the HDP is RI Goal 1. It is expected that RI Goal 2 will not be affected as the receptors will still be the same in the with- or without-project condition. RI Goal 3 will not be significantly affected as dredging activities will affect only the sediments, not any ongoing sources to the sediments. (Refer to Section 3.13

Contaminated Sediments, Section 4.3 Sediment Resuspension and BMPs, and Appendix B – MFR titled, “Approaches on Minimizing Resuspension of Sediment in Dredging through the use of Best Management Practices”)

As part of the USACE coordination with the USEPA, the USEPA has repeatedly stated that they do not consider the continued construction of the authorized harbor deepening projects to be an interference with the NBSA RI/FS since the material to be removed by the HDP dredging is tested for dioxin (among other contaminants) prior to its removal to determine its placement options. These test results are provided to the state regulatory agencies (which are also responsible for overseeing CERCLA in coordination with the USEPA) for their use in issuing Water Quality Certificates (WQC). USACE is confident that the material being removed will not impact the results of the RI/FS or any potential remedial action as those results will be readily available to each of the responsible agencies for their use in completing their own analyses.

Based on continuing coordination with the USEPA, it is noted that during the preparation and release of the Draft EA the RI/FS sampling plan provided by Tierra Solutions was a "draft" plan that had not been approved by the USEPA. The Tierra Solutions' plan has since been approved by the USEPA. During the USEPA review, the USACE assisted the USEPA in its designation of sampling points by providing the most recent information concerning the dredging schedule and dredging areas. As such, the USEPA has referenced plans to review and modify the study plan (i.e. sample locations and number of samples are subject to change as approved by the USEPA) to ensure that it meets their requirements as well as considers the HDP dredging activities within the Newark Bay area. As an example, the RI/FS sampling plan has a large number of sediment samples proposed to be taken in one segment of Newark Bay (i.e., the navigation channels) that is presently deeper than when the Occidental's pollution releases occurred. The majority of the HDP footprint in the expanded USEPA study area has been recently dredged to an interim depth of 45 + ft in the Federal navigation channels in the southern half of Newark Bay and 40 + ft in the Federal navigation channels in the Kill Van Kull and Arthur Kill between 1999 and 2004.

As a result of continued and extensive USACE coordination with the USEPA regarding the potential effects of each project on the other, no significant negative impacts to the RI/FS or the HDP are expected. In fact, there will be net benefits to the RI/FS provided by the HDP: the sampling that has already been performed by USACE and will be performed in the future as part of the HDP will supplement the RI/FS sampling program, providing information on contaminant levels and locations within the areas to be dredged.

Moreover, the HDP will likely provide other benefits to the overall Superfund process for NBSA, insofar as the data on sediment resuspension during dredging collected as part of the HDP monitoring program will provide information that may be useful to USEPA and its goals.

3.3 ANALYSIS OF SEDIMENT DATA

Environmental technical evaluations and sediment testing have been performed to support the predecessor projects and the approved HDP dredging activities in the project area. These assessments were conducted to characterize sediments proposed for dredging so an analysis of impacts could be completed in support of the previous regulatory determinations and coordination required under all applicable Federal and State laws and regulations. All

appropriate authorizations and State WQCs have been issued to USACE to continue deepening activities in the NBSA. Data collected from these and subsequent sediment characterizations will be provided to USEPA for use in their CERCLA investigations.

3.3.1 CARP

The CARP began in 1998 when the NYSDEC, NJDEP, Port Authority of New York and New Jersey, and USACE partnered to assess the environmental quality of the Harbor (NYSDEC, 2003). The CARP monitoring program included environmental sampling matrices of the water column, sediments and biota. Sampling began in 1998 and continued until 2001. Forty-two cores (sub-sectioned to 160 samples) and 91 surficial sediment samples were submitted to analytical laboratories for chemical, physical (grain size) and/or biological (toxicity testing) analyses. USACE was responsible for compiling and collating the water, sediment, and biota data collected as part of this program.

3.3.2 REMAP

The USEPA's Regional Environmental Monitoring and Assessment Program (USEPA 2005a) is a long-term research effort to provide status and trend assessments of aquatic ecosystems across the United States with a known statistical confidence. Initiated in the late 1980's within the Office of Research and Development, the Environmental Monitoring and Assessment Program addresses monitoring conditions of estuaries, streams and lakes in selected geographic regions, and examines the surrounding landscapes in which these resources occur. REMAP was initiated to test the applicability of the program's approach to answer questions about temporal ecological conditions at regional and local scales (USEPA 2005b).

3.3.3 NOAA QUERY MANAGER

Query Manager is a data delivery application developed by NOAA's Office of Response and Restoration/Coastal Protection and Restoration Division (NOAA 2005). Query Manager is a database program that can access sediment chemistry, sediment toxicity, and tissue chemistry data from a relational database for individual watersheds. Query Manager organizes data sets from multiple studies into a consistent and standardized structure, thereby improving data delivery and ease of interpretation for coastal resource managers.

3.3.4 INVENTORY REPORT – TIERRA SOLUTIONS, INC. (TIERRA)

The Inventory Report is a compilation by Tierra Solutions of biological, chemical or physical data collected by various private entities and public agencies with some regulatory or stakeholder role in the NBSA. All relevant studies cited in the Inventory Report were considered by USACE; however some were not analyzed for reasons outlined here. NOAA's Phase I N&ST Sediment Investigation (1991), USACE's Minish Park Investigation (1995), Tierra Solutions' Newark Bay Reach A Monitoring Program (1999), and Tierra Solutions' 1997 Combined Sewer Outflow Sampling Program were not examined as none of these data sets contained dioxin or dioxin congener information.

Five additional data sets, not included in the Inventory Report, were evaluated for this current environmental assessment. These data sets are the NYSDEC CARP data (2003), Tierra Solutions' 1994 Combined Sewer Outflow Study, and three USACE sediment sampling events that occurred from 2003 – 2004 (performed under strict regulatory auspices to obtain WQC's from the states). The three sampling events refer to USACE sampling completed in 2003 and

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2004 for contract areas within the Arthur Kill, Kill Van Kull, and Newark Bay (USACE 2004a, USACE 2004b, and USACE 2004c). The sampling plans for the dredged material that was initially identified for HARS placement were developed and approved by the USEPA and the state regulatory agencies. Sampling plans for the material initially identified for upland placement were developed and approved in concert with the appropriate state regulatory agency. In some cases, coordination with both agencies occurred as contract areas overlapped into both states' jurisdictional waters (See Appendix A, Figure titled "Sediment Core Location and Depth for Soft Silts/Clays Evaluated for Potential Upland Placement").

Of the 26 potentially relevant data sets assessed within the NBSA (USACE 2005a – See Appendix B), eight had data points within the HDP federal navigation channel boundaries. These include USEPA's REMAP (1998), NOAA's National Status and Trends Phase II Study (1993), Tierra Solutions' 1991 and 1992 Passaic River Studies, Tierra Solutions' Newark Bay and Elizabeth Channel Sediment Survey (1998), and the three USACE sampling events (USACE 2005a – See Appendix B).

Twenty-two (22) surficial sediment data points from REMAP and the NOAA Query Manager fell within the HDP federal navigation channel boundaries. In addition, the USACE collected 97 core samples, which were used to create 36 sediment composites, in accordance with State regulatory agency guidance, to evaluate the surficial soft silty material to be dredged from the three aforementioned HDP construction contracts. These data are described in the referenced USACE 2004 reports.

The 22 REMAP and NOAA sediment samples noted in the paragraph above were collected prior to 1998. Since federal channel deepening construction has subsequently occurred in the same locations that 16 of the sediment samples were taken, these sediment sample data points are no longer valid. Consequently, only 6 of the 22 data points located in the Arthur Kill Area 2/3 contract area may potentially still be valid or representative of the sediment contamination that exists at their respective locations. Nonetheless, the figure titled "Dioxin Toxicity Equivalency Quotient (TEQ) in Surficial Sediment and Navigation Channel Deepening Contract Upland Placement Evaluation Composites" (See Appendix A) illustrates that the 22 data point concentrations of dioxin are comparable to and not significantly different (*i.e.* within the same range of values) from the USACE's 36 sediment composite concentrations. For the composites from the Arthur Kill and the Kill Van Kull, the soft silty sediment strata in both of these contract areas has been determined by the NYSDEC and the NJDEP to be suitable for dredging using a closed clamshell "environmental" bucket while incorporating Best Management Practices (BMPs) (See Section 4.2 below for a discussion on BMPs and Appendix B – MFR titled, "Approaches on Minimizing Resuspension of Sediment in Dredging through the use of Best Management Practices"). The USACE expects the remaining sediment composites located in the Newark Bay contract area to be determined by NJDEP to be similarly acceptable for dredging using a closed clamshell "environmental" bucket while incorporating BMPs based upon the results of the extensive sampling done to date.

As noted above, the two reports that were identified as containing potentially significant new circumstances and information are the CARP and Inventory Report (Tierra Solutions, 2004). Additionally, the USACE examined data bases from the USEPA's REMAP, and NOAA Query

Manager which assessed levels of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) and its congeners. The USACE has determined that no new sediment data concerning dioxin is contained in or has been added to these data banks since the 1999 Final EIS that would alter the analysis of contaminant impacts conducted for the Final EIS.

3.4 No Action Alternative

Consequences of the No Action Alternative were considered in the 1999 Feasibility Report and determined to be primarily related to cost. In the 1999 Final EIS, no action impacts were determined to be potentially more damaging to the environment as resuspension of potentially contaminated sediments due to man-made causes (*e.g.* ship scouring and wakes) and natural storm events would continue to occur at more intense and at greater frequencies as compared to constructing the Recommended Plan. An example of this would be that tugboat wakes which would result from transporting barges under the recommended plan are expected to cause less resuspension of sediments than cargo vessels using undredged channels due to fewer vessel trips per unit of cargo and deeper channel depths which will occur once dredging has been completed.

Part 4 SEDIMENT RESUSPENSION, BEST MANAGEMENT PRACTICES, AND WATER QUALITY CERTIFICATION COMPLIANCE MONITORING

4.1 SEDIMENT RESUSPENSION

An amendment to the “*Environmental Assessment on the Newark Bay Area of the New York and New Jersey Harbor Deepening Project Volume I*” has been prepared to provide a detailed evaluation of the potential effects of USACE dredging on the USEPA’s NBSA RI/FS. See document titled, “*Amendment to the Environmental Assessment on the Newark Bay Area of the New York and New Jersey Harbor Deepening Project, A Qualitative and Quantitative Analysis of the Potential Effect of USACE Dredging on the Newark Bay Study Area Remedial Investigation/Feasibility Study Volume II*”.

There are two issues associated with sediment resuspension. First, the extent of resuspension due directly to dredging is likely to be small in comparison with other natural and anthropogenic sources of resuspended sediment. Second, dredging will actually reduce a potentially important source of resuspended sediment, which would occur from ship traffic.

The fine-grained sediments in the Newark Bay area are continuously resuspended and deposited as a result of both natural and anthropogenic (man-made) forces. Normal tidal flow as well as occasional storm events (*e.g.*, Nor’easters, hurricanes, or current conditions, etc.) typically resuspend and distribute fine grain sediments. Anthropogenic factors, such as the deep-draft container vessels that continually traverse the navigation channels in the Newark Bay area regularly resuspend sediments as they transit through the channels.

Sediment resuspension is an obvious consequence from all dredging events associated with fine-grained sediments. In contrast to natural resuspension and ship traffic, however, the impacts of

dredging are short-lived and usually limited to the immediate vicinity of the dredging operation. Sediment particles with (or without) dioxin will tend to stay within the sediment plume, which monitoring confirms do not travel far from the dredging site. Specifically, recent USACE studies show that Total Suspended Solid (TSS) levels return to ambient conditions less than 350 feet from the dredging location (USACE 2002). Furthermore, the resuspension of red clay and glacial till which underlay the surface silts is less of an issue because of the materials' cohesiveness and larger grain sizes, respectively, which results in an even faster settling time and consequently less movement from the dredging area.

Natural physical processes, storm events and ship movements are all likely to account for greater increases, over a longer period of time, in suspended sediment concentrations than dredging operations. Wind-wave resuspension and seasonal variability in the supply of erodable sediment have been found to be the primary factors in surface and near-bottom concentrations in estuarine conditions; these natural processes are more aerially extensive, usually of longer duration, and are more frequent than dredging operations, affecting resuspension at tidal time scales, and were found to control suspended sediment concentrations even during dredging operations (Schoellhamer 2002). Field observations also indicate that the effect of dredging induced resuspension on sediment transport is generally negligible in comparison to the transport induced by natural storm events; in one particular study, dredging plumes increased the total suspended load by approximately 25% over less than 2.5% of the total estuarine area, while storms were observed to increase the total suspended load by a factor of 3 throughout 100% of the estuary (Bohlen 1980).

Dredging actually helps reduce both the natural and man-made impacts by deepening the channel and thereby reducing resuspension of surface sediments. Thus, by removing contaminated sediments, there may very well be a greater overall, long-term reduction in contaminant resuspension and bioavailability than the short-term increases associated with dredging.

Consequently, comparison of the with-project conditions, which would be deeper channels with less vessel traffic to the no action alternative, as required by NEPA, results in a determination of no significant impact from the recommended plan.

4.2 BEST MANAGEMENT PRACTICES (BMPs) - ALTERNATIVE ANALYSIS

As stated in the WQCs, NYSDEC and NJDEP require utilization of and compliance with navigational dredging BMPs and inspection performance standards to minimize potential impacts to the environment due to the dredging and disposal action. BMP methods that USACE has included in its contract specifications for dredging in fine-grained sediments are similar to those methods used if the dredged materials had been characterized as HTRW. For example, environmental (closed) buckets, such as the one manufactured by Cable Arm (See Appendix B), are designed for remedial dredging, in order to minimize and/or prevent resuspension of material.

Silt and turbidity curtains are structures commonly used to reduce the spread of turbidity, and thereby the transport of sediment. Design criteria to be considered when designing a silt curtain are current velocity, water depth, wind, and waves (USACE 2005b – See Appendix B). There

are some situations where silt curtains are a feasible BMP and actually being employed in the HDP (see AK 41/40 NYDEC WQC). Silt curtains are placed in the vicinities of wetlands and creeks that feed into the channels at some locations where they can be utilized, thereby effectively reducing impacts. While silt curtains can theoretically be designed for a current up to 3 knots, which is rarely exceeded locally, they must be kept at least 1 ft above the bottom at all times during a full tidal range. Use of curtains must also account for the event of wakes and waves. It is seldom practical to extend a turbidity curtain depth lower than 10 to 12 feet below the surface due to the large loads on the curtain. Due to channel depths in the NBSA, designing a functional silt curtain is impracticable. In addition, relocation of a silt curtain is not an inconsequential action, due to its anchoring system and large sail area as well as considerations of accumulated silt. Since dredges move during their operation, both to follow the cut and to move out of the way of passing vessel traffic, the use of silt curtains around a dredge is prohibitive.

Other examples of these BMPs include, but are not limited to, requiring no barge overflow for relatively soft silty dredged material (which includes most non-HARS suitable dredged material), placing dredged material into the scow within the confines of the scow and not above it, and limiting hoist speeds. New Jersey WQCs contain conditions requiring no barge overflow and use of an environmental closed clamshell bucket for the relatively soft silty material proposed for upland placement, which will significantly reduce resuspension and its' potential impacts where practicable and possible. NYSDEC WQCs contain similar BMPs. In addition, NJDEP requires an Acceptable Use Determination for all project-dredged material proposed for upland placement.

Every area tested as part of the HDP in the Newark Bay Study Area has met or is expected to meet the NJDEP criteria used in their WQC and Acceptable Use Determination programs and are similarly acceptable to the criteria established for NYSDEC. It is important to note that without these state certifications, no material in the respective state's waters may be dredged. Prior to receiving the BMPs listed in the states' WQCs, USACE had investigated alternative BMPs in the HDP's 1999 Final EIS. The USACE has also since coordinated with the USACE – New England District on the BMPs utilized for a PCB Superfund Cleanup in New Bedford Harbor, Massachusetts and Providence River, Rhode Island Maintenance Dredging Project (USACE 2005c – See Appendix B). From this coordination, it was determined that there was no new information that USACE had not already considered regarding BMPs. New England District dredging procedures, when in similar environmental and physical conditions as the HDP, were the same (*i.e.*, closed environmental bucket when dredging non-suitable ocean disposal material).

At this time the use of positioning software isn't required in our navigational dredging contracts and would be worth further investigation as to the industry standard for such practices. Upon the conclusion of this effort appropriate specification language will be drafted for future HDP contracts that are within the NBSA.

Should HARS suitable soft Holocene silt be identified in S-NB-2 the use of an environmental bucket will be implemented.

The Corps continually uses adaptive management practices as it moves through the construction of its contracts. This can be in the form of changes made to future contracts or modification to ongoing contracts. If future monitoring and/or testing indicate that changes need to be made to the execution of the HDP then the Corps would evaluate the data and in cooperation with USEPA and the States of New Jersey and New York determine the appropriate Best Management Practices to be used. Existing construction contracts will be modified using FAR 52.243-4 Changes clause. The Corps will issue a modification to the contract to incorporate the appropriate BMP as required. These changes will then be incorporated into future contracts as appropriate.

See also Appendix B – document titled, “*Addendum to Appendix B Alternatives to BMP’s*” and MFR titled, “Approaches on Minimizing Resuspension of Sediment in Dredging through the use of Best Management Practices”.

TABLE 3
COMPARISON OF BEST MANAGEMENT PRACTICES

	Lower Passaic Pilot Study	KVK45 AREA 8	S-KVK-2	AK40/41 2/3	AMBROSE
USE OF HOPPER AND CUTTERHEAD DREDGES PROHIBITED	✓	✓	✓	✓	
ENVIRONMENTAL WINDOWS - DREDGING RESTRICTION	✓	✓	✓	✓	
USE OF AN ENVIRONMENTAL BUCKET DESIGNED TO REDUCE SEDIMENT AND MINIMIZE RESUSPENSION	✓	✓	✓	✓	
SIGNAL LIGHT IN THE CONTROL STATION TO VERIFY ENVIRONMENTAL BUCKET CLOSURE AND SEAL.	✓	✓	✓	✓	
BUCKET PENETRATION/DEPTH SENSORS	✓	✓	✓	✓	
REQUIRE BUCKET POSITIONING SOFTWARE	✓				
DREDGED MATERIAL PLACED DELIBERATELY IN THE BARGE TO PREVENT SPILLAGE	✓	✓	✓	✓	
DREDGE TO BE OPERATED TO MAXIMIZE THE BITE OF THE ENVIRONMENTAL BUCKET.		✓	✓	✓	
BUCKET HOIST SPEED LIMITATION	✓	✓	✓	✓	
BUCKET DESCENT SPEED LIMITATION					
NO BARGE OVERFLOW RESTRICTION FOR NON-HARS MATERIAL.	✓	✓	✓	✓	
NO BARGE OVERFLOW RESTRICTION FOR HARS SUITABLE MATERIAL.					
USE OF AN ENVIRONMENTAL BUCKET TO REFUSAL FOR NON-ROCK MATERIAL.					

DECANTING OF WATER FROM BARGES PRIOR TO DISPOSAL AT DESIGNATED LOCATION.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BARGES OR SCOWS USED TO TRANSPORT SEDIMENT SHALL BE SOLID HULL CONSTRUCTION OR SEALED, EXCEPT FOR SUBAQUEOUS DISPOSAL.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GUNWALES OF THE DREDGE SCOWS SHALL NOT BE RINSED OR HOSED DURING DREDGING.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BUCKET SHALL BE LOWERED TO THE LEVEL OF BARGE GUNWALES PRIOR TO RELEASE OF THE BUCKET LOAD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
RINSE TANK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TURBIDITY MONITORING OF DREDGING WITH PERFORMANCE STANDARD	<input type="checkbox"/>				
SILT FENCE IN SENSITIVE AREAS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TURTLE SCREENS AND MONITORING DURING DREDGING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comparison of Ambrose Channel Dredging BMPs noted in Table 3 above to the USACE Contracts (i.e. KVK II CT 8, S-KVK-2, AK-40/41 CT2) that lie within the NBSA show very few BMPs are used for Ambrose. This is indicative of what both federal and state agencies require from the action agency/party when dealing with dredged materials in areas that do not have contaminants in their sediments and particular sediment type.

Comparison of the current HDP navigational dredging BMPs that lie within the NBSA (i.e. KVK II CT 8, S-KVK-2, AK-40/41 CT2) to the remediation dredging BMPs for the Lower Passaic River Pilot Study show similar BMPs are used for all dredging activities. This is indicative of what both federal and state agencies require from the action agency/party when dealing with dredged materials in areas that have contaminants in their sediments and particular sediment type. It should be stressed that the navigational dredging BMPs that are utilized in the NBSA for the USACE Contracts are already very similar to the remediation dredging for the Lower Passaic River Pilot Study. The only differences are the “rinse tank” and the “bucket positioning software” that the Lower Passaic River Pilot Study required and the “maximization of bucket bite”, “silt fencing” (to protect sensitive wetlands), and “decant water” requirements that the USACE contracts require, but weren’t applied in the Lower Passaic River Pilot Study.

The USACE does not concur with the proposal to require the use of a rinse tank. Rinse tanks are used to rinse the bucket of highly contaminated material that sticks to it before it is placed back into the water in order to reduce or eliminate resuspension in areas of high contamination. The upland material being dredged in Newark Bay is not considered sticky and very little of the material stays on the bucket after it is emptied. As such, USACE does not recommend the use of a rinse tank in this situation since there would be no material to rinse off and the process would significantly extend the cycle time of the environmental bucket operation. Consequently, the dredging would require greater time to complete, thereby extending the effects of dredging on the surrounding environment.

For the HDP, the contractors already use positioning software of one variety or another. Before the use of positioning software became common use, depth sensors on the bucket was an option. According to a manufacturer, depth sensors are not as useful as the current generation of positioning software. When high accuracy is required within a silt face, such as the Lower Passaic Pilot Remediation Dredging, sensors may remain of some use. At this time no such sensors are deemed appropriate for the HDP. Closure sensors on the bucket are, however, already required when dredging non-HARS suitable material.

With all of these navigational dredging BMPs already being utilized for USACE dredging activities that lie within the NBSA, which are similar, if not the same, to the remedial dredging BMPs of the Lower Passaic River Pilot Study, the USACE does not expect significant impacts either to the environment or the USEPA’s RI/FS. Furthermore, it should also be noted that these navigational dredging BMPs are also utilized in areas of the New York and New Jersey Harbor that currently do not lie within the NBSA such as dredging activities in Port Jersey and Anchorage Channels as well as the eastern end of the S-KVK-2 Contract east of the Bayonne Bridge which does not lie within the NBSA.

4.3 WATER QUALITY CERTIFICATION COMPLIANCE MONITORING

In order to minimize, to the extent practicable, resuspension of sediment into the water column, NJDEP and NYSDEC umbrella WQCs and specific contract reach WQCs, (*e.g.* S-KVK-2 Contract Reach) issued for the HDP provide project- specific BMPs for the dredging contractor to follow. Some BMPs listed in the states' WQCs are: (1) A "No Barge overflow" on contaminated, non-HARS, silty material, (2) Closed clamshell environmental bucket dredge on non-HARS suitable material, (3) Clamshell bucket hoist speed of 2 feet per second or less (Hoist Speed), (4) Maximization of clamshell bite, (5) Deliberate placement of material into barge (to prevent spillage), and (6) Silt curtains to protect sensitive habitats (where practical).

For purposes of Quality Assurance, a USACE Construction Field Office Inspector (QA Inspector) monitors dredging activities. See Appendix D with documents titled, "Inspection" and "MFR titled, "Contract Enforcement of Environmental Requirements - Metro Area Office". NYSDEC umbrella WQC special conditions provides for an "Inspector's Form" to be filled out several times a week and submitted to NYSDEC on a weekly basis by the Corps Field Office staff. This "Inspector's Form" contains information such as the following (Note: this is not an all inclusive list from the Inspector's Form): (1) Date and time of inspection, (2) Type of bucket, (3) Flaps on environmental bucket intact and operable, (4) Hoist speed, (5) No barge overflow (if appropriate), (6) Placement of dredge material in barge, and (7) Corrective action taken (if necessary).

For additional Quality Control, USACE Planning Division staff, consisting of environmental scientists, will be conducting unannounced inspections using the same "Inspector's Form" as the USACE Field Office staff of engineers. Inspections are proposed to occur (for the S-KVK-2 Contract) from 4 locations: on the dredge, from an alternate vessel on the waterbody, from the shorelines of Bayonne, NJ and Staten Island, NY.

In addition, both states' umbrella WQC special conditions provide for a "Dewatering Form" to be signed / verified by both the Quality Control Officer (Contractor) and a USACE Field Office Project Engineer and submitted to the state agencies on a weekly basis. This "Dewatering Form" contains information such as: (1) Dredge scow identification, (2) Date of discharge into decant scow, (3) Start and stop time of discharge into decant scow, (4) Rate of pump used to discharge into decant scow, and (5) Volume of discharge into decant scow.

Both forms (Dewatering and Inspector's Form) allow for USACE to monitor the contractor's performance as well as serve as a record to update the states on the status of compliance with the WQC conditions.

USACE will be initiating and performing, for the life of the project, an intensive and comprehensive water quality monitoring program that will not only include monitoring of the usual physical parameters, (*e.g.* salinity, dissolved oxygen, temperature, etc.) but also a Total Suspended Solids (TSS) and Turbidity Monitoring Program. The TSS multidimensional study will sample suspended solids, in mg/L, in the water column due to dredging activities. This extension of the previous USACE 2002 Arthur Kill, Newark Bay, Kill van Kull TSS program will survey larger areas containing silt material for longer durations. The specifications of this program are being coordinated with both states. This data will be compared to the existing

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ambient TSS levels within the waterbody which will allow for the USACE to confirm/validate the feasibility phase's turbidity model assumptions that defined the extent, duration and density of the dredge-generated sediment plume; supporting USACE's 1999 and 2004 NEPA determinations as well as providing near real time data to agencies such as the USEPA, NJDEP, and NYSDEC for their consideration of additional or new BMPs, and other suitable measures to minimize resuspension in future dredging activities in the New York Harbor.

Since the June 2005 release of the Draft EA, additional USACE-NYD coordination with USACE's Engineering Research and Design Center (ERDC) dredging and resuspension national center of expertise has prompted revisions to the TSS/Turbidity monitoring program that has greatly intensified and expanded USACE's data collection efforts and goals. Monitoring of dredging operations will be conducted in Newark Bay, the Kill van Kull, and the Arthur Kill, focusing upon channel reaches with predominantly fine (clay and/or silt) sediments where the probability of dispersion of hydrophobic contaminants would be greatest. The following objectives have been established:

- *Define relationships between gravimetric, optical, and acoustic measures of turbidity and TSS in the selected channel reaches*
- *Determine ambient turbidity and TSS conditions in the study areas during selected periods*
- *Determine the spatial structure and temporal dynamics of plumes (utilizing ADCP) associated with specific dredging operations in the study areas*

See Appendix E titled, "Components of TSS monitoring". This appendix shows the increased effort between the past TSS monitoring programs and the expanded TSS monitoring program for future dredging projects in the NBSA.

Finally, NYSDEC intends to utilize its newly expanded enforcement team to inspect the dredging activities for WQC special conditions compliance, in addition to the compliance monitoring activities that are to be conducted by USACE staff and its contractor(s). These NYSDEC representatives have the authority to stop the project if the activities are found to be in noncompliance with the relevant WQC conditions.

Part 5 COORDINATION

Navigation dredging in the Port of New York and New Jersey has been regulated in accordance with Section 10 of the Rivers and Harbors Act, the Clean Water Act and NEPA since 1969. Interagency coordination has been intense and continual since 1986, when the predecessor projects in Kill Van Kull/Newark Bay and Arthur Kill were authorized in the Water Resources Development Act of 1986. As part of the USACE's NEPA compliance and the Federal and state permitting processes, USACE has been coordinating with the EPA (Region 2), NJDEP, NYSDEC, the New York State Department of State (NYSDOS) and the New York City Department of Environmental Protection (NYCDEP) throughout the feasibility, preconstruction engineering and design, and ongoing construction phases of the KVK/NB-45, AK-41/40, and the HDP regarding environmental concerns related to the Federal dredging actions. As part of the USACE's NEPA compliance commitments, USACE also has been coordinating with the

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NOAA-Fisheries, U.S. Fish and Wildlife Service, and numerous other Federal, state and local natural resource stakeholders. None of these agencies have identified any new information that has a bearing on the impact analyses conducted for the HDP.

NYSDEC and NJDEP issued “umbrella” WQCs (as per the Section 401 of the Clean Water Act; 33 U.S.C. 1341) to the USACE for the HDP in April of 2004. The NJDEP requires USACE to apply for individual WQCs for each contract area of the project. The NYSDEC requires the USACE to apply for individual “Authorizations To Proceed” for each contract area of the project. Each of these contract-specific regulatory actions establishes contract-area specific conditions augmenting those specified in the umbrella WQCs. To date, USACE has obtained individual WQCs for the AK-41/40, the KVK/NB-45, as well as the “umbrella” WQCs for the HDP. It has also received the first contract-specific WQC/Authorization to Proceed for the Kill Van Kull (known as the S-KVK-2 contract area) of the HDP. This contract area encompasses southern portions of Newark Bay.

The foundation for USACE and USEPA Superfund integration (navigation-Superfund) coordination began with the initiation of the Lower Passaic River Environmental Restoration Feasibility Study. Thru this process, the USACE has been kept informed of the USEPA’s progress on the NBSA and USACE has shared with USEPA all pertinent and relevant information on the HDP’s construction schedule, previous sediment sampling data and other geophysical data. One of the outcomes of the coordination with USEPA was the recognition that it would be advantageous if there was ongoing coordination between USEPA and the New York District related to the HDP and the RI/FS. As a result of this ongoing relationship, a Project Coordination team has been established that includes representatives from USEPA, USACE, the States of New York and New Jersey, and the Port Authority of NY and NJ, who will meet frequently and as needed to review the status of the respective efforts within the Newark Bay Study Area and to identify opportunities to maximize collaboration and coordination with regard to the study and the various dredging activities. Volume II of this EA further expounds on the coordination effort between the HDP and the USEPA’s RI/FS.

Part 6 SUMMARY

6.1 SUMMARY

The Newark Bay Study Area of the Diamond Alkali Superfund Site has been designated as an area of study due to the contiguous proximity of Newark Bay with that of the NPL Lower Passaic River Superfund Site (Diamond Alkali Facility at Lister Avenue).

USEPA, in agreeing to enter into the AOC, has stated that they did so because they wanted to study whether some contaminants may have spread or traveled downstream to Newark Bay from the Lower Passaic River. This determination was not made based on the review of any new information or currently available data of the Newark Bay area. The purpose of the USEPA study is to determine if and where contaminants exist, at what levels, and conduct risk assessments to determine the hazards that contaminants may pose to human health and the environment.

The designation of the study area in and of itself will not prevent all dredging activity or affect any final determination in regard to any proposed remedial action. Upon review of multiple dredging projects constructed through HTRW contaminated project areas, (New Bedford, Massachusetts Navigation/Environmental Dredging Project (USACE 2005c – See Appendix B) and Hudson River, New York PCB cleanup (USACE 2005d – See Appendix B)), and the extensive alternative analysis presented in this EA, USACE has determined that the BMP's (including all known environmentally sound engineering practices) and extensive Special Conditions proposed in the States permits are currently sufficient to avoid, minimize or mitigate for adverse environmental effects, but USACE will continue to coordinate with the states regarding reevaluation and review of BMP's that may be applicable as is justified and practicable, for those remaining dredging contract areas within the NBSA. It is not anticipated that implementation of the recommended plan would be substantially hindered or modified and therefore the dredging could proceed in an environmentally sound and practical manner.

Regarding the release of the AOC; the AOC designation of Newark Bay area as an Operable Study Unit pursuant to CERCLA in and of itself does not constitute "new information" that must be evaluated prior to continuing construction of the HDP components located within the Newark Bay Study Area. There are no additional regulatory or technical considerations concerning the dredging project that are attached directly to the study area designation by itself.

Regarding the claims that new or significant information as contained in the CARP and Inventory Reports contained relevant information that was neither reviewed nor considered, we summarize below:

The dredged material from each contract area within the confines of the Newark Bay Study Area will be sampled and tested separately for placement at the identified upland and/or aquatic permitted placement site(s), as required by the appropriate regulatory agency(s) to ensure that its placement at the sites is fully protective of the public and to ensure the material is not characteristic of Hazardous, Toxic and Radioactive Waste (HTRW). It should be noted that none of the material tested so far throughout the entire HDP has been categorized as HTRW.

Two reports offered for consideration and summarily reviewed by USACE were the Contaminant Assessment and Reduction Program (CARP) and Inventory Report (Tierra Solutions, 2004). In addition to the above reports, the USACE also examined data bases from the EPA's Regional Environmental Monitoring and Assessment Program (REMAP), and National Oceanic and Atmospheric Administration's (NOAA) Query Manager (that revealed 26 potentially relevant data sets within the NBSA) which assessed levels of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) and its congeners. With regard to 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) and its congeners in the Newark Bay Study Area, USACE has determined that the CARP, the Inventory Report the USEPA's REMAP, and the NOAA-Query Manager contain no new pertinent sediment data concerning dioxin that would alter the analysis of contaminant impacts conducted for the 1999 Final EIS, updated in the 2004 EA and subsequently analyzed in this EA.

Regarding HDP's potential impacts to the USEPA's RI/FS study, a detailed analysis (Volume II) revealed that there would be no significant impacts to the RI/FS study or study goals resultant from the HDP, as summarized below:

A main concern for dredging in the NBSA, as currently proposed, was whether the authorized deepening project will significantly affect the execution of the RI/FS or the analysis of data obtained through that study.

To address this issue;

1. a thorough and detailed qualitative and quantitative analysis was performed to evaluate the potential effects of the Federal dredging actions within the NBSA on the RI/FS study execution and goals (Volume II);
2. a Coordination Plan was formally adopted by the participating Federal, state and local resource and regulatory agencies; and
3. an expanded Alternative Analyses was performed to reevaluate Best Management Practices (BMP) that may be applicable, as justified and practicable, to the NBSA dredging contracts.

The expanded Alternatives Analysis on the BMPs was discussed previously in this document. A summary of the qualitative and quantitative analyses performed to evaluate the potential effects of the HDP on the RI/FS study and goals as well as coordination effort follows:

RI/FS Goal 1:

Determine the horizontal and vertical distribution and concentration of PCDDs, PCDFs, PCBs, PAHs, pesticides and metals within the NBSA sediments.

The effects of dredging on Goal 1 are considered separately for:

1. cores that are **in** the southern navigation and port channels and thus potentially affected directly by dredging, and
 2. cores that are **adjacent** to the channels and thus potentially affected indirectly, through deposition of resuspended sediments.
- 1a. Summary of Analyses for Cores **in** channels, dredging **prior** to sampling:
- USACE and USEPA have coordinated efforts for the Phase I sample collection that commenced November 2005 to ensure that all cores in areas scheduled for immediate dredging were moved to alternative locations that were not to be dredged prior to sample collection, with no adverse effect on the data to be obtained. These coordination efforts will continue during future phases of the RI.
 - Future sampling can be conducted in channel areas that have not yet been dredged or are not actively dredged, for example areas historically dredged but no longer maintained, to characterize current and historical contaminant levels. It will also be possible to sample in recently dredged areas, after sufficient deposition has occurred to obtain a core sample.

1b. Summary of Analyses for Cores **in** channels, dredging **after** sampling

- In Phase I, USEPA targeted cores in the channels in large part to sample recently deposited material for contaminants. The cores that were collected prior to the construction of the deepening projects will provide a record that includes material deposited since the previous dredging event, and thus the planned dredging will not affect their interpretation.

2a. Summary of Analyses for Cores **adjacent** to dredged areas, dredging **prior** to sampling

- Dredging, as does meteorological forces and other anthropogenic influences, results in sediment resuspension. Measured field data collected on numerous occasions around operating dredges in Newark Bay indicates that resuspension from dredging is mostly localized to the dredge and generally contained within the deeper channel waters.
- The effects of resuspension of this material from dredging are not likely to be significant, based upon the following:
 - a) Elevated concentrations were observed only in some samples, and in most cases, downstream concentrations remained within the range of ambient TSS levels measured in the NBSA.
 - b) In general, plumes were localized to within 250–350 ft of the dredge.
- Evidence, albeit limited, suggests that transiting container ships may resuspend considerably higher levels of sediment, over larger areas of the bay (including off-channel flats areas), and on a more continuous basis than does dredging.
- Resuspension from dredging is expected to result in the deposition of a thin layer (~ 2% addition of resuspended material assuming conservative estimates) of material adjacent to the channel.
- Contaminant concentrations of the material resuspended by dredging are likely to have a minimal effect (~ 5% increase in contaminant concentration assuming worst-case scenario) on contaminant concentrations in the surface sediments of the flats.

2b. Summary of Analyses for Cores **adjacent** to dredged areas, dredging **after** sampling

- Cores that are collected prior to dredging will provide a record of current and past contaminant concentrations in sediments. By definition, the interpretation of this record will not be affected by the possible deposition of additional material **after** the cores are collected.

RI/FS Goal 2:

Determine the primary human and ecological receptors (endpoints) of PCDDs, PCDFs, PCBs, PAHs, pesticides, and metals in contaminated sediments in the Newark Bay Study Area.

Summary of Analyses for (Risk) endpoints is that they are likely to rely largely upon contaminant levels in aquatic biota. Biota is exposed to contaminants both in the sediments and in the water column; a detailed summary follows:

Summary of Analyses for Dredging **prior** to sampling:

- Impacts on water column concentrations in the NBSA are likely to be small (insignificant), because dredge plumes are limited in extent, and TSS concentrations in dredge plumes are generally within the range of ambient conditions.
- Insofar as effects on contaminant concentrations in surface sediments and in the water column are likely to be small (insignificant), impacts on benthic food webs are also likely to be small.
- Future resuspension studies, combined with ongoing interagency coordination, will ensure that water sampling is scheduled to avoid direct influences of dredging.

Summary of Analyses for Dredging **after** sampling

- Samples of water and biota that are collected **prior** to dredging will provide a record of current contaminant concentrations in water and biota. By definition, the interpretation of this record will not be affected by the possible resuspension and deposition of contaminated material **after** the sample is collected.

RI/FS Goal 3:

Determine the significant direct and indirect continuing sources of PCDDs, PCDFs, PCBs, PAHs, pesticides, and metals in the Newark Bay Study Area.

- Sources will be assessed using a combination of field data and modeling. Insofar as samples in the channel will be collected **prior** to dredging and dredging is unlikely to adversely or significantly affect contaminant concentrations in surface sediments adjacent to the channel, the HDP is unlikely to materially affect the ability of USEPA to evaluate sources of contaminants to Newark Bay.
- Cores within the channels are likely to provide limited information concerning historical contaminant levels and thus historical sources. To characterize historical contaminant levels, future sampling can be conducted in areas not actively dredged, for example the subtidal flats or areas historically dredged but no longer maintained. Therefore, the removal of contaminated material from the channel **after** sampling will not affect the ability of USEPA to evaluate historical contaminant sources during later phases of the RI/FS.

Cumulative Impacts

Summary of the analyses performed to determine the potential effects of the separately authorized O&M and CWA Section 404 Permit Programs on the RI/FS Study and Goals:

- The harbor deepening projects are the largest planned dredging projects in the NBSA and are therefore the primary focus of this EA.
- In addition to the HDP, O&M and permit actions did not affect Phase I RIWP sampling efforts and will not affect any Phase 2 sampling efforts since the responsible agencies are closely coordinating all NBSA activities, per the formal Coordination Plan agreement (see below).
- Effects on future phases of the RI are likely to be insignificant, because these dredging activities are small in area and volume (scope) of dredged material and are short in duration, as compared with the HDP.

- BMP's will be employed, as required and as applicable and practicable to ensure that no additional impacts to the RI/FS result.

Sampling and testing will be performed prior to every episode of federal maintenance dredging into the future. In light of Newark's Bay new designation as an operable study area of the upstream Diamond Alkali Superfund site, sampling and testing plans performed for federal maintenance dredging will be coordinated with the newly established Coordination team for the Newark Bay Study Area prior to actual sampling. Once the sampling is completed and test results are available, the data will be provided to the New Jersey Department of Environmental Protection for state review as part of their permit requirements for upland beneficial use placement. The Corps will simultaneously perform an independent review of the test data to determine whether the sediments will adversely affect the RI/FS. The analyses and coordination shall be documented as a memorandum for the file and be included in the Statement of Findings for the Newark Bay Federal Navigation project.

Coordination Efforts

- Coordination between USACE and USEPA has been ongoing, including meetings, conference calls and provision of data and other information and will continue throughout the life of the HDP contained within the NBSA.
- Coordination meetings have resulted in improvements to the USEPA RI/FS program to ensure that USEPA's goals are met.
- A formal coordination plan (including a Dispute Resolution Clause) has been developed and enacted.
- Coordination with NRDA trustees is also ongoing and future coordination is planned.

In conclusion, based upon the analyses provide above, the effects of dredging on the ability of USEPA to achieve the RIWP 3 study goals are determined to be insignificant and to have no material bearing on EPA's decision-making process regarding potential remedies.

The proposed action to support the Newark Bay dredging projects is in compliance with environmental laws and regulations. Full compliance of the Newark Bay dredging projects with NEPA requirements and documentation has occurred through the preparation of 1) the Arthur Kill's 1985 EIS, 1986 EIS, 1997 EIS, 2000 Dredged Material Placement EA, and 2001 Mitigation EA, 2) the Kill Van Kull's 1986 EIS, 1987 EIS, 1997 EA, and 1999 Dredged Material Placement EA, and 3) the HDP's 1999 Final EIS and 2004 EA.

The recommended plan has been designed to minimize adverse impacts to the ecological and human environment in the project area and will not significantly affect either the ecological or the human environment. There have been no significant additional environmental impacts due to HTRW, re-suspension, or "new and/or significant" information associated with dredging activities in the Arthur Kill, Kill Van Kull and Newark Bay that have not already been evaluated and approved for the HDP. The action will be implemented in accordance with conditions of the umbrella WQCs issued by NYSDEC and NJDEP in April 2004 and by the individual WQCs issued by NJDEP and Authorizations to Proceed by NYSDEC for each contract area.

Concurrent to the USEPA's preparation to issue the AOC for the Newark Bay area study and in coordination with the USEPA, the USACE was completing the HDP's supplemental NEPA documentation (USACE 2004) and permitting process to execute the Project Cooperation Agreement with the Port Authority of New York and New Jersey to begin construction of the HDP. With the completion of all required NEPA documentation and acquisition of WQCs necessary to proceed into construction of the HDP, the Project Cooperation Agreement was executed in May 2004. All technical re-evaluations in the Newark Bay study area performed since the release of the AOC as described in detail above have not elucidated any new or significant information that would trigger the preparation of a Supplemental EIS. Since no new information that would change the determinations made in the 1999 Final EIS and 2004 EA is available, the USACE is in full compliance with the law and all applicable procedures. Therefore, it is USACE's responsibility to not unduly delay the Congressionally authorized and regionally significant projects and to recommend that construction of the Newark Bay projects proceed on schedule.

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U.S. Army Corps of Engineers
New York District

EA on the Newark Bay Area of the
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Part 8 AUTHOR(S)

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FINDING OF NO SIGNIFICANT IMPACT

Name of Action: Evaluation of the Potential Effect of United States Army Corps of Engineers' (USACE) Dredging on the U.S. Environmental Protection Agency (USEPA) Region II Newark Bay Study Area (NBSA) Remedial Investigation and Feasibility Study (RI/FS).

1. Project Description: Deep-draft navigational dredging is being performed in areas of Newark Bay (NB), Arthur Kill (AK) and Kill Van Kull (KVK). The AK 41/40 Project, Contract Area 2/3 and the S-KVK-2 Contract Area of the 50 ft. Harbor Deepening Project (HDP) dredging program is underway and is planned for completion in 2006 and 2007. These current and future Congressionally authorized areas of deep draft navigation dredging within Newark Bay is the subject of this document. Other Federal activities in Newark Bay, which include operations and maintenance (O&M) activities, as well as USACE permit actions under the Clean Water Act Section 404 and Section 10 of the Rivers and Harbors Act of 1899, are included in this analysis within a cumulative analysis framework.

2. Coordination: New York District has coordinated this project with Federal (U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Agency [NOAA] Fisheries Department, U.S. Environmental Protection Agency [EPA] and State (New Jersey Department of Environmental Protection [NJDEP], New York State Department of Environmental Conservation [NYSDEC], New York Department of State [NYSDOS] resource agencies and the interested public in order to inform agencies and individuals of the proposed work and the environmental evaluations. Coordination has included the opportunity for comments on these evaluations and my findings regarding their comments.

3. Environmental Impacts: The proposed action is in compliance with all pertinent environmental statutes, laws and regulations. This Environmental Assessment (EA) has been written to evaluate 1) EPA's designation of Newark Bay and parts of Arthur Kill and the Kill Van Kull, as contained within the NBSA, pursuant to CERCLA; 2), the alleged new information contained in the Contaminant Assessment and Reduction Program (CARP; NYSDEC 2003) and Inventory Report (Tierra Solutions, 2004); 3), whether the dredging activities of the New York and New Jersey Harbor Deepening Project (HDP) will significantly affect the NBSA RI/FS and 4) if impacts will significantly differ from those previously identified in the USACE's 1999 Final EIS and the associated Record of Decision (June 2002), and the 2004 Environmental Assessment and the associated Finding Of No Significant Impact. Specifically, I have reviewed and/or considered:

- a. data reports and inventories identified as potential new sources of relevant information and determined that they either contained no new data or the data did not warrant any revision to the impact assessments included in the 1999 Final Environmental Impact Statement (EIS) and the 2004 EA;
- b. the qualitative and quantitative analyses presented in the subject EA which conclude that there would be no significant effect to the RI/FS;
- c. that no additional significant environmental impacts associated with dredging in the Arthur Kill, Kill Van Kull, and Newark Bay with regard to normal dredging activities already evaluated and approved for the HDP (1999 EIS and 2004 EA) have been since identified;

- d. that turbidity near the construction site would temporarily increase on a short-term basis but should not be substantially different than has been discussed, analyzed and predicted.

Overall, the environmental impacts of implementing the proposed action remain relatively minor in scope and have not changed from the initial evaluation as reported in the 1999 Final EIS and again in the 2004 EA.

4. Mitigation: As a result of the findings above and due to remaining narrowly-focused concerns regarding the potential effects from dredging on the RI/FS, the following additional mitigative actions, which are presented for evaluation in the EA, will be implemented:

- a. An expanded, comprehensive total suspended sediment and water quality monitoring program (TSS) will be undertaken. The TSS Monitoring Program will be used for the life of the HDP for those areas within the NBSA, and will provide, at a minimum, the data needed to refine the SSFATE modeling in support of the HDP and the Newark Bay Study Area RI/FS. The TSS monitoring and SSFATE modeling results will be provided to EPA and both state regulatory agencies.
- b. A formal coordination team has been created with members from USACE, USEPA, NOAA, NYSDEC, NJDEP, and USFWS. This team will continue coordinating the activities of the dredging program and the remedial investigation/feasibility study to ensure that neither Federal program is significantly impacted by the other.
- c. Based upon the extensive alternative analyses performed in the EA, USACE will continue coordination with the NJDEP and NYSDEC to revisit additional best management practices as may be deemed necessary to protect the RI/FS, as justified and as practicable, for each NBSA contract area.

5. Determination: I have determined that the action, as previously evaluated in the 1999 Final EIS and 2004 EA, will not significantly impact the RI/FS and that there is no significant new information or change in the project or impacts to the quality of the human environment. Therefore, the action does not require the preparation of a detailed statement under Section 102 (2) (c) of the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321, et seq.). My determination was made considering the following factors discussed in the EA:

- a. The proposed action has been designed to minimize adverse impacts to the environment and human population occurring in the project area and is not likely to adversely affect the human environment;
- b. No unacceptable adverse cumulative or secondary impacts would result from project implementation;
- c. The action will be implemented in accordance with Clean Water Act, Section 401 Special Conditions in the "Umbrella" Water Quality Certifications dated respectively, April 8, 2004 and April 12, 2004, from the states of New York and New Jersey and in accordance with the subsequent contract-specific WQC amendments issued for the NBSA;

d. Best Management Practices will be utilized, with the intent to avoid and minimize environmental impacts and potential adverse effects to the RI/FS to the highest practicable extent.

6. Findings: The proposed dredging of the Harbor Deepening Project in the Newark Bay Study Area would not result in significant environmental impacts from those identified in the 1999 Final EIS and 2004 EA as it pertains to the Administrative Order on Consent and the potential effects to the RI/FS and is the alternative that represents sound engineering practices and meets environmental standards, therefore, construction of the plan should proceed on schedule.

Date:

5 January 2006



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