



DRAFT FINAL PROPOSED PLAN FOR FORMER NAS ALAMEDA SEAPLANE LAGOON (IR SITE 17)



February 2006

Alameda Point, California

Dredging and Off-Site Disposal Proposed to Address Contaminated Sediments

The U.S. Navy invites the public to provide comments on the cleanup options considered and the preferred remedy identified for the Seaplane Lagoon (SPL), also known as Installation Restoration (IR) Site 17, at the former Alameda Naval Air Station. See Figure 1 for the complete IR Program Process. ***The public comment period is from February 17, 2006 through March 17, 2006.*** We encourage you to comment on this Proposed Plan and supporting documents. Comments may be submitted orally or in writing at the public meeting, or via mail, fax or email. Please see page 11 on how to submit public comments.

Historically, untreated industrial wastewater and stormwater were discharged into SPL. Seven alternatives were developed to address the sediments that were contaminated by these discharges.

The Navy is proposing a Preferred Alternative for public comment that involves dredging sediments

from the northeast and northwest corners of the lagoon, dewatering the sediments on-site, disposal of the sediments at a permitted off-site waste disposal facility, and monitoring the effectiveness of the remedy through a detailed sampling plan. Based on current reuse plans developed by the Alameda Reuse and Redevelopment Authority (ARRA), the expected redevelopment of the site is as a commercial marina surrounded by a mixed-use marina-related district comprised of housing and industrial, commercial, recreational, and open waterfront space.

The final preferred remedy may change based upon public comments, therefore, the Navy will consider all public comments before making a final decision. Additional information on the SPL investigations and the study of clean-up options, along with all of the information used in preparing this proposed plan, is available in the Information Repositories listed in the back of this document.

OPPORTUNITIES FOR PUBLIC COMMENT

Public Comment Meeting: March 1, 2006 from 6:30pm to 8pm

Building 1, Room 201 at Alameda Point, California

You are invited to this community meeting to discuss the information presented in this Proposed Plan for Seaplane Lagoon (IR Site 17). Navy representatives will be present to provide information on site history, environmental investigations, remedial alternatives, and the preferred alternative. You will have an opportunity to ask questions and formally comment on the cleanup alternatives summarized in this Proposed Plan and the information presented in the Remedial Investigation (RI) and Feasibility Study (FS) reports.

Public Comment Period: February 17, 2006 to March 17, 2006

We encourage you to comment on this Proposed Plan and supporting documents during the 30-day public comment period. Comments may be submitted orally or in writing at the public meeting, or via mail, fax or email. Please see page 11 on how to submit public comments.

SITE BACKGROUND AND CHARACTERISTICS

The former Naval Air Station (NAS) Alameda was an active military installation from the 1930s to the 1990s that provided facilities and support for fleet aviation activities. SPL was constructed in the 1930s by dredging a former tidal flat on the southeastern corner of Alameda Point (see Figure 2). During its construction, seawalls were built along the eastern, western, and southern boundaries, and a bulkhead wall was constructed on the northern side. The interior of the lagoon is approximately 110 acres in size, and the water depth is between 12 and 20 feet (ft). The entrance to the lagoon is an 800-ft opening in the seawall along the southern perimeter. The NAS Alameda was selected for closure by Congress in September 1993, and officially closed in April 1997.

From the 1940s to 1975, industrial wastewater and stormwater generated at the former NAS Alameda were discharged directly into a network of storm drains and carried, in part, through storm sewer outfalls. During this period, approximately 300 million gallons of untreated industrial wastewater and stormwater that reportedly contained heavy metals, solvents, paints, detergents, acids, caustics, mercury, oil and grease, and Radium 226 (Ra-226) were discharged into the lagoon. The outfalls located in the northeast and northwest corners of the lagoon were the primary sources of contamination. In 1975, the direct discharge of industrial wastewater through the storm sewer network was terminated and since that time, a stormwater pollution prevention program has been in place at Alameda Point to ensure that only surface runoff is carried into the lagoon. During the 1990s, the Navy cleaned, repaired, and replaced a significant portion of the storm sewer network. Currently, the need for additional evaluation and remediation of the sewer lines leading to the lagoon remains. This work will be coordinated with the remediation of SPL in the timeframe of the CERCLA process.

Preliminary Assessment/ Site Inspection	Remedial Investigation	Feasibility Study	Proposed Plan/ Public Comment Period	Record of Decision
COMPLETE		WE ARE HERE		
Elevated levels of metals first identified in SPL as part of an Initial Site Assessment in 1983.	The RI for IR Site 17 was completed in May 2004	The FS for IR Site 17 was completed in July 2005.	The public has the opportunity to comment on the remedial alternatives including the Navy's Preferred Alternative.	The final decision for the CERCLA site and responses to public comments will be documented in the final Record of Decision.

Figure 1. Installation Restoration Program Process

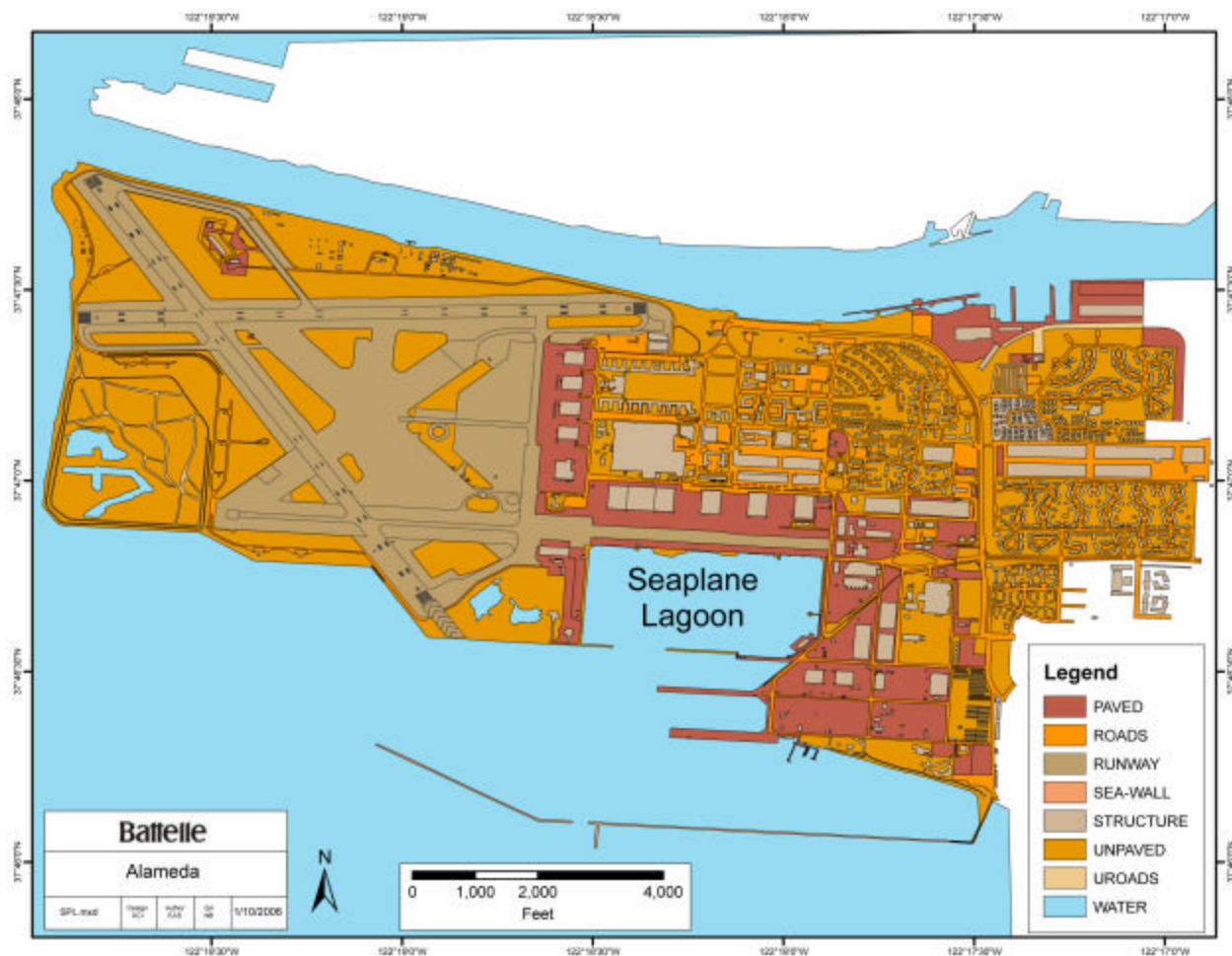


Figure 2. Map of Former NAS Alameda Point

SITE INVESTIGATIONS

The Navy initiated environmental investigation and cleanup activities at Alameda Point in the early 1980s. Elevated levels of metals were first identified in sediment samples in an Initial Assessment Study conducted in 1983. Data collected in 1990 and 1992 indicated that further investigation was required near the outfalls in the lagoon. Additional investigation activities were subsequently conducted between 1993 and 2002. A **Remedial Investigation (RI)*** report for SPL was issued in June 2004. An overview of the RI results is presented below.

Nature and Extent of Contamination in SPL Sediments

Numerous sediment samples (Figure 3) have been collected to evaluate potential contamination. Several metals (i.e., cadmium, chromium, copper, lead, mercury, silver, tin, and zinc) are present in sediments at concentrations higher than ambient levels for San Francisco Bay sediments. Metals concentrations are generally higher in deeper sediments than in surface sediments, consistent with the assumption that the contaminants have been buried beneath sediments deposited since the discharge of Alameda Point wastewater ceased. Metals concentrations are highest in the northwest and northeast corners of the lagoon near the primary outfalls, and decrease with increasing distance from the outfalls. The distribution of several organic chemicals such as 4,4'-dichlorodiphenyltrichlorethane (DDT, a historically common pesticide) and polychlorinated biphenyls (PCBs) were found to follow a similar pattern. Radionuclides, particularly Ra-226, from luminescent paints (historically used to paint aircraft gauges) were also found at low levels in sediments. Based on data collected by the University of California at Berkeley, concentrations of Ra-226 are low throughout the lagoon

* Words/acronyms in bold can be found on page 12 in the glossary.

(i.e., below 5 pci/gram) with the exception of one slightly elevated concentration (i.e., between 7-9 pci/gram) in the northwest corner near the outfalls.

Biological data have also been evaluated for the site. For example, bioaccumulation testing was conducted as part of the investigations conducted in 1993/1994 and 1998. In addition, forage fish were collected in 2001 to determine chemical burdens in fish tissue for the purpose of evaluating potential risks to fish and to the species that consume them, such as birds and humans. The results of these investigations indicated that a few chemicals, most notably PCBs were potentially bioaccumulating in aquatic species.

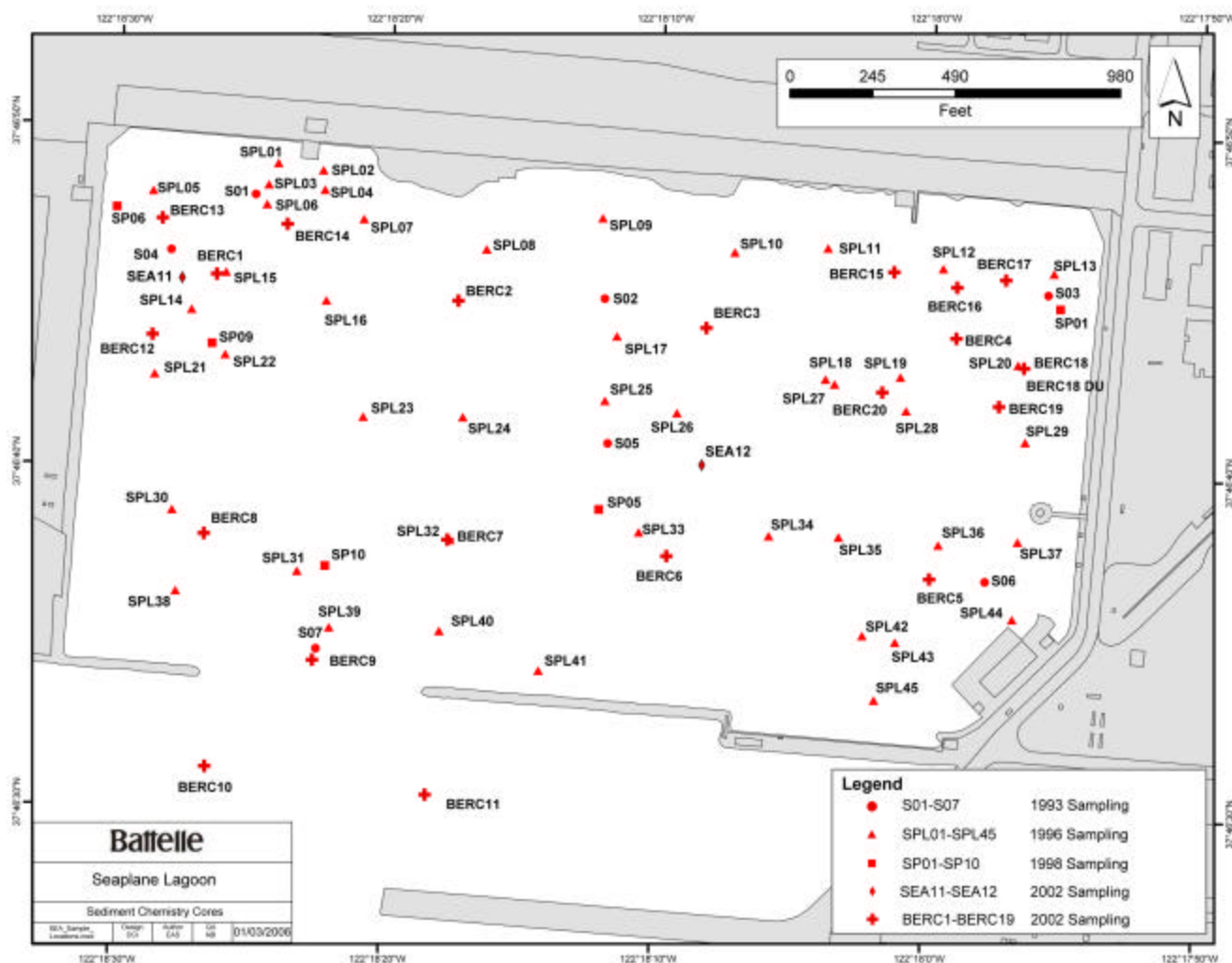


Figure 3. Sediment Sampling Locations in SPL

Human Health and Ecological Risk Assessments

As part of the RI, an **ecological risk assessment** and a **human health risk assessment** were conducted in accordance with United States Environmental Protection Agency (EPA) and Navy guidelines to evaluate the risks to human health and the environment from contamination in SPL sediments.

The baseline ecological risk assessment evaluated risks to benthic invertebrates (small organisms that live in the sediment), fish, birds that eat benthic invertebrates (such as the surf scoter), and birds that eat fish (such as the double-crested cormorant and the least tern). The baseline ecological risk assessment found that cadmium in sediment poses an unacceptable risk to fish in the lagoon. In addition, cadmium, PCBs, **DDx**, lead, and chromium were found to pose an unacceptable risk to bird species due to the accumulation of these chemicals in the tissues of prey items (food sources) that are transferred through the food web. The least tern was

determined to be the most sensitive of the bird species that were evaluated in the ecological risk assessment. Risks were primarily associated with sediments in the northwestern and northeastern corners.

The potential human health risks that exceed an acceptable threshold are associated with PCBs. In addition, it was determined that the areas of the lagoon associated with unacceptable risks to human health coincided with those identified as posing an unacceptable risk to ecological receptors. Therefore, addressing ecological risks will also address potential human health exposures.

Conclusions of the Remedial Investigation

The conclusions of the RI were as follows:

- A majority of the contamination found in surficial sediments is located along the northeast and northwest corners, where historical outfalls released wastewater;
- Based on an evaluation of current and historical benthic toxicity data, there is a low potential for impacts to the benthic community;
- There is potential toxicity to fish due to exposure to cadmium;
- Cadmium, chromium, lead, PCBs, and DDx were identified as the primary risk drivers for species at the upper levels of the food web (e.g., birds);
- **Remediation goals (RG)** for cadmium (24.4mg/kg), DDx (0.13 mg/kg), and PCB (1.13 mg/kg) were proposed for the protection of bottom feeding and fish-eating birds and fish;
- Local site risks to human health were primarily associated with consumption of PCB-contaminated fish caught in SPL.
- Applying the RG developed for PCBs based on ecological exposures is expected to reduce concentrations in fish tissue sufficiently to address human health risks.

FEASIBILITY STUDY-DEVELOPMENT OF ALTERNATIVES

A final FS report for SPL was issued in July 2005. The FS presented **remedial action objectives (RAOs)**, developed remediation goals for chemicals that are responsible for unacceptable ecological and human health risks, evaluated potentially suitable cleanup technologies, and developed and evaluated remedial alternatives for contaminated sediment in the lagoon.

Remedial Action Objectives

RAOs are specific goals that a site cleanup performed under **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)** is expected to achieve to address unacceptable ecological and human health risks. The RAOs for SPL are:

- Protection of fish-eating birds from exposure to cadmium, PCBs, DDx, lead, and chromium through the consumption of contaminated prey;
- Protection of fish from exposure to cadmium in sediments; and,
- Prevention of potential accumulation of PCBs in organisms higher in the food chain to reduce potential human health risks from the consumption of fish.

Remediation Goals (RGs)

Numerical remediation goals for the primary risk drivers, cadmium, PCBs, and DDx, were developed to address the RAOs (Table 1). The numerical cleanup goals are based on protection of the least tern, which was determined to be the most sensitive ecological receptor evaluated in the **ecological risk assessment**; therefore, developing a safe sediment concentration for that species should protect other bird species feeding in the lagoon. The RGs were developed using a food web model designed to derive 'safe' sediment concentrations for the least tern, based on specific exposure assumptions (e.g., a site use factor of 10 percent). In addition to these numerical RGs developed to protect ecological resources, an area-weighted average Total PCB concentration of 0.2 mg/kg (based on the sum of 40 individuals PCB congeners) will be achieved by this remedial action. This goal will reduce the potential for bioaccumulation in the food web. The highest concentrations of Ra-226 are also found in the same areas as the highest levels of cadmium, PCBs and DDx. Therefore, while not identified as a risk driver, the limited potential exposures to Ra-226 will also be addressed during the remedial action.

Table 1. Remediation Goals for SPL

Contaminant	Remediation Goal (mg/kg)
Cadmium	24.4
PCBs	1.13
DDx	0.13

Proposed Remediation Areas

Proposed remediation areas are shown in Figure 4. Based on previous sampling results, sample stations with concentrations of cadmium, PCB, or DDx above the remediation goal are included in the proposed remediation areas. Such exceedances were generally confined to the northeast and northwest corners of the lagoon. The maximum chemical concentrations in SPL sediments are generally found at depths between 0.3 and 3 ft below the sediment surface.



Figure 4. Proposed Remediation Areas (shaded blue) in SPL

Summary of Remedial Alternatives

Primary remedial technologies (e.g., dredging or capping) were combined with various process options and/or control measures (e.g., monitoring programs, institutional controls, and sediment treatment/ disposal measures) to develop seven potential alternatives for addressing contaminated sediments at SPL (Table 2). Detailed descriptions of each of these alternatives can be found in Sections 5.2 and 5.3 of the FS. These alternatives were developed to function as standalone alternatives, and to use the most suitable and effective technologies and process options screened in the FS.

Each alternative was initially screened for effectiveness in meeting the RAOs, remediation goals, cost, and implementability, in accordance with CERCLA guidance. Based on this preliminary screening, Alternatives 2 and 4 were eliminated from further consideration due to concerns about their overall effectiveness. Alternative 7 was eliminated because of concerns about the ability to implement this approach as well as its excessive cost. Alternatives 3, 5, and 6 were retained from the preliminary screening evaluation for a more detailed analysis.

Table 2. Summary of Remedial Alternatives Considered

Alternative	Description
1. <i>No Action</i>	Assumes no action will be taken to remediate contamination at the site. The National Contingency Plan (NCP) requires that this alternative be evaluated to establish a baseline against which to compare other alternatives.
2. <i>Monitored Natural Recovery/ Institutional Controls</i>	Would rely on naturally occurring processes such as biological degradation and burial by sediment deposition. Includes institutional controls to ensure that sediments would not be disturbed, and a detailed monitoring plan to track effectiveness and overall progress.
3. <i>Isolation Capping with Monitoring and Institutional Controls</i>	Would entail installing approximately 3 ft of clean cap material over the proposed remediation areas. Institutional controls such as deed restrictions, recreational use restrictions, and operational restrictions would be implemented to restrict future dredging and/or construction that could damage the cap and re-expose contaminated sediment. Monitoring would ensure the long-term integrity of the cap.
4. <i>Thin Layer Capping with Monitoring and Institutional Controls</i>	Would consist of the placement of a thin layer of clean cap material (6 to 12 inches thick) over the proposed remediation areas to accelerate natural recovery processes and reduce contact between contaminated sediment and marine organisms. Institutional controls and monitoring similar to those for Alternative 3 would be required.
5. <i>Dredging with Monitoring, Dewatering, and Upland Disposal at a Permitted Off- Site Waste Disposal Facility</i>	Would entail dredging the proposed remediation areas to a uniform depth of 4 ft, removing approximately 63,000 cubic yards (cy) of sediment. The dredged sediment would be dewatered on-site and disposed of in an off-site commercial landfill. Removal of contaminated sediment would be verified through confirmation monitoring.
6. <i>Focused Dredging with Monitoring, Dewatering, and Upland Disposal at a Permitted Off-Site Waste Disposal Facility</i>	Would entail focused dredging within the proposed remediation areas to depths of 2 ft to 4 ft below the sediment surface to remove sediment with chemical concentrations above the remediation goals. Approximately 52,000 cy of contaminated sediment would be removed. A backfill layer would be required to cover areas with other potential COCs and radionuclides. Dewatering, monitoring and disposal would be similar to Alternative 5.
7. <i>Focused Dredging with Monitoring, Ex Situ Treatment and Reuse</i>	Would entail focused dredging within the proposed remediation areas to depths of 2 ft to 4 ft below the sediment surface to remove sediment with chemical concentrations above the remediation goals. Confirmation monitoring would be conducted. On-site incineration would be used to destroy PCBs and DDx in sediment, and stabilization would potentially be needed to address metals. Approximately 36,000 tons of sediment would require treatment. On-site dewatering, air emissions control, and residual waste disposal would be required. Treated material would be used for beneficial purposes such as construction fill or landfill cover.

EVALUATION OF CLEANUP ALTERNATIVES

Nine criteria (Table 3) from the NCP are used to evaluate the different alternatives individually and against each other. Alternatives 3, 5, and 6 were retained for a more detailed analysis using seven of the nine NCP criteria (the Modifying Criteria can not be evaluated until all comments on this Proposed Plan have been received and addressed). A summary table showing the comparative analysis of the three retained alternatives can be found in Table 5. For a more detailed analysis of the alternatives see Sections 5.3 and 5.4 of the FS.

In summary, Alternative 3 would not satisfy all of the NCP Criteria because sediments containing contaminants would not be removed and/or treated so some residual risk would remain at the site and could limit future site use. Alternatives 5 and 6 both satisfied all of the NCP Criteria; however, Alternative 5 includes over-excavating the area beyond that required to meet the RGs, which would remove other chemicals of concern (COCs) and radionuclides, and achieve the upper-estimate of nearshore ambient concentration for PCBs. Alternative 6 would meet all of the RG, but would require a backfill layer to ensure that all exposures to other COCs and radionuclides were reduced.

Table 3. NCP Evaluation Criteria

Threshold Criteria: Criteria that must be satisfied for an alternative to be eligible.

1. **Overall protection of human health and the environment** addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled.
2. **Compliance with applicable or relevant and appropriate requirements (ARARs)** addresses whether or not a remedy will meet all Federal and State environmental requirements or provide grounds for a waiver.

Primary Balancing Criteria: Criteria that are used to weigh major trade-offs among alternatives.

3. **Long-term effectiveness and permanence** refers to the ability of a remedy to provide reliable protection of human health and the environment over time.
4. **Reduction of toxicity, mobility, or volume through treatment** refers to preference for a remedy that reduces health hazards, the movement of contaminants, or the quantity of contaminants at the site through treatment.
5. **Short-term effectiveness** addresses the period of time needed to complete the remedy and any adverse effects to human health and the environment that may be caused during construction and implementation of the remedy.
6. **Implementability** refers to the technical and administrative feasibility of the remedy, including availability of materials and services needed to carry out the remedy and coordination of Federal, State, and local governments to work together to clean up the site.
7. **Cost** evaluates estimated capital and operation and maintenance costs of each alternative in comparison to other, equally protective measures.

Modifying Criteria: Once all comments are evaluated, these criteria may prompt modifications to the preferred remedy.

8. **State acceptance** indicates whether the State agrees with, opposes, or has no comment on the alternative.
9. **Community acceptance** includes determining which components of the alternatives interested persons in the community support, have reservations about, or oppose (not complete until public comments on Proposed Plan are received).

Table 4. Comparative Ranking of Retained Alternatives

	Alternative	(3) Isolation Capping/Monitoring/ Institutional Controls	(5) Dredging/ Monitoring/Dewatering/ Upland Disposal at a Permitted Off-Site Waste Disposal Facility	(6) Focused Dredging/Monitoring/ Dewatering/Upland Disposal at a Permitted Off-Site Waste Disposal Facility
Threshold Criteria	Would Achieve Overall Protection of Human Health and the Environment	MODERATE, by isolating contamination from contact with wildlife and people.	HIGH, by removing contaminated sediments and containing them in an offsite landfill. Alternative 5 would remove more sediment than Alternative 6.	MODERATE to HIGH, See Alternative 5.
	Would Achieve Compliance with ARARs	HIGH	HIGH	HIGH
Modifying Criteria	Long-Term Effectiveness	MODERATE, would leave contaminated sediments in place under a clean cap. Sediments could be re-exposed if cap were damaged or disturbed.	HIGH, would remove all sediments exceeding the RGs as well as sediments potentially having other chemicals of concern (COCs) and radionuclides present.	MODERATE to HIGH, would remove all sediments exceeding the RGs but would require backfill layer to cover areas with other potential COCs and radionuclides.
	Reduction in Toxicity, Mobility, and Volume Through Treatment	LOW, would not specifically reduce toxicity or volume through treatment, although natural biological processes could potentially reduce long-term toxicity of sediments left in place.	MODERATE, would not reduce the toxicity or volume of contaminants through treatment, per se but would leave the lagoon “clean.” Mobility would be reduced by removing contamination from the lagoon and putting it in a permitted and properly engineered and monitored disposal facility.	LOW to MODERATE, see Alternative 5. Would require a backfill layer to limit exposures to other COCs and radionuclides.
	Short-Term Effectiveness	HIGH, remediation goals would be met at completion of the cap. Would take several months to implement, but with limited short-term impact.	MODERATE, remediation goals would be met at completion. Would require several months to a few years to implement.	MODERATE to HIGH, see Alternative 5. Because less volume would be removed, dewatered and disposed it would take less time and short-term risks would be lower.
	Implementability	HIGH, capping technologies are well established and necessary equipment, materials, and contractors should be readily available.	HIGH, dredging, dewatering, and upland confined disposal are proven technologies.	HIGH see Alternative 5.
	Cost	\$5.3 million	\$9 million	\$7.6 million

Note: Community and State acceptance criteria are not evaluated in this table, as they will be addressed thoroughly during completion of the **Record of Decision (ROD)**, following the review and comment period on this Proposed Plan.

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

CERCLA requires that remedial actions meet Federal or State (if more stringent) environmental standards, requirements, criteria, or limitations that are determined to be **ARARs**. The ARARs are an important component of remedy selection and are subject to public review and comment; significant potential ARARs that will be met by the preferred remedy for cleanup of sediment at SPL are located in the attachment following the glossary (see page 12). See the Feasibility Study report (July 2005) for more specific information concerning potential ARARs. The final determination of project ARARs will be made in the ROD as part of the response action selection process, and will be subject to the public review element of this process.

PREFERRED ALTERNATIVE

The Navy developed this plan in coordination with the **Alameda Point Base Realignment and Closure (BRAC) Cleanup Team (BCT)**, which includes representatives from the Navy, EPA, California Environmental Protection Agency (CalEPA), **Department of Toxic Substances Control (DTSC)**, and the **California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB)**.

Alternative (5) *Dredging with Monitoring, Dewatering, and Upland Disposal* would combine dredging of contaminated sediment to a uniform depth of 4-ft (plus 1-ft overdredge allowance to ensure that the design thickness is achieved) in the proposed remediation areas defined in Figure 4; dewatering of the dredged material to reduce its weight and volume; and upland disposal. The 4-ft dredge in the proposed remediation areas would remove all contaminated sediments that exceed the RGs. Construction quality control would be conducted during implementation to monitor turbidity and suspended solids. Confirmation sampling would also be performed to ensure that cleanup levels have been achieved.

Ambient levels of PCBs are generally high throughout San Francisco Bay. However, using Alternative 5, the Total PCB concentration will be reduced to an average of 0.2 mg/kg (based on the sum of 40 PCB congeners) to decrease potential contamination to the rest of the Bay. In addition, this action will reduce the potential for bioaccumulation, ensuring that potential risks to humans and other fish-consuming species would be mitigated.

Alternative 5 meets the threshold criteria and proves the best balance of tradeoffs among the alternatives evaluated in detail with respect to the balancing criteria. This preferred alternative would be expected to fully comply with the statutory requirements set by CERCLA. Additionally, this alternative would likely accommodate the planned redevelopment into a commercial marina.

Based on these considerations, the Navy along with the BCT proposes Alternative 5 as protective of human health and the environment from actual or potential releases of hazardous substances into the environment.

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Public Comment Period

The comments that are received during the 30-day public comment period (**February 17, 2006 through March 17, 2006**) will be considered in the final environmental determination for IR Site 17. Public comments will be accepted on all of the alternatives outlined in this Proposed Plan. During the public comment period, community members may submit comments by mail to: Mr. Thomas Macchiarella, BRAC Environmental Coordinator, Department of the Navy, Program Management Office West, 1455 Frazee Road, Suite 900 San Diego, CA 92108-4310 **postmarked no later than March 17, 2006** by fax (619) 532-9083; or email thomas.macchiarella@navy.mil, **no later than March 17, 2006**.

MULTI-AGENCY ENVIRONMENTAL TEAM CONCURS WITH PREFERRED REMEDY

This preferred remedy has been approved by the Alameda Point Base Realignment and Closure (BRAC) Cleanup Team (which is made up of representatives from:

- The Navy,
- EPA Region 9,
- CalEPA DTSC, and
- California RWQCB.

The next step in the IR process is the ROD that formally documents the selected remedy for Site 17. A Responsiveness Summary will accompany the ROD. The Responsiveness Summary will contain responses to comments provided by the public at the public meeting and during the public comment period.

Administrative Record and Information Repository – Investigation Reports and Risk Assessment Results Available for Review and Comment

The collection of reports and historical documents used by the BCT in the selection of cleanup or environmental management alternatives is the *Administrative Record (AR)* file. The AR file provides a record of decisions and actions by the Navy for Site IR 17 discussed in this Proposed Plan. The AR file includes the final Remedial Investigation Report and final Feasibility Study Report for IR Site 17. These are the key documents that form the basis for the recommendation made regarding these sites. Other supporting documents and data pertaining to the site are also contained in the AR file.

Information Repository Location:

Community members can find key supporting documents that pertain to IR Site 17, and a complete index of all Navy Alameda Point AR documents, at the Information Repository located at Alameda Point, 950 West Mall Square, Building 1, Rooms 240 and 241, (510)747-7777 or Alameda Public Library, 2200 A Central Ave, Alameda, CA 94502 (510)747-7713.

Administrative Record File Location:

The AR file index and a site-specific index for IR Site 17 are available for public review at Naval Facilities Engineering Command, Southwest Division, 1120 Pacific Highway, San Diego, CA 92132-5190. To arrange a time to review documents during the public comment period (February 17, 2006 through March 17, 2006), contact Diane Silva, Administrative Records Manager (619)532-3676.

GLOSSARY OF TECHNICAL TERM

Alameda Reuse and Redevelopment Authority (ARRA) - Joint powers authority formed between the County and the City of Alameda to direct the reuse process of the former Naval Air Station Alameda.

Applicable or Relevant and Appropriate Requirements (ARARs) – Under the Superfund Amendments and Authorization Act, the federal or state (if more stringent) environmental standards, requirements, criteria or limitations used to define the minimum level of cleanup required at a site.

Base Realignment and Closure (BRAC) Program— Program established by Congress under which Department of Defense installations undergo closure, environmental cleanup, and property transfer to other federal agencies or communities for reuse.

Base Realignment and Closure Cleanup Team (BCT) – A group comprised of representatives from the Navy, U.S. Environmental Protection Agency Region 9, California Environmental Protection Agency, the California Department of Toxic Substances Control, and the California Regional Water Quality Control Board.

California Environmental Protection Agency Department of Toxic Substances Control (DTSC) – California’s environmental protection agency (also known as CalEPA but herein referred to as DTSC.)

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) – The statute, also known as the Superfund law, establishing federal authority for emergency response and cleanup of hazardous substances that have been spilled, improperly disposed, or released into the environment. The legislation was enacted in 1980 and significantly amended in 1984 (Hazardous and Solid Waste Amendments) and 1986 (Superfund Amendments and Reauthorization Act).

DDx – A historically used chemical pesticide. The sum of 4,4'-dichlorodiphenyltrichlorethane (DDT) and its primary breakdown products 4,4'-dichlorodiphenyldichlorethane (DDD) and 4,4'-dichlorodiphenyldichloroethene (DDE).

Ecological risk assessment – Evaluation of the potential hazard to plants, animals, and their habitat as a result of exposure to chemicals in the environment.

Feasibility Study (FS) – A detailed technical review of a specific proposed project at a particular location to outline all potential costs, benefits, and problems and to evaluate their effectiveness in reduction of risk to human health and the environment.

Human health risk assessment – An estimate of the potential harmful effects humans may experience as a result of exposure to chemicals.

Institutional Controls (ICs) - Non-engineering mechanisms established to limit human exposure to contaminated waste, soil, sediment, or groundwater.

Record of Decision (ROD) - A legal document that contains the choice of remedial action to be taken at a hazardous waste site. The ROD is based on the **Remedial Investigation** and the **Feasibility Study**. This document is signed by the Navy and regulatory agencies and is a binding agreement regarding how and when a site cleanup is conducted.

Regional Water Quality Control Board (RWQCB) – The California water quality authority.

Remedial action objective (RAO) - Specific goals that a site cleanup performed under CERCLA is expected to achieve to address unacceptable ecological and human health risks.

Remedial alternatives - Options for addressing contaminated media at a hazardous waste site based on the available technologies and their associated containment or disposal requirements.

Remedial Investigation (RI) – One of the two major studies that must be completed before a decision can be made about how to clean up a site. The RI is designed to determine the nature and extent of the contamination at the site.

Remediation goal (RG) - Concentrations that represent safe levels of a particular chemical for ecological and/or human receptors within a given chemical exposure pathway.

ATTACHMENT 1

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

CERCLA requires that remedial actions meet Federal or State (if more stringent) environmental standards, requirements, criteria, or limitations that are determined to be ARARs. Significant potential ARARs that will be met by the preferred remedy for cleanup of sediment at SPL are located in the attachment following the glossary. See Feasibility Study report for more specific information concerning potential ARARs. The final determination of project ARARs will be made in the ROD as part of the response action selection process, and will be subject to the public review element of this process.

Federal ARARs

Substantive requirements of the following provisions are the proposed Federal chemical-specific ARARs for the proposed remedial action:

- Water Quality Standards at 40 Code of Federal Regulations (CFR) Sections 131.36 and 131.38;
- National Ambient Water Quality Criteria for cadmium;
- California Code of Regulations (CCR) title 22, Sections 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100; and 66261.22(a)(3) and (4); 66261.24(a)(2)–(a)(8); 66261.101; 66261.3(a)(2)(C) or 66261.3(a)(2)(F) for characterizing sediment prior to offsite disposal; and
- Bay Area Air Quality Management District (BAAQMD) Regulation 6-301 requirements for visible emissions for handling prior to off-site transportation.

Substantive requirements of the following provisions are the proposed Federal location-specific ARARs for the proposed remedial action:

- Based on the presence or potential presence of threatened and/or endangered species, migratory birds, and marine mammals, the requirements of the Endangered Species Act 16 United States Code (USC) Section 1536(a), (h)(1)(B); 16 USC Section 662 to take action to prevent the loss of or damage to fish and wildlife; the Migratory Bird Treaty Act of 1972 Section 703; Marine Mammal Protection Act Section 1372(a)(2); and the Rivers and Harbors Act of 1899 (33 USC Section 403 and 33 USC Section 322) because dredging could affect navigable waters; and
- Coastal Zone Management Act 16 USC Section 1456(c) and 15 CFR Section 930 because SPL is on the coast. Activities will be conducted in a manner consistent with approved State management programs.

The upland areas used for dewatering will fall under the Resource Conservation and Recovery Act (RCRA) exclusion described at 40 CFR Section 261.4(g) for dredged material because the dewatering areas will be located adjacent to the lagoon, and any discharge occurring during the dewatering process will drain back into SPL. In addition, the waste will be characterized and transported off-site. Therefore, the RCRA storage and handling requirements are not potential ARARs for this action.

Monitoring requirements were identified for discharges to surface water that are expected to occur during dredging, capping, and/or dewatering. Substantive provisions of the following dredged material regulations are proposed Federal action-specific ARARs for the proposed dredging and dewatering:

- 40 CFR Sections 230.10(a), (c), and (d) – dredged material specifications for disposal;
- 40 CFR Sections 230.60(c) and (d) – conditions for eliminating further testing of dredged material;
- 40 CFR Section 230.61 – evaluation and testing requirements; and

- 33 CFR Section 320.4(d).

RCRA onsite waste generation characterization requirements at 22 CCR Sections 66262.10(a), 66262.11, and 66264.13(a) and (b) are proposed ARARs that require the determination of whether dried sediments are hazardous waste after they are dewatered. It is not anticipated that the sediments will be characterized as hazardous waste but in the event that dried sediment is hazardous waste and will be stored on site, substantive provisions of the following requirements have been determined to be Federal action-specific ARARs:

- 40 CFR 264.554(d)(1)(i–ii), (d)(2), (e), (f), (h), (i), (j), and (k) for staging piles;
- Site closure [22 CCR Sections 66264.111(a) and (b)] for closing the staging piles; and
- Clean closure [22 CCR Section 66264.114 and Section 66264.228 (a), (b), (e)–(k), (m), (o)–(q) except as it cross-references procedural requirements such as closure plans and annual reports] for closing the staging piles.

No Federal requirements for radioactive waste were identified as potentially applicable. As previously discussed, Ra-226 levels measured throughout the lagoon were very low, with the exception of one location within the proposed remediation areas, where concentrations were only slightly elevated. As a result, Ra-226 was not identified as a chemical of concern for the site. However, Ra-226 analyses will be included in the characterization of waste for offsite disposal to ensure that the material meets all applicable offsite disposal requirements. In addition, the substantive provisions of the storage requirements at 10 CFR. Section 20.1801 and 10 CFR Section 20.1802 would be relevant and appropriate if Ra-226 is detected above background concentrations in the dredged material. Therefore, the handling and storage will be conducted in compliance with these requirements until the waste characterization is completed.

The handling of dried sediment may result in particulate emissions to the air. The substantive provisions of the following BAAQMD requirements are proposed applicable ARARs:

- Regulations 6-301, 6-302, 6-303, 6-305, 6-310 and 6-311; 11-1-301, 11-1-303, 11-1-501 and portions of Regulation 8.

The State of California ARARs

The substantive requirements of the following provisions are proposed State applicable chemical-specific ARARs for the proposed remedial action:

- San Francisco Basin Plan Chapter 3 Water Quality Objectives (WQOs) for turbidity and dissolved oxygen (DO) and total suspended solids, Chapter 2 Beneficial Uses designated for the SPL, and the substantive provisions of Chapter 4 of the Basin Plan that are more stringent than Federal ARARs;
- State Water Resources Control Board (SWRCB) Resolution No. 68-16 is not an ARAR for establishing cleanup levels for remediation of sediment at IR Site 17. This policy is a potential State ARAR for discharges to surface waters resulting from a response action and is potentially applicable to discharges from remedial activities including dredging, dredged sediments dewatering, and isolation capping;
- Inland Surface Waters Plan/Enclosed Bays and Estuaries Plan, Section 1.3 and 1.4; and
- CCR title 22, Sections 66261.22(a)(3) and (4); 66261.24(a)(2)–(a)(8); 66261.101; 66261.3(a)(2)(C) or 66261.3(a)(2)(F) and CCR title 27 Sections 20210, 20220, and 20230, applicable for characterizing dried sediment prior to off-site disposal. In addition, as discussed under the Federal ARARs, Ra-226 will be evaluated as part of the waste characterization to ensure that the material meets all relevant landfill requirements.

The substantive provisions of the following State requirements are proposed State location-specific ARARs for the proposed remedy:

- Section 3005(a) prohibits the taking of birds and mammals, including the taking by poison. Sections 5650(a) and (f) and Section 5651 prohibit the passage of enumerated substances or materials into waters of the State that are deleterious to fish, plant life, or birds; and
- California Coastal Act of 1976, California Public Resources Code (CPRC) Sections 30000-30900; 14 CCR Sections 13001-13666.4 because SPL is within the California coastal zone.

The State action-specific requirements are included in the chemical-specific requirements identified above.

COMMENT FORM/MAILING LIST

This form may be used to submit comments on this Proposed Plan for Site 17, and additional pages may be used if necessary. To be included in the Navy's mailing list for Alameda Point or to make inquiries regarding the RAB, please complete and return this form via fax: (619) 532-0940 or email (thomas.macchiarella@navy.mil) no later than March 17, 2006; or mail comments (comments must be postmarked by March 17, 2006) to:

Mr. Thomas Macchiarella
BRAC Environmental Coordinator
Department of the Navy
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, Ca 92108-4310

NAME _____ PHONE _____

MAILING ADDRESS _____

CITY _____ STATE _____ ZIP _____

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PLEASE ADD ME TO THE MAILING LIST

COMMENTS: _____

[illegible]

Attn: Mr. Thomas Macchiarella,
Base Realignment and Closure (BRAC) Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900-4310
San Diego, CA 92108

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DRAFT FINAL PROPOSED PLAN FOR FORMER NAVAL AIR STATION ALAMEDA SEAPLANE LAGOON (IR SITE 17)



For Additional Information

The Alameda BRAC Cleanup Team (BCT) encourages community involvement in the decision-making process of the environmental restoration program at Alameda Point. If you have any questions or concerns about environmental activities at Alameda Point, please feel free to contact any of the following project representatives:

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