SDMS DOCID# 1137106

Former Naval Air Station Moffett Field Site 25

Moffett Field, California *January 2009*

NAVY ANNOUNCES PROPOSED PLAN

The Navy invites you to review and comment on proposed actions being considered to remediate Site 25 (the Eastern Diked Marsh and stormwater retention pond) at the former Naval Air Station Moffett Field (Moffett Field). The Moffett Field *Base Realignment and Closure (BRAC) Cleanup Team (BCT)* has carefully evaluated technical information and test results pertaining to sediment remediation at Site 25. The BCT consists of representatives from the Navy, the National Aeronautics and Space Administration (NASA), the U.S. Environmental Protection Agency, Region 9 (EPA), and the San Francisco Bay Regional Water Quality Control Board (Water Board), in cooperation with the Midpeninsula Regional Open Space District (MROSD).

This *Proposed Plan** summarizes the remedial (cleanup) alternatives evaluated under the *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)* and announces the Navy's preferred remedial alternative for Site 25 at Moffett Field (see Figure 1). The Navy proposes the following actions to address contamination in sediments at Site 25:

- Removing sediments in areas where contaminants exceed the limits considered safe for wildlife;
- Treating some sediments before or during excavation to reduce the levels of contamination;
- Transporting excavated sediments off site to an appropriate disposal facility;
- Collecting confirmation samples to ensure that the remedy is completed in accordance with the guidelines that will be established in a *Record of Decision (ROD)*;
- Restoring the site and revegetating in the wetland habitat areas, where necessary.

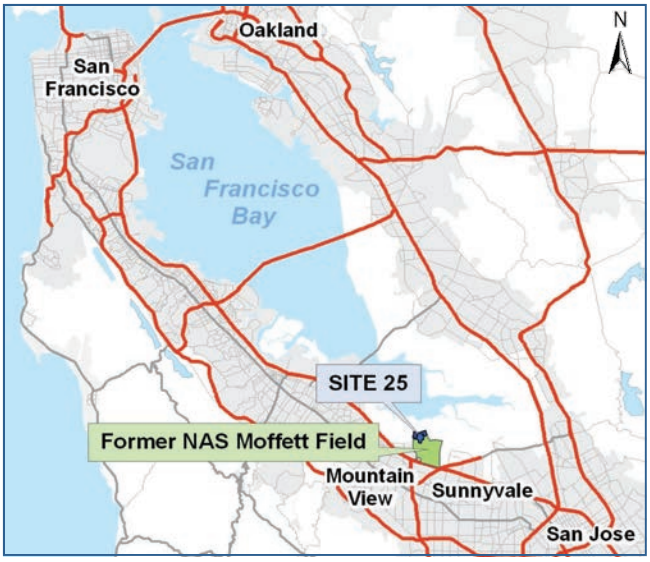

Figure 1. Location of Moffett Field

— Notice —

Public Comment Period
January 9 to February 9, 2009

Public Meeting
January 22, 2009

NASA Public Affairs Building (Building 943)
World Room
Moffett Field, CA
7:00 to 9:00 pm

This Proposed Plan summarizes the site history, environmental investigations, and the remedial alternatives evaluated in accordance with CERCLA and explains the basis for the ***preferred alternative***. The Navy, NASA, EPA, the Water Board, and MROSD participated in the evaluation. The Navy encourages you to comment on this Proposed Plan during the 30-day public period. Details on the public comment period and public meeting are provided in the notice above.

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THE CERCLA PROCESS

The Navy is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of CERCLA and Section 300.430(f)(2) of the ***National Oil and Hazardous Substances Pollution Contingency Plan (NCP)***. Figure 2 illustrates the CERCLA process and the status of Site 25.

Remedial Investigation (RI) and ***Feasibility Study (FS)*** Reports and Addenda were prepared for Site 25. These reports and other documents are contained in the ***administrative record*** file for Site 25. The Navy encourages the public to review these documents to gain an understanding of the environmental assessments and investigations that have been conducted. The documents are available for public review at the locations listed on page 9 of this Proposed Plan.

A public comment period will be held from January 9 through February 9, 2009, and public comments can be submitted by mail, fax, or e-mail throughout the comment period. A public meeting will be held on January 22, 2009, in the World Room at the NASA Public Affairs Building (Building 943), located just before the main gate off of Moffett Blvd. The meeting will be held from 7:00 to 9:00 pm. Members of the public may submit written and oral comments on this Proposed Plan at the public meeting. More information on submitting comments can be found on page 9 of this Proposed Plan.

In consultation with the regulatory agencies, the Navy may modify the preferred alternative or select another remedy based on feedback from the community or on new information. Therefore, the community is strongly encouraged to review and comment. A final decision on the remedy to be implemented will not be made until all comments are considered.

FACILITY HISTORY

Moffett Field is located 35 miles south of San Francisco and 10 miles north of San Jose (see Figure 1). The Navy operated the facility as Naval Air Station Sunnyvale from 1933 to 1935 and from 1942 to 1994 as Naval Air Station Moffett Field. The Army Air Corps operated the facility from 1935 to 1942. Naval Air Station Moffett Field was closed as an active military base, and, with the exception of the military housing, the property was transferred to NASA on July 1, 1994.

In 1984, the Navy began environmental assessments and investigations at Moffett Field. These activities identified various sites that posed potential risks to human health and the environment.

SITE DESCRIPTION

This Proposed Plan pertains to Site 25, which includes the Eastern Diked Marsh and stormwater retention pond (see Figure 3 on page 3). Site 25 occupies 230 acres in the northwestern corner of Moffett Field and has been used as part of the Moffett Field stormwater management system since 1953. The stormwater retention pond is subdivided and has two property owners: (1) MROSD (Stevens Creek Shoreline Nature Study Area, 55 acres), and (2) NASA (Central Basin, 100 acres, and Northeast Basin, 55 acres). These areas are hydraulically connected; however, levees constructed in the late 19th to early 20th century to create salt evaporation ponds prevent the tidal waters of San Francisco Bay from reaching Site 25. The areas that make up Site 25 are described below.

Eastern Diked Marsh—Stormwater from Moffett Field flows underground until it reaches Site 25, where it passes through the stormwater settling basin and into the Eastern Diked Marsh. The Eastern Diked Marsh is a brackish marsh of approximately 20 acres in the southernmost portion of Site 25.

Before the early 1990s, stormwater flowed through the former Lindbergh Avenue ditch that ran along Lindbergh Avenue and discharged into the stormwater retention pond in the northeastern corner of the Eastern Diked Marsh. In the early 1990s, NASA built the stormwater settling basin, which allows suspended sediments in the stormwater to settle out and become trapped in the basin. Sediments collected in the settling basin can then be easily dried and removed for appropriate disposal. The settling basin continues to operate as a collection basin to prevent sediments from entering the Eastern Diked Marsh.

Stormwater Retention Pond—Stormwater flows from the Eastern Diked Marsh through a culvert under North Perimeter Road and into the Central Basin of the stormwater retention pond. The Central Basin is connected to the Northeast Basin by a breach in the levee. Water from

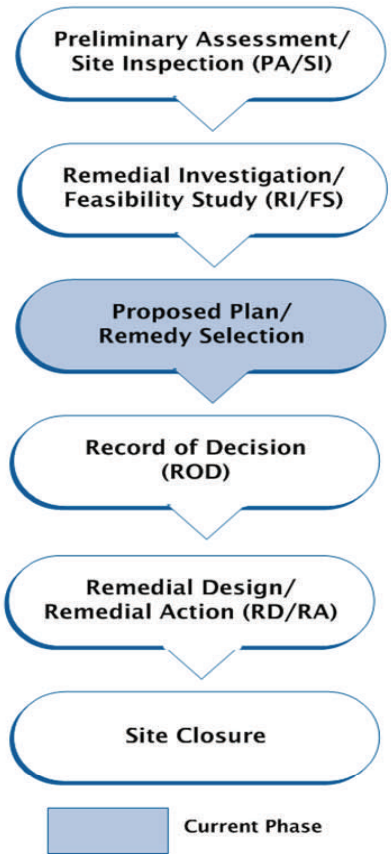


Figure 2. CERCLA Process

the Central Basin also can flow into the Stevens Creek Shoreline Nature Study Area to the west.

The stormwater retention pond is seasonally covered with 1 to 5 feet of water that evaporates in most areas before the start of the next rainy season. A small portion of the stormwater retention pond retains water year-round because treated groundwater from the West-side Aquifers Treatment System is discharged under permit into the stormwater system that ultimately flows into Site 25.

OVERVIEW OF SITE CONDITIONS

From 1994 to 2006, the Navy conducted a series of environmental investigations at Site 25 in conjunction with NASA, EPA, and the Water Board. A Station-Wide RI Report for Moffett Field was completed in 1996 and included a baseline ***human health risk assessment (HHRA)***. Phase I and ***Phase II Site-Wide Ecological Assessments (SWEA)*** were completed in 1994 and 1997. The Station-Wide RI Report and Phase II SWEA evaluated Site 25 under its current land use as a stormwater retention pond that provides seasonal wetland habitat. Because tidal marsh restoration is being considered by MROSD and NASA as a future land use, the Navy prepared an addendum to the Station-Wide RI Report in 2005 to evaluate potential risk for the revised land use for Site 25. As part of this addendum, the nature and extent of contamination, baseline HHRA, and ***ecological risk assessment (ERA)*** were updated to evaluate potential risks to human and wildlife at Site 25 if it is restored to a tidal marsh. In addition, the vertical extent of contamination was defined during pre-excavation sampling activities in 2002.

NATURE AND EXTENT OF CONTAMINATION AT SITE 25

As part of the investigations described above, sediment and surface water samples were collected to investigate the nature and extent of contamination at Site 25. Sediment samples were collected from 284 locations throughout all portions of Site 25, and 18 surface water samples were collected from the Eastern Diked Marsh and stormwater retention pond. Samples were analyzed for a variety of chemicals of potential concern, including metals, pesticides, ***polychlorinated biphenyls (PCB)***, and petroleum hydrocarbons.

Results of the investigations found lead, zinc, a pesticide referred to as total ***dichlorodiphenyltrichloroethane (DDT)***, and total PCBs in sediment at concentrations that pose unacceptable risk to the environment. The likely sources of this contamination are from historical discharge of stormwater to Site 25 and routine application of DDT before it was banned in the 1970s. Stormwater discharge to Site 25 is currently monitored and controlled as part of NASA's stormwater permit.

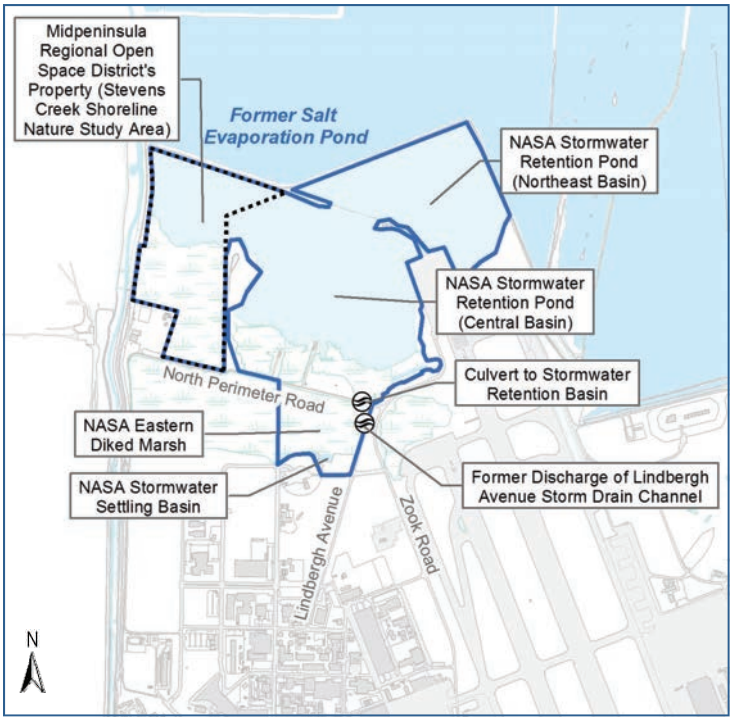


Figure 3. Site 25 Features

In 1997, a unique PCB compound, ***Aroclor***-1268, was detected in sediment samples collected from the stormwater settling basin by NASA. The source of the Aroclor-1268 was traced to Hangar 1 by sampling the manholes in the stormwater collection system upstream from the settling basin. The source of the Aroclor-1268 was identified as the building materials of Hangar 1. In 2004, NASA conducted a source identification study to identify potential sources of PCBs to the stormwater system and ultimately to Site 25. NASA collected soil samples from a swale south of the Site 8 fence (the Waste Oil Transfer Area) and around Buildings 26, 45, 525, 583C, and 951. Aroclor-1260 was detected in soils at these locations. These potential sources of contamination to Site 25 will be addressed by separate remedies.

Areas closest to the two stormwater discharge locations in the Eastern Diked Marsh were identified as containing the most elevated levels of lead, zinc, total DDT, and total PCBs in sediment at Site 25. The first area is located near the discharge from the stormwater settling basin, and the second area is the site of the historical outfall for the Lindbergh Avenue ditch. In general, concentrations of chemicals are higher near these locations and lower farther from these locations. In 2005, NASA removed PCB-contaminated sediments from a limited area directly adjacent to the settling basin discharge.

WHAT ARE THE SITE RISKS?

Chemical data were used to assess potential risks to both human and ecological receptors (plants and animals that inhabit or visit the site) under the future use of Site 25 as a tidal marsh. Site-specific HHRAs and ERAs identified the following:

- Potential chemicals of concern (chemicals present at the site that may contribute to the majority of risk)
- Potential human and ecological receptors (who and what might be at risk)
- Exposure pathways (how the chemicals could reach human or ecological receptors)
- Potential health effects (how receptors might be affected if the chemicals reached them)

The risk evaluation concluded risks to ecological receptors are driving the risk at Site 25; therefore, ecological receptors are the focus of the remedial action for Site 25. Risks to human receptors were found to be at an acceptable level at Site 25, and remediation to protect ecological receptors will further reduce potential risk to human health. The results of the Site 25 evaluation of human health and ecological risk are summarized below.

Human Health Risk

To be protective of human health, conservative methods were used to estimate the potential risks to human health caused by exposure to chemicals at Site 25. "Conservative" means the assumptions will tend to overestimate risk, resulting in remediation goals that are more protective of human health. Risks were calculated based on the types and concentrations of chemicals present and the possible ways humans could be exposed to them. The baseline HHRA conducted as part of the RI Addendum identified both adult and child recreational visitors and adult on-site maintenance workers as receptors expected to access the site if it were a tidal marsh.

A human health risk assessment estimates the potential for health problems as a result of exposure to the chemicals at a site. Human health risk assessments estimate risks separately for exposure to cancer-causing chemicals (cancer or carcinogenic risk) and for those chemicals that cause other health effects (non-cancer or non-carcinogenic hazards), such as neurological, developmental, or reproductive effects.

Cancer risk is estimated as a probability that an individual would develop cancer and is expressed as the number of additional cancer cases within a given population. For example, a cancer risk probability of 2 in 100,000 (typically written as 2×10^{-5}) means that 2 additional cancer cases may occur in a population of 100,000 people as a result of exposure to cancer-causing chemicals at a site. EPA has established a ***risk management range*** for cancer risk to characterize risk and assist decision-makers in determining whether further action is needed at a site. The risk ranges are presented on Figure 4. Risks within the risk management range of 1 additional cancer case in a population of 10,000 to 1,000,000 may be acceptable when site-specific factors are considered. Risks above this range (more than one additional cancer case in a population of 10,000) are considered unacceptable and may require further action.

Non-cancer hazards are expressed as a number called the ***hazard index***. The hazard index is estimated by comparing chemical exposure levels with reference values established by the regulatory agencies. A hazard index equal to or less than 1 is considered an acceptable exposure level for non-cancer health hazards and indicates limited potential for other adverse health effects to occur. A hazard index greater than 1 indicates that further evaluation may be required.

The baseline HHRA for the tidal marsh found no unacceptable risk associated with Site 25.

Ecological Risk

An ecological risk assessment evaluates the potential effects on plants and animals from exposure to chemicals at a site. A baseline ERA conducted as part of the RI Addendum evaluated risk to ecological receptors using existing chemical data for sediment, surface water, plants, and invertebrate samples at Site 25. The ecological risk assessment focuses on potential reproductive damage and reduction in reproductive life span in plants and animals and on adverse effects on growth. Ecological risks are expressed in terms of a ***hazard quotient***. A hazard quotient equal to or less than 1 indicates that no adverse effects on wildlife would be expected. A hazard quotient greater than 1 may require further evaluation.

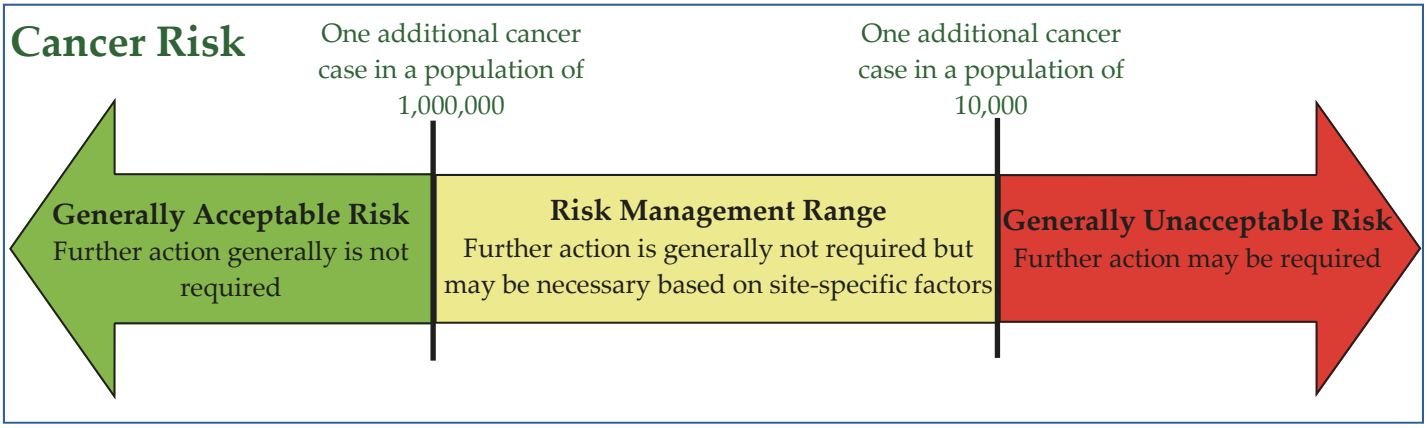


Figure 4. Human Health Risk Ranges

The ecological receptors evaluated included invertebrates, fish, amphibians, reptiles, birds, and mammals that would likely be present if Site 25 is restored to tidal marsh in the future. Because a tidal marsh is not currently present at Site 25, it was assumed that the tidal marsh would support various plants and animals typically found in other marshes in South San Francisco Bay. For the baseline ERA, the following birds and mammals were evaluated for a tidal marsh:

- Alameda song sparrow*
- Black-necked stilt
- California clapper rail*
- Great blue heron
- Mallard
- Northern harrier*
- Salt marsh harvest mouse
- Salt marsh wandering shrew*

California Clapper Rail, M. Boyland, 2002

*Receptor is considered a ***special-status species***

The baseline ERA concluded that lead, zinc, total DDT, and total PCBs in sediment pose an unacceptable risk to invertebrates, birds, and mammals and potential risk to amphibians and reptiles that would be present at the site if it were restored to tidal marsh. As a result, the RI Addendum recommended an FS Addendum to evaluate potential remedial alternatives to protect ecological receptors that might be present in a tidal marsh habitat at Site 25 in the future.

REMEDIAL ACTION OBJECTIVES AND REMEDIATION GOALS

The FS Addendum identified ***remedial action objectives (RAO)*** and remedial alternatives for contaminated sediment at Site 25. RAOs provide the foundation used to develop remedial alternatives. RAOs are medium-specific (such as soil or sediment) goals for protecting human health and the environment. The overall RAO for the response action is to reduce exposure to concentrations of lead, zinc, total DDT, and total PCBs in sediment at Site 25 to levels that are protective of the most sensitive ecological receptors if the site contains tidal marsh habitat in the future.

Site-specific ***remediation goals*** for sediment at Site 25 for the tidal marsh were developed based on a comparison of ***risk-based concentrations*** with ***background concentrations*** for lead, zinc, total DDT, and total PCBs. A range of remediation goals was developed for each chemical to meet the RAOs for Site 25. The remediation goals for each chemical at Site 25 consist of a ***site-wide average*** and a ***do-not-exceed remediation goal***. Table 1 presents the final remediation goals for sediment at Site 25.

Site 25 was divided into separate irregular-shaped areas, or polygons, to identify areas that would require remediation. The polygons were created so that each side of the polygon was halfway between each sampling location. Figure 5 on page 6 shows the polygons created at Site 25 where the tidal marsh remediation goals were applied. Chemical concentrations in each polygon were compared with the do-not-exceed remediation goal, and any polygon where the goal was exceeded was identified for remediation. For the remaining polygons where remediation was not identified, the site-wide average concentration was calculated and compared with the site-wide average goal. If the site-wide average goal was exceeded, additional areas were identified for remediation, until the site-wide average was below the remediation goal.

The FS Addendum also presented the remediation goals and costs associated with remediation of Site 25 to support a managed pond (consisting of salt marsh, open water, and seasonal wetland habitats) or continued use of the site as a stormwater retention pond, providing a seasonal wetland habitat. The tidal marsh habitat is considered the most sensitive habitat; therefore, remediation of the site to support future restoration as a tidal marsh would also make the site acceptable for these other land uses.

Table 1: Remediation Goals for Sediment at Site 25

	Remediation Goal (mg/kg)			
	Lead	Zinc	Total DDT	Total PCBs
Site-Wide Average Remediation Goal[a]	33	180	0.016	0.200
Do-Not-Exceed Remediation Goal[b]	93.8	314	0.109	0.210

Notes:

a The site-wide average goal is based on the background concentration; however, a background concentration could not be developed for total PCBs. The site-wide average goal for PCBs was identified based on a risk management decision between the Navy and regulatory agencies at a meeting in September 2005.

b The do-not-exceed remediation goal is based on the risk-based concentration.

mg/kg Milligram per kilogram

DESCRIPTION OF REMEDIAL ALTERNATIVES

Multiple remedial options were considered, and the best options were refined into the four remedial alternatives for Site 25. The alternatives include excavation and off-site disposal, restoration, ecological monitoring, focused ***in situ/ex situ*** treatment, capping, and ***institutional controls***.

The remedial alternatives, including the alternative components, estimated time required to complete the remediation, and estimated costs, are presented in Table 2 (page 7).

Although it is not a source of contamination to Site 25, the treated groundwater from the West-side Aquifers Treatment system is currently discharged to Site 25 through the storm drain system. The system discharges approximately 70 gallons per minute of treated groundwater, and this water prevents areas of Site 25 from drying out during the dry season. Before remediation under Alternatives 2, 3, or 4, the discharge from the West-side Aquifers Treatment System will be diverted to Stevens Creek.

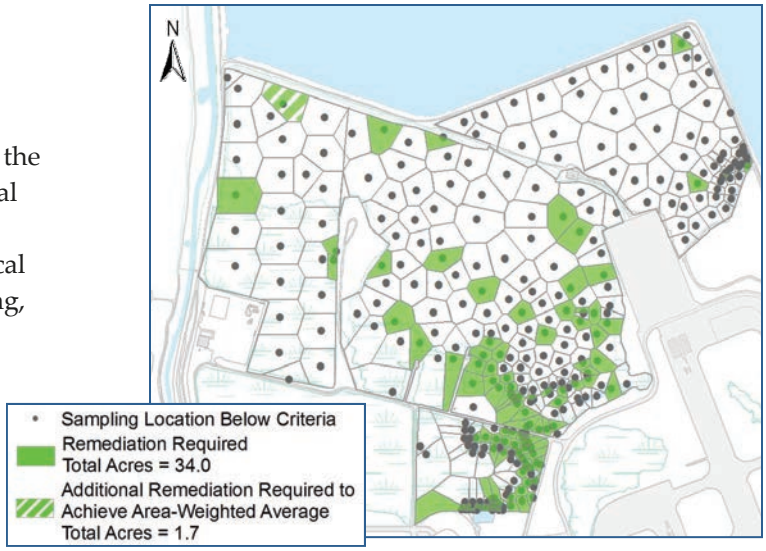


Figure 5. Areas at Site 25 Proposed for Remediation

HOW DO THE ALTERNATIVES COMPARE?

The NCP criteria were used to select the preferred alternative from the four remedies described in Table 2. Figure 6 summarizes the nine evaluation criteria. These criteria are categorized into three groups: (1) threshold criteria, (2) balancing criteria, and (3) modifying criteria. The two threshold criteria – (1) overall protection of human health and the environment, and (2) compliance with ***applicable or relevant and appropriate requirements (ARARs)*** — must be satisfied for an alternative to be eligible for selection. The ARARs are discussed in more detail in Attachment 1 (pages 12 and 13). The five balancing criteria — (1) long-term effectiveness, (2) reduction of toxicity, mobility, or volume through treatment, (3) short-term effectiveness, (4) implementability, and (5) cost — are used to weigh major tradeoffs among alternatives. The two modifying criteria (state and community acceptance) are taken into account after public comments are received on the Proposed Plan and reviewed with the various state regulatory agencies to decide whether the preferred alternative remains the most appropriate remedial action. For this reason, the Navy encourages the public to comment on all alternatives. The relative performance of each alternative is compared on Figure 7.

Figure 6. NCP Evaluation Criteria

Table 2: Description of Remedial Alternatives

Alternative	Cost	Estimated Time	Components of Alternative
1	$0	--	**No Action:** No actions or costs; this alternative is required by CERCLA as a baseline for comparison with other alternatives.
2	$9.4M	6 Months	**Excavation and Off-site Disposal:** Contaminated sediment from Site 25 will be excavated and disposed of at an off-site landfill. Limited pre-construction sampling will be conducted prior to excavation. In addition, confirmation samples will be collected from the excavations and the results compared with remediation goals. Excavation would continue until the confirmation samples demonstrate that the goals are met. **Restoration:** Focused restoration will be achieved by backfilling wetland habitat areas with replacement sediment, where needed, and revegetating with native plants. Remediation areas in the stormwater retention pond would not be backfilled unless it is necessary to maintain hydrologic conditions at the site. **Ecological Monitoring:** Wetland areas will be monitored to evaluate the recovery of these areas impacted during construction.
3	$7.8M	6 Months	**Focused In Situ/Ex Situ Treatment:** Some sediment at Site 25 that is contaminated with lead and zinc only (no DDT or PCBs) would be treated to stabilize the soluble forms of lead and zinc to insoluble minerals that would not require disposal at a hazardous waste landfill. Treatment would focus on areas where concentrations of lead exceed 50 mg/kg and would require disposal of the sediment as a hazardous waste (which is more expensive than nonhazardous waste disposal). This treatment would likely be conducted in place (in situ), but could also be conducted elsewhere at Site 25 (ex situ, or after the sediment is excavated). **Excavation and Off-site Disposal:** After the sediment is treated, it will be removed from Site 25 and disposed of off site. This alternative also includes the same excavation and disposal actions as Alternative 2. **Restoration:** See description for Alternative 2. **Ecological Monitoring:** See description for Alternative 2.
4	$7.8M	6 Months	**Focused In Situ/Ex Situ Treatment:** See description for Alternative 3. **Capping:** Areas currently covered by open water during the rainy season would be covered with a thin-layer cap after 0.5 foot of sediment is removed. The thin-layer cap would prevent exposure of human and ecological receptors to contaminated sediment. The advantage of using a cap is that chemicals are not remobilized or disrupted. The cap would be applied to the areas with the lowest elevations and would reduce the volume of sediment requiring excavation. **Institutional Controls:** Nonengineered mechanisms, such as deed restrictions, laws, or property easements, will be put in place to require long-term maintenance of the cap. The cap will be repaired as necessary to continue the protection of plants and animals from contaminated sediment. **Focused Excavation and Off-site Disposal:** This alternative includes excavation of the top 0.5 foot of sediment where the thin-layer cap will be placed and excavation of sediment in other areas where contaminants exceed the remediation goals. See description for Alternative 2. **Restoration:** See description for Alternative 2. **Ecological and Long-term Monitoring:** See description for Alternative 2. In addition, the cap would require long-term monitoring to ensure its protectiveness.

Notes:

-- Not applicable

mg/kg Milligram per kilogram

Criterion	Alternative 1 No Action	Alternative 2 Excavation, Off-Site Disposal, Restoration, and Ecological Monitoring	Alternative 3 Focused In Situ/Ex Situ Treatment, Excavation, Off-Site Disposal, Restoration, and Ecological Monitoring	Alternative 4 Focused In Situ/Ex Situ Treatment, Focused Excavation, Capping, Off-Site Disposal, Restoration, Ecological and Long-Term Monitoring, and Institutional Controls
Overall Protection of Human Health and the Environment	No	Yes	Yes	Yes
Compliance with Applicable or Relevant and Appropriate Requirements	No	Yes	Yes	Yes
Long-Term Effectiveness and Permanence	○	●	●	◐
Reduction of Toxicity, Mobility, or Volume through Treatment	○	◐	●	◐
Short-Term Effectiveness	○	◐	◐	◐
Implementability	○	●	●	◐
Cost	○	◐	●	●
Overall Rating	○	◐	◐	◐

Ranking Scale:

- ● Meets Criteria Best
- ◐ Meets Criteria Moderately
- ○ Meets Criteria Least

Figure 7. Comparison of Remedial Alternatives

THE PREFERRED ALTERNATIVE

The Navy proposes Alternative 3 as the preferred alternative because it meets the RAOs by permanently removing sediments that contain concentrations of lead, zinc, total DDT, and total PCBs to levels that are protective of the most sensitive ecological receptors. In addition, sediment with high concentrations of lead and zinc would be treated to levels that are acceptable for disposal at a nonhazardous waste facility.

Alternative 3 was selected for the reasons summarized below.

- It would provide protection to human health and the environment by removing contaminated sediments that pose risks to the environment at Site 25.
- It meets federal and state ARARs.
- It would provide long-term protection of the environment through permanent removal of contaminated sediments.
- It would reduce the toxicity and mobility of chemicals in sediment through treatment of metals in contaminated sediments from Site 25.
- It would result in minimal short-term risk to the environment, community, and site workers, and would present less risk to site workers involved in the excavation because contaminated sediment would be treated on site before it is excavated.
- It is more cost-effective to treat contaminated sediments on site to reduce chemical concentrations to levels acceptable for disposal at a nonhazardous waste facility.

The implementability of Alternative 3 was not a key factor during selection of the preferred alternative because the technical implementability of the alternative is similar to Alternatives 2 and 4 (with Alternative 4 slightly more complex because of the thin-layer cap).

Based on the information available at this time, the Navy, EPA, the Water Board, NASA, and MROSD agree Alternative 3 would be protective of human health and the environment and would provide the necessary remediation to support future tidal marsh restoration at Site 25 if pursued by the landowners. Remediation under the tidal marsh scenario would be appropriate for future unrestricted land use; however, the presence of sensitive wetland habitat at the site would likely preclude future development. The preferred alternative may be modified in response to regulatory agency and public comments or new information.

COMMUNITY PARTICIPATION

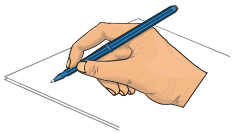
The Navy, NASA, EPA, and the Water Board provide information on remediation of Site 25 to the public through public meetings, the administrative record file for the site, and notices published in local newspapers.

The Navy, NASA, EPA, and the Water Board encourage the public to gain a more thorough understanding of Site 25 and the CERCLA activities that have been conducted at Moffett Field by visiting the information repository, reviewing the administrative record file, and attending the public meetings. Restoration Advisory Board meetings are held every other month and are open to the public. Please visit the Navy's website.

The two ways for you to provide your comments on this Proposed Plan are summarized below.

1. **Public Comment Period**—During the public comment period from **January 9 through February 9, 2009,** you may use the comment form included with this Proposed Plan to send written comments. Please send all written comments to:

   Mr. Darren Newton
   Navy BRAC Program
   Management Office West
   1455 Frazee Road, Suite 900
   San Diego, California 92108-4310

   You may also submit comments electronically to Mr. Newton at darren.newton@navy.mil.

2. **Public Meeting**—You may also provide written or oral comments during the public meeting on **January 22, 2009**. The meeting will be held from 7:00 to 9:00 pm in the World Room at the NASA Public Affairs Building (Building 943), Moffett Field. A court reporter will be at the meeting to record all public comments.

This Proposed Plan is the Navy's invitation to the community to comment on the proposed alternative for Site 25. Community acceptance will be evaluated after the conclusion of the public comment period and will be documented in the Responsiveness Summary section of the Record of Decision. The Navy, in cooperation with EPA, Water Board, NASA, and MROSD, will review and consider the comments before a final decision is made on the remedial alternative to be used at Site 25.

All site-related documents are available for review in the information repository and administrative record file, as listed below.

Information Repository

Mountain View Public Library
585 Franklin Street
Mountain View, CA 94041
Telephone: (650) 903-6337
Hours:
Monday through Thursday 10:00 a.m. to 9:00 p.m.
Friday and Saturday 10 a.m. to 6 p.m.
Sunday 1 to 5 p.m.

Administrative Record File

Contact: Ms. Diane Silva
Administrative Records Coordinator
Naval Facilities Engineering Command, Southwest
1220 Pacific Highway
San Diego, CA 92132
ATTN: Diane Silva, FISC
Building 1, 3rd Floor
Telephone: (619) 532-3676
Please call in advance for an appointment
Monday through Friday between 8:30 a.m. and 4:30 p.m.

FOR MORE INFORMATION

If you have any questions about the former NAS Moffett Field or Site 25, please contact:

Mr. Darren Newton
BRAC Environmental Coordinator
Former NAS Moffett Field
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Phone: (619) 532-0963
Fax: (619) 532-0940
E-mail: darren.newton@navy.mil

INFORMATION AVAILABLE ON THE INTERNET

For more information on the closure of former NAS Moffett Field and Site 25, go to the website at:
http://www.bracpmo.navy.mil

Glossary of Technical Terms

Administrative Record: Reports and historical documents used to select remediation strategy or environmental management alternatives.

Applicable or Relevant and Appropriate Requirements (ARAR): Federal, state, and local regulations and standards determined to be legally applicable or relevant and appropriate to remedial actions at a CERCLA site.

Aroclor: A trade name for a mixture of individual PCB compounds. Each Aroclor compound is designated by a four-digit number: the first two numbers indicate the number of carbon atoms in the compound; the second two numbers indicate the percentage of chlorine by mass. For example, Aroclor –1260 contains 12 carbon atoms and 60 percent chlorine by mass.

Background concentration (commonly referred to as "ambient concentrations"): Chemical concentrations that occur naturally in the environment or that occur from human activities related to nonspecific sources (or "nonpoint sources"). One example of a nonpoint source is the contribution of chemicals in bay sediments resulting from hydraulic mining during the Gold Rush era.

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

BRAC Cleanup Team (BCT): Base Realignment and Closure Cleanup Team, consisting of representatives from the Navy, EPA, Water Board, and NASA.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A law establishing (1) a program to identify hazardous waste sites, (2) procedures for cleaning up the sites to levels protective of human health and the environment, and (3) methods to evaluate damages to natural resources. It is commonly known as Superfund.

Dichlorodiphenyltrichloroethane (DDT): A synthetic pesticide; commercial DDT is a mixture of several closely-related compounds; thus, the chemical is referred to as "total DDT."

Do-not-exceed remediation goal: Numerical goal that is protective of individual Alameda song sparrows and salt marsh wandering shrews, the two most sensitive ecological receptors. Represents the upper bound of the range of remediation goals.

Ecological risk assessment (ERA): An evaluation of the likelihood that plant or animals exposed to contaminants at a site would suffer harm.

Ex situ: Out of place; identifies an action or process as occurring within a given medium that has been moved from its original place.

Feasibility Study (FS): The second of two major studies that must be completed before a decision can be made about how to remediate a site (the RI is the first study); the FS identifies, screens, and compares remedial alternatives for a site.

Hazard index: Used for human health risk assessments, the hazard index is a summation of the risks of potential exposure to each chemical at the site, used to represent a potential noncancer health risk. An HI value of 1 or less is considered an acceptable exposure level.

Hazard quotient: Similar to the hazard index but used for ecological risk assessments. A value of 1 or less is considered an acceptable exposure level.

Human health risk assessment (HHRA): An evaluation of the likelihood that humans exposed to contaminants at a site would suffer harm.

In situ: In place; identifies an action or process as occurring within a given medium, such as groundwater or soil.

Institutional Controls: Nonengineered mechanisms established to limit human exposure to contaminated waste, soil, or groundwater; may include deed restrictions, covenants, easements, laws, and regulations.

Glossary of Technical Terms

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): The basis for government responses to oil and hazardous substances spills, releases, and sites where these materials have been released.

Phase II Site-wide Ecological Assessment (SWEA): A baseline ERA that is more rigorous than a Phase I (screening) ERA; additional documentation and data are used to refine exposure assumptions and recalculate risk estimates.

Polychlorinated biphenyl (PCB): A mixture of up to 209 individual chemicals. PCBs have been used as coolants and lubricants in electrical equipment or in paint and siding material. PCBs have multiple forms; thus, the concentrations of individual similar compounds were summed together to calculate a total for these types of chemicals, referred to as "total PCBs."

Preferred Alternative: The remedial alternative selected by the Navy, in conjunction with the regulatory agencies, that best satisfies the RAO and remediation goals based on the evaluation of remedial alternatives presented in the FS Report.

Proposed Plan: A document that reviews the remedial alternatives presented in the FS, summarizes the recommended remedial action, explains the reasons for recommending the action, and notifies the community of the proposed remediation.

Record of Decision (ROD): A decision document that identifies the remedial alternative chosen for implementation at a CERCLA site. The ROD is based on information from the RI and FS Reports, public comments, and community concerns. The ROD is signed by the Navy, EPA, and the Water Board.

Remedial action objective (RAO): A statement containing a remediation goal for the protection of one or more receptors from one or more chemicals in a specific medium (such as soil, groundwater, or air) at a site.

Remedial Investigation (RI): The first of two major studies that must be completed before a decision can be made about how to remediate a site (the FS is the second study); the RI is designed to delineate the nature and extent of contamination and to estimate risks presented by contamination at a site.

Remediation goal: Chemical concentration limit that provides a numerical goal for the remedial alternatives; may be based on human or ecological risk calculations, federal or state regulations, background concentrations, or other numerical standards.

Risk-based concentration: A chemical concentration that poses no unacceptable risks to birds and mammals.

Risk management range: The range of cancer risks (from 1 in 10,000 to 1 in 1,000,000 people) that is generally used by EPA when evaluating whether potential risks to human health are acceptable. Cancer risks within this range may require a risk management decision that includes evaluating site-specific characteristics and exposure scenarios to assess if action is required. Cancer risks below the risk management range generally do not require further action.

Site-wide average remediation goal: The site-wide average concentration of a chemical that is permissible at the site. If the site-wide average concentration is greater than the site-wide average goal, then remediation is required.

Special-status species: Special-status species are species listed as threatened or endangered under federal and state Endangered Species Acts or as a "species of special concern" under the *California Department of Fish and Game Code.*

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 applicable or relevant and appropriate requirements (ARARs). Potential ARARs that will be met by the preferred alternative for sediment and soil are listed below. See the FS Addendum Report for more specific information on potential ARARs.

Alternative 3 (the preferred alternative) would comply with the substantive provisions of the following requirements identified as potential chemical-specific ARARs:

- Resource, Conservation, and Recovery Act (RCRA) hazardous waste definition, *California Code of Regulations* (Cal. Code Regs.), Title (tit.) 22, Sections (§§) 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100
- RCRA land disposal restrictions, Cal. Code Regs. tit. 22, § 66268.1(f)
- PCB remediation waste remediation standards promulgated under the Toxic Substances Control Act, Title 40 of the *Code of Federal Regulations* (40 CFR), § 761.61 (a)(4)(i)
- Definition of non-RCRA hazardous waste, Cal. Code Regs. tit. 22, §§ 66261.22(a)(3) and (4), 66261.24(a)(2) through (a)(8), 66261.101, 66261.3(a)(2)(C), or 66261.3(a)(2)(F)
- Definitions of designated, nonhazardous, and inert waste, Cal Code. Regs tit. 27, §§ 20210, 20220, and 20230

Water Quality Control Plan for the San Francisco Bay Region: Chapter 2 ("Definitions of Beneficial Uses," "Present and Potential Beneficial Uses, Surface Waters," and the Santa Clara Valley Basin section of Table 2-9); Chapter 3 ("Water Quality Objectives for Surface Water and Groundwater"); Chapter 4: ("Discharge Prohibitions Applicable throughout the Region," and "Surface Water Protection Nonpoint Source Control.")

Alternative 3 (the preferred alternative) would also comply with the substantive provisions of the requirements identified as potential location-specific ARARs. This remedial alternative would be conducted in a manner consistent with the following requirements:

- Federal Endangered Species Act (Title 16 of the *United States* Code [U.S.C.], § 1536(a), (h)(1)(B),
- Migratory Bird Treaty Act, 16 U.S.C., § 703
- Coastal Zone Management Act, 16 U.S.C., § 1456(c), and 15 CFR Part 930
- Rivers and Harbors Act of 1899, 33 U.S.C., § 403, and 33 CFR Part 322
- Executive Order 11990 (Protection of Wetlands), 40 CFR § 6.302(a)
- Clean Water Act, 33 U.S.C., § 1344, and 40 CFR § 230.10
- *California Fish and Game Code,* §§ 1908, 2080, 3003.1, 3005(a), 3503, 3503.5, 3511, 3800, 4150, 4700, 5050, 5650, and 8500
- Cal. Code Regs. tit. 14, §§ 40, 460, and 462
- California 1987 Fish and Game Commission Wetlands Policy (to be considered)

Alternative 3 (the preferred alternative) would also comply with the substantive provisions of the requirements identified as potential action-specific ARARs. This remedial alternative would be conducted in a manner consistent with the following requirements:

Excavation ARARs

RCRA

- RCRA requirements to determine if generated waste is hazardous waste, Cal. Code Regs. tit. 22, §§ 66262.10(a) and 66262.11
- RCRA requirement to analyze generated waste to determine if it is hazardous, Cal. Code Regs. tit. 22, §§ 66264.13 (a) and (b)
- RCRA requirement that allows generators to accumulate solid remediation waste in a U.S. Environmental Protection Agency (EPA)-designated pile for storage only up to 2 years during remedial activities without triggering land disposal restrictions, 40 CFR § 264.554(a), (d), (g), (h), (i), (j), and (k)
- RCRA hazardous waste manifests requirements, Cal. Code Regs. tit. 22, §§ 66262.20 through 66262.23
- RCRA pre-transport requirements, Cal. Code Regs. tit. 22, §§ 66262.30 through 66262.33
- RCRA tracking and recordkeeping of land disposal restrictions, Cal. Code Regs. tit. 22, § 66268.7(a)

Clean Water Act

- Stormwater discharge requirements for construction that will disturb 1 or more acres, 40 CFR § 122.44(k) (2) and (4)

Clean Air Act

- Requirement that source emissions not equal or exceed 20 percent opacity, Bay Area Air Quality Management District Regulation (BAAQMD) 6-302
- Requirement for aeration of contaminated soil (setting forth standards for maintaining, covering, and stockpiling soil). BAAQMD Regulations 8-40-301 through 8-40-306

Federal Hazardous Materials Transportation Law

Requirements for transporting hazardous wastes, 49 U.S.C. §§ 5101 through 5127, and its implementing regulations, 49 CFR §§ 171.2(f), 171.2(g), 172.300, 172.301, 172.302, 172.303, 172.304, 172.312, 172.400, and 172.504

Toxic Substances Control Act

- Requirement that PCB-remediated waste that contains more than 50 milligrams per kilogram (mg/kg) is taken off site and disposed of in a landfill permitted under § 3004 of RCRA (referred to as a Title C landfill) or a permitted PCB disposal facility such as an incinerator, 40 CFR § 761.61(a)(5)(i)(B)(2)(ii) and (iii)
- Requirements for managing PCB remediation waste, 40 CFR §§ 761.65(c)(4) and (c)(9)
- Requirement that decontamination water either will meet the standards set forth in this section (less than or equal to 0.5 micrograms per liter for unrestricted use) or will be disposed of off site, 40 CFR § 761.79(b)(1)

In addition, the following state requirements are potential ARARs for excavation:

- State Water Resources Control Board (SWRCB) order that requires that best management practices will be used to prevent construction pollutants from contacting stormwater, SWRCB No. 99-08-DWQ
- Requirements that actions taken by public agencies to remediate unauthorized releases are exempt from Title 27 and Title 23, except that wastes removed from the immediate place of release and discharged to land must be managed in accordance with classification and siting requirements of Title 27 or Title 23 and wastes contained or left in place must comply with Title 27 or Title 23 to the extent feasible, Cal. Code Regs. tit. 27, § 20090(d)

In Situ/Ex Situ Treatment ARARs

The only proposed action-specific ARARs associated with *in situ* or *ex situ* treatment are the RCRA action-specific ARARs identified for excavation.

Off-Site Disposal ARARs

The only proposed federal action-specific ARARs associated with off-site disposal are the requirements of RCRA, the Toxic Substances Control Act, and the Federal Hazardous Materials Transportation Law identified for excavation. Although the following sections contain primarily off-site requirements, the Navy has agreed to include the substantive provisions of Cal. Code Regs. tit. 23, §§ 2520 and 2521 as potential ARARs. In addition, the substantive provisions of *California Health and Safety Code* § 25157.8 are potential ARARs.

Attn: Ms. Carolyn Hunter
Community Involvement Specialist, Tetra Tech EM Inc.
1999 Harrison Street, Suite 500
Oakland, CA 94612

BRAC PMO

Proposed Plan for Site 25

Former Naval Air Station Moffett Field
Moffett Field, California

PROPOSED PLAN COMMENT FORM
SITE 25, MOFFETT FIELD

The public comment period for the Proposed Plan for Site 25 at the former NAS Moffett Field, California, is from **January 9 through February 9, 2009**. A public meeting to present the Proposed Plan will be held at the NASA Public Affairs Building (Building 943), in the World Room on **January 22, 2009** from 7:00 to 9:00 pm. The NASA Public Affairs Building is located just before the Moffett Field main gate, off of Moffett Boulevard. You may provide comments verbally at the public meeting, where all comments will be recorded by a court reporter. Alternatively, you may provide written comments in the space provided below or on your own stationery. After you complete your comments and your contact information, please mail this form to the address provided on the reverse side. All written comments must be postmarked no later than **February 9, 2009**. You may also submit this form to a Navy representative at the public meeting. Comments are being accepted by e-mail; please address e-mail messages to darren.newton@navy.mil. Comments are also being accepted by fax: (619) 532-0940.

Name: _____

Representing: _____
(if applicable)

Phone Number: _____
(optional)

Address: _____
(optional)

☐ Please check the box if you would like to be added to the Navy's Environmental Mailing List for the former NAS Moffett Field.

Comments:

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Darren Newton, BRAC Environmental Coordinator
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