Proposed Plan for IR Site 2
Former NAS Alameda

Alameda, California | Final August 2009

U.S. NAVY ANNOUNCES PROPOSED PLAN

The U.S. Navy (Navy) requests public comment on this Proposed Plan for cleanup of soil and *groundwater** at *Installation Restoration (IR)* Site 2 at the former Naval Air Station (NAS) Alameda in Alameda, California. The *U.S. Environmental Protection Agency (EPA)*, *California EPA Department of Toxic Substances Control (DTSC)*, and San Francisco Bay Regional *Water Quality Control Board (Water Board)* worked closely with the Navy in the evaluation of cleanup alternatives and in selecting the proposed alternatives.

This Proposed Plan presents the preferred cleanup alternatives for soil and groundwater at IR Site 2 (Figure 1). Extensive investigations and removal actions have occurred at IR Site 2 to address landfilled waste at or near the surface and *radionuclides* in surface soil. Soil in the landfill portion of the site contains *contaminants* at levels requiring cleanup, landfill waste is still buried at the site, and contaminants are present in shallow groundwater beneath the site. The Navy proposes the following cleanup approaches to address contaminants in soil and groundwater at IR Site 2:

- Install a multilayer *soil cover* to isolate buried waste and soil contaminants, and prevent animal burrowing; implement *engineering controls* and *institutional controls (ICs)* to protect human health and the soil remedy itself; mitigate wetlands; monitor the soil cleanup action and wetlands mitigation to ensure their proper construction and long-term effectiveness; and conduct methane gas monitoring as appropriate.
- Conduct *Monitored Natural Attenuation (MNA)* for site groundwater by regularly monitoring groundwater quality using an extensive network of shoreline groundwater monitoring wells; and implement engineering controls and ICs to protect human health and the groundwater remedy itself.

Figure 1. Location of Alameda Point and IR Site 2

THE CERCLA PROCESS

This Proposed Plan is being issued as part of the Navy's public participation responsibilities under Section 117(a) of the *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)* and Section 300.430(f)(2) of the *National Oil and Hazardous Substances Pollution Contingency Plan (NCP)*.

- NOTICE -

Public Comment Period

August 4, 2009 through September 14, 2009

Public Meeting
August 27, 2009
Alameda Point
Room 201
Building 1 - 950 West Mall Square
Alameda, California
6:30 to 8:00 p.m.

* Words in *italicized* typeface are defined in the glossary on Page 14.

Figure 2 illustrates the current status of IR Site 2 in the CERCLA process. A final decision, documented in the *Record of Decision (ROD)*, will not be made until all comments are considered. The ROD will include a Responsiveness Summary that explains how the Navy considered each comment received during the public comment period.

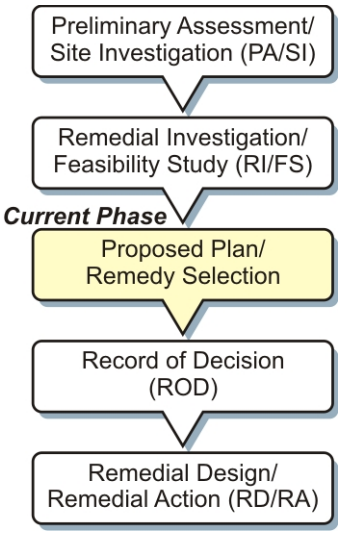

Figure 2. CERCLA Process for IR Site 2

The Navy encourages the public to review other supporting documents to gain a more detailed understanding of the environmental investigation, risk assessment, and *remedial alternative* evaluation activities that have been conducted. The documents are available for public review at the locations listed on Pages 12-13.

SITE DESCRIPTION AND BACKGROUND

Former NAS Alameda, now called Alameda Point, is located on the western tip of Alameda Island, on the eastern side of San Francisco Bay (Figure 1). Alameda Point was acquired by the Navy in 1930 and naval operations ceased in 1997. IR Site 2 consists of approximately 110 acres comprised of the 77 acre West Beach Landfill and the 33 acre West Beach Wetlands (Figure 3). IR Site 2 is bounded by San Francisco Bay to the west and south, and former runway and tarmac areas to the north and east.

IR Site 2 was created in 1956 by constructing a perimeter sea wall of large boulders and filling shallow open waters of San Francisco Bay within this boundary. The site currently consists of open space except for two earthen ammunition bunkers in the northern portion of the site. There are two surface water bodies, known as the North Pond and South Pond, present in the West Beach Wetlands portion of IR Site 2. The North Pond is connected to San Francisco Bay by a culvert through the sea wall; the South Pond is often dry during the summer months.

Between 1956 and 1978, IR Site 2 was used as the primary landfill facility for Alameda Point. Historical information suggests that up to 1.6 million tons of general waste were disposed during this time. The entire area of the West Beach Landfill (Figure 3) was used for disposal. Potential sources of contamination in soil and groundwater at IR Site 2 include general household waste and several industrial and process wastes, including asbestos, pesticides, sandblasting grit, waste oils and solvents, painting and plating wastes, inert ordnance, and medical wastes.

Groundwater beneath IR Site 2 is not presently used as a drinking water source and is not considered a potential drinking water source because of the poor quality of the water. Accordingly, drinking water standards do not apply to the site.

IR Site 2 is designated for a federal agency to federal agency transfer (i.e., from the Navy to the Office of Veterans Affairs). The proposed land use at IR Site 2 includes wetlands and a portion of the future Bay Trail.

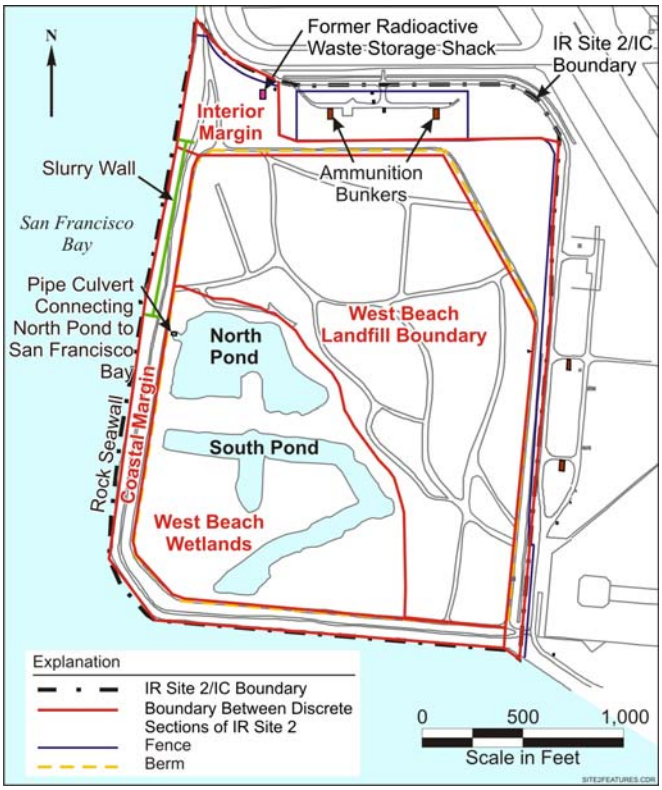

Figure 3. IR Site 2 Features

PREVIOUS SITE INVESTIGATIONS

Numerous investigations have been conducted at IR Site 2 (Table 1). In addition to the listed historical surveying and sampling events, regular monitoring of groundwater and landfill soil gas has been conducted at IR Site 2 since 2002.

Table 1. Historical Environmental Investigations Conducted at IR Site 2

➢ Surveying/Exploration/Removal Actions

- *Geophysical surveying* in 1990
- Habitat and ecological surveying in 1992, 1993, 1994, 1995, 1996, 1997, 1998, 2001, and 2003
- Radiological surveying in 1995, 1996, 1998-1999, and 2005, and Radiological *Time Critical Removal Action (TCRA)* in 2006 to 2007
- *Bathymetric surveying* in 2002
- *Topographic surveying* in 2002
- *Ordnance and explosive waste* (OEW) surveying and TCRA in 2002
- Test pit installation in 2002

➢ Sampling and Analysis

- Geotechnical sampling in 1990, 1991, 1994-1995, and 2002
- Surface water sampling in 1991, 1996-1997, and 1998
- Sediment sampling in 1991, 1993-1994, and 1996-1997
- Sediment porewater sampling in 1996 and 1997
- Surface and/or subsurface soil sampling in 1990, 1991, 1994, and 1995
- Groundwater sampling in 1991-1992, 1994-1995, 1996-1998, and 2002 to present
- Soil gas sampling including methane analysis 2002 to present

An extensive *Remedial Investigation (RI)* was conducted at IR Site 2 from 2004 to 2005. During the RI, general observations were made using a variety of methods. Samples, including 203 soil, 13 soil gas, 42 groundwater, 22 surface water, 30 sediment, and 22 biological tissue, were collected from areas where contamination would most likely be present. The collected samples were analyzed for one or more of the following contaminant classes: *metals, pesticides, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), explosive constituents, polychlorinated dibenzodioxins and polychlorinated dibenzofurans (PCDDs/PCDFs),* radionuclides, *petroleum hydrocarbons* and general chemistry parameters including alkalinity, chloride, grain size distribution, lipid content, moisture content, nitrate, nitrite, sulfate, sulfide, and total organic carbon.

The RI was conducted during two distinct seasons (the dry season of 2004 and the wet season of 2005) to generate data representative of seasonal changes at IR Site 2. The RI also included a site-specific evaluation of ecological health using *toxicity tests* and *bioaccumulation tests*. Soil, sediment, surface water, and biological tissue samples were collected from a nearby reference sampling location with characteristics similar to the site but not affected by site activities or potential site-related contamination to aid in distinguishing impacts at IR Site 2 from ambient environmental conditions.

The RI report described the nature and extent of contamination at IR Site 2. The *Feasibility Study (FS)* then developed and evaluated remedial action alternatives to address risks identified in the RI report.

REMEDIAL INVESTIGATION SUMMARY

Geophysical surveying conducted at IR Site 2 indicated cover soil in the landfill is underlain by material with a widespread pattern of electromagnetic anomalies indicative of large volumes of disposed waste in the subsurface of the landfill area. Exploratory test pits confirmed the presence of waste material in the subsurface. A wide variety of waste was encountered during the test pit activities, including glass, plastic, metal, wood, canvas, paper, concrete, rubber, cable, clothing, Styrofoam, carpeting, and fabric. No OEW, drums, cylinders, radiological waste, or other potentially hazardous materials were identified during the test pit activities.

Many contaminants were identified in soil based on the RI sampling data including metals, SVOCs, pesticides, PCBs, and PCDDs/PCDFs. Contaminants were observed to be more widespread in the landfill compared to the wetland, and in subsurface soil compared to surface soil.

Many contaminants were also identified in groundwater underlying IR Site 2 based on the RI sampling data. Contaminants in groundwater were observed to be more widespread in the landfill compared to the wetland areas. Groundwater contaminants were observed predominantly in the first water bearing zone (FWBZ), which extends from the surface to a maximum depth of 30 feet. Virtually no contaminants were observed in the deeper second water bearing zone (SWBZ).

The North and South Ponds were not observed to be significantly impacted by contamination in either sediment or surface water.

In summary, there appears to be a widespread and diffuse occurrence of landfill waste in the subsurface of the landfill, contaminants in the groundwater and soil, and methane has been detected in soil-gas at IR Site 2.

RISK ASSESSMENT PROCESS

"Risk" is defined as the likelihood or probability that a contaminant in the environment will cause adverse effects on human or ecological receptors. A risk assessment is performed to help determine whether a cleanup action is needed to protect human health and the environment.

The ways in which receptors may be exposed to *contaminants of potential concern (COPCs)* are called exposure pathways. Exposure pathways are based on current and reasonable future exposure scenarios. Risk calculations use statistical methods and commonly employ a *reasonable maximum exposure* framework to ensure that risks are not underestimated. Exposure pathways for IR Site 2 are shown in Table 2.

Human health risk is categorized as non-cancer hazard (from exposure to non-carcinogens) or cancer risk (from exposure to *carcinogens*). A *hazard quotient (HQ)* of one (1) or less is considered to be an acceptable exposure level for non-cancer health hazards. For multiple contaminants, individual HQs are added together to obtain a *hazard index (HI)*. The HI is the quantitative measure of aggregate non-cancer hazard. An HI of one (1) or less is considered to be an acceptable exposure level for cumulative non-cancer health hazards.

Cancer risk is a statistical probability and is not based on actual cases of cancer. Cancer risk estimates the probability that an individual's baseline (or normal) risk of cancer could increase as a result of exposure to a carcinogenic contaminant. For example, a one in 10,000 chance of developing cancer is a risk of 1×10^{-4}. In this case, for every 10,000 people, one additional cancer case may occur as a result of exposure. A one in 1,000,000 chance is a risk of 1×10^{-6}. In this case, for every 1,000,000 people, one additional cancer case may occur as a result of exposure.

In accordance with EPA guidance, the risk management range for cancer risk is considered 10^{-4} to 10^{-6}. EPA guidance states that "where the cumulative carcinogenic site risk to an individual based on reasonable maximum exposure for both current and future land use is less than 10^{-4} and the non-carcinogenic HQ is less than one, action generally is not warranted unless there are adverse environmental impacts." Site-specific factors are typically considered at sites where the cancer risks are 10^{-4} to 10^{-6}. Cancer risks below 10^{-6} are generally considered insignificant. For cancer risks above the risk management range of 10^{-4} to 10^{-6}, action is generally required.

Table 2. Receptors and Pathways at IR Site 2

SOIL	
➢ Human Receptors • Tour Guide/Park Ranger • Restoration Supervisor • Visitor (Child/Adult) • Construction Worker	➢ Pathways • Direct contact with soil • Ingestion of soil • Inhalation of wind-blown dust or vapors from soil • Exposure to ionizing radiation
➢ Ecological Receptors • Mammal • Bird • Invertebrate • Plant	➢ Pathways • Direct contact with soil • Ingestion of soil • Ingestion of impacted prey • Root contact with soil
GROUNDWATER	
➢ Human Receptors • Restoration Supervisor • Construction Worker	➢ Pathway • Direct contact with groundwater
SEDIMENT	
Ecological Receptors • Mammal • Bird • Invertebrate	Pathways • Direct contact with sediment • Ingestion of sediment • Ingestion of impacted prey
SURFACE WATER	
➢ Human Receptor • Restoration Supervisor	➢ Pathway • Direct contact with surface water
Ecological Receptors • Fish • Invertebrate	Pathway • Direct contact with surface water • Ingestion of surface water

Similar to non-cancer human health hazards, acceptable ecological risks are characterized by a HQ of one (1) or less. For ecological receptors, a low HQ is calculated based on contaminant concentrations below which effects are not

expected, and a high HQ is calculated based on contaminant concentrations above which effects are expected. These results are used to evaluate the potential range of risks presented to ecological receptors from chemicals detected at the site.

HUMAN HEALTH RISK ASSESSMENT SUMMARY

The *Human Health Risk Assessment (HHRA)* presented in the RI Report evaluated risk to human receptors based on the planned future use of the site as a nature preserve with some recreational functions. The potential for exposure to surface water in the wetland ponds was evaluated for one human receptor (the Restoration Supervisor) to provide a conservative understanding of maximum risk potential. The conclusions of the HHRA for IR Site 2 are summarized below.

For soil in the landfill portion of IR Site 2, arsenic, lead, benzo(a)pyrene, naphthalene, radium 226, and total PCBs pose a potentially unacceptable risk to one or more of the human receptors considered. For groundwater in the landfill area of IR Site 2, the HHRA concluded that total PCBs and PCDDs/PCDFs pose a potentially unacceptable risk to one or more of the human receptors considered through dermal contact.

For soil in the wetland portion of IR Site 2, the HHRA concluded that arsenic and radium 226 pose a potentially unacceptable risk to one or more of the human receptors considered. For groundwater in the wetland area of IR Site 2, the HHRA concluded that total PCBs and the pesticide dieldrin pose a potentially unacceptable risk to one or more of the human receptors considered through dermal contact. Benzo(a)pyrene and dibenz(a,h)-anthracene were determined to pose potentially unacceptable risk to the restoration supervisor through direct contact with surface water in the wetland ponds.

ECOLOGICAL RISK ASSESSMENT SUMMARY

The *Ecological Risk Assessment (ERA)* completed for IR Site 2 evaluated risk to plants and animals by focusing on habitat types found at the site. The ERA developed conclusions separately for the landfill, wetland, and wetland pond portions of the site.

For soil in the landfill portion of IR Site 2, the ERA concluded that many metals, pesticides, PAHs, total PCBs and PCDDs/PCDFs result in potentially unacceptable risk. Of the contaminants identified, chromium, lead, total *high molecular weight PAHs (HPAHs)*, and total *DDx* were viewed as the most significant risk contributors.

For soil in the wetland portion of IR Site 2, metals, pesticides and total PCBs result in potentially unacceptable risk to one or more of the ecological receptors considered. Of the contaminants, chromium and lead were identified as the most significant risk contributors.

For sediment and/or surface water in the North and South Ponds, the IR Site 2 ERA concluded that various metals, pesticides, acenaphthene, and total PCBs result in potentially unacceptable risk. Of the contaminants, mercury and nickel were identified as the most significant risk contributors. However, site-specific toxicity tests in which organisms were exposed to wetland pond sediment and surface water from IR Site 2 indicated that there was no observable toxicity. These toxicity tests are a direct measure of risk from IR Site 2 wetland sediment and surface water, and the results indicate that there is actually no unacceptable risk to ecological receptors from the wetland ponds at IR Site 2.

REMEDIAL ACTION OBJECTIVES

To evaluate remedial alternatives, *Remedial Action Objectives (RAOs)* are developed. RAOs identify receptors and the pathways of exposure responsible for risk potentially requiring remedial action. RAOs also establish the basis for identifying areas requiring remedial action (the remediation footprint), screening technologies or processes to accomplish remediation, and assessing a remedial alternative's ability to achieve the required objectives.

The general RAOs for IR Site 2, which are presented in more specific detail in the FS Report, are as follows:

- Protect sensitive human receptors, avian species, and mammal species from exposure to *contaminants of concern (COCs)* in surface soil in the landfill and wetland portions of the site;
- Protect viable wetland area in the southwest portion of the site from impacts associated with the landfill;
- Protect sensitive human receptors from exposure through external radiation from surface soil in the landfill and wetland portions of the site; and
- Protect beneficial uses of surface water in San Francisco Bay from the potential for discharge of site groundwater containing COCs.

SUMMARY OF REMEDIAL ALTERNATIVES

Remedial alternatives for soil and groundwater that were evaluated in the FS Report ranged from no action to active remediation. Table 3 summarizes the six remedial alternatives for soil that were developed and screened in the FS Report. Four of the six soil alternatives were analyzed in detail in the FS Report, excluding Soil Alternatives 4 and 5.

Table 4 describes the three remedial alternatives for groundwater, all of which were retained for detailed analysis in the FS Report.

ICs are included in all of the soil and groundwater remedial alternatives considered in the FS Report to provide protection against human exposure to buried waste and risk posed by soil and groundwater contaminants. ICs would be used to ensure that potential exposures to IR Site 2 contamination would be minimized to the extent possible. ICs are legal and administrative mechanisms used to limit the exposure of future landowner(s) and/or user(s) of a property to hazardous substances and to maintain the integrity of the selected remedy. Site 2 ICs are summarized in Table 5.

Table 3. Remedial Alternatives for IR Site 2 Soil

Soil Alternative	Time (years)	Total Cost (millions)	Description
1 - No Action	0	$0	CERCLA requires that the no action scenario be evaluated as an alternative to establish a baseline on which to compare other alternatives. Under this scenario, no action would be performed to remediate soil at IR Site 2.
2 - Multilayer Soil Cover, Engineering and Institutional Controls, and Monitoring	30	$21	This alternative would include the construction of a cover over the entire former landfill, the northeastern portion of the site, and limited portions of the wetland. The cover would consist of clean soil and other natural materials, including an animal intrusion barrier, to contain soil contaminants at IR Site 2 and isolate and prevent direct contact with buried waste. Engineering controls would be implemented to protect the remedy, and ICs and long-term monitoring would be included to ensure long-term protection from contaminants and waste at the site.
3 - Engineered Cap, Engineering and Institutional Controls, and Monitoring	30	$47	This alternative would include the construction of an engineered cap over the same area as Soil Alternative 2. The cap would consist of an impervious liner, clean soil, and other natural materials, including an animal intrusion barrier, to contain soil contaminants at IR Site 2 and isolate and prevent direct contact with buried waste. Engineering controls would be implemented to protect the remedy, and ICs and long-term monitoring would be included to ensure long-term protection from contaminants and waste at the site.
4 - Focused Removal and Backfill, Dewatering, Disposal, Multilayer Soil Cover, Engineering and Institutional Controls, and Monitoring	30	$41	This alternative would be the same as Soil Alternative 2 except that soil from an isolated area in the northwestern portion of the site containing high contaminant concentrations would be removed. The excavated material would be dewatered, and then disposed off-site at landfill facilities.
5 - Focused Removal and Backfill, Dewatering, Disposal, Engineered Cap, Engineering and Institutional Controls, and Monitoring	30	$67	This alternative would be the same as Soil Alternative 3 except that soil from an isolated area in the northwestern portion of the site containing high contaminant concentrations would be removed. The excavated material would be dewatered, and then disposed off-site at landfill facilities. Dewatering effluent would be treated on-site and discharged to San Francisco Bay following treatment.
6 - Near-complete Removal and Backfill, Dewatering, Engineering and Institutional Controls, Disposal, and Monitoring	<1	$900	This alternative would entail removing soil and subsurface waste throughout the landfill area and the northeastern portion of the site and backfilling the excavation areas. The excavated material would be dewatered, and then disposed off-site at landfill facilities. Dewatering effluent would be treated on-site and discharged to San Francisco Bay following treatment. Engineering controls would be implemented to protect the remedy, and ICs and long-term monitoring would be included to ensure long-term protection from residual contaminants and waste at the site.

Table 4. Remedial Alternatives for IR Site 2 Groundwater			
Groundwater Alternative	**Time (years)**	**Total Cost (millions)**	**Description**
1 - No Action	0	$0	No action is required by CERCLA to be evaluated as an alternative to establish a baseline to which to compare other alternatives. Under this scenario, no actions would be performed to remediate groundwater at IR Site 2.
2 - Monitored Natural Attenuation and Engineering and Institutional Controls	30	$6	MNA relies on naturally occurring processes to continue reducing contaminant levels in groundwater. This alternative would include a detailed monitoring plan to continue measuring conditions in groundwater over time. Engineering controls would be implemented to protect the remedy, and ICs and long-term monitoring would be included to ensure long-term protection from contaminants in groundwater at the site.
3 - Hydraulic Barrier, Pump and Treat, Disposal, Monitored Natural Attenuation, and Engineering and Institutional Controls	30	$23	Under this alternative, an impermeable barrier would be constructed around the western and southern sides of the landfill area to prevent the flow of groundwater to San Francisco Bay. The barrier would extend vertically across the entire FWBZ. To alleviate the buildup of pressure on the barrier, a pump and treat system would be operated to extract and treat groundwater. Treated groundwater would be discharged to San Francisco Bay. Other wastes generated would be disposed off-site at landfill facilities. MNA would be relied on to continue reducing contaminant levels in groundwater, and a detailed monitoring plan would be implemented to continue to measure conditions in groundwater over time. Engineering controls would be implemented to protect the remedy, and ICs and long-term monitoring would be included to ensure long-term protection from contaminants in groundwater at the site.

COMPARISON OF REMEDIAL ALTERNATIVES

A preferred remedial alternative is selected by comparing the nine NCP evaluation criteria (Figure 4). The nine criteria include two threshold criteria that must be met, five balancing criteria that can be met in varying degrees, and two modifying criteria reflecting agency and community acceptance. The community acceptance criterion will be considered following the close of the public comment period on this Proposed Plan. Tables 6 and 7 compare the soil and groundwater remedial alternatives, respectively, that were analyzed in detail against the nine NCP criteria. The comparison is described in greater detail below.

Threshold Criteria:

1. Overall Protection of Human Health and the Environment. All of the soil and groundwater alternatives with the exception of the No Action alternatives would be protective of human health and the environment. Therefore, the No Action alternatives for soil and groundwater are not discussed for the remaining comparison criteria.
2. Compliance with *Applicable or Relevant and Appropriate Requirements* (*ARARs*). All of the soil and groundwater alternatives would meet project ARARs.

Balancing Criteria:

3. Long-term Effectiveness. All of the soil alternatives would be effective in the long-term and permanent. Both groundwater alternatives would be permanent and effective in the long-term. All soil and groundwater alternatives would incorporate ICs to manage residual risks and necessary monitoring to ensure remedy permanence.
4. Reduction of Toxicity, Mobility, or Volume through Treatment. None of the soil alternatives would accomplish reductions in toxicity or volume of contamination specifically through treatment, but all would be responsible for physically reducing the mobility of contamination at IR Site 2. Groundwater Alternative 3 would reduce the toxicity, mobility, and volume of contamination through treatment, but the

Table 5. Institutional Controls for IR Site 2

ICs described in this Proposed Plan include land use restrictions, which would be established to limit human exposure to contaminants in soil and groundwater. ICs are a component of all the soil and groundwater remedial alternatives considered in the FS Report.

Given the likelihood that IR Site 2 will be transferred from the Navy to another federal entity, ICs would be implemented through a *Memorandum of Understanding (MOU)* between the Navy and the other federal entity. The MOU will require that the transferee comply with all applicable Federal and State environmental, public health, and cultural and natural resource protection laws following transfer, which includes any possible future transfer to a non-federal entity. If the property within IR Site 2 is transferred to a non-federal entity, the land use restrictions may be incorporated into and implemented through two separate legal instruments:

1. Restrictive covenants included in a "Covenant to Restrict Use of Property" provided in the Navy and DTSC 2000 *Memorandum of Agreement (MOA)* and consistent with the substantive provisions of California Code of Regulations Title 22, §67391.1.
2. A Quitclaim Deed from the Navy to the property recipient.

Proposed Land Use Restrictions:

- Prohibit a residence, including any mobile home or factory built housing, constructed or installed for use as residential human habitation;
- Prohibit a hospital for humans;
- Prohibit a school for persons under 21 years of age;
- Prohibit a day care facility for children;
- Prohibit any permanently occupied human habitation other than those used for commercial or industrial purposes;
- Restrict any "land disturbing activity" including but not limited to those listed below that may impact the effectiveness of the remedial alternative unless approval is received from FFA Signatories prior to conducting the activity:
  - Excavation of soil;
  - Construction of roads, utilities, facilities, structures, and appurtenances of any kind;
  - Demolition or removal of "hardscape" (for example, concrete roadways, parking lots, foundations, and sidewalks);
  - Any activity that involves movement of soil to the surface from below the surface of the land; and
  - Any other activity that causes or facilitates the movement of known contaminated groundwater.
- Restrict alteration, disturbance, or removal of any component of a response or cleanup action (including but not limited to soil cap/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment; or associated utilities;
- Restrict extraction of groundwater and installation of new groundwater wells; and
- Restrict removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

Access Provisions:

- Access provisions would be required to ensure the Navy and the regulatory agencies have access to remedial equipment and other remedy components for the purpose of implementing the remedial action, performing maintenance activities, and conducting monitoring.

treatment component would only be used in support of hydrologic pressure relief and not specifically for the purpose of addressing groundwater contamination. Groundwater Alternative 2 would not reduce toxicity, mobility, or volume of contamination directly through treatment, but natural attenuation mechanisms would reduce contaminant toxicity, mobility, and volume.

5. Short-term Effectiveness. Soil Alternative 2 would have the highest level of short-term effectiveness followed by Soil Alternative 3 and then Soil Alternative 6. Groundwater Alternative 3 would be characterized by an appreciable construction period and some short-term risks, and would therefore have lower short-term effectiveness compared to Groundwater Alternative 2.

6. Implementability. Soil Alternative 2 would be highly implementable. The implementability of Soil Alternative 3 would be lower based on the need for some specialized labor and equipment to construct an engineered cap. The implementability of Soil Alternative 6 would be lowest based on the need to dispose of enormous volumes of waste. Groundwater Alternatives 2 and 3 would be readily implementable, with the implementability of Groundwater Alternative 3 being slightly lower based on the administrative challenges associated with direct discharges of treatment system effluent to San Francisco Bay.
7. Cost. Soil Alternative 2 would be least costly, and Soil Alternative 3 would be approximately twice as costly as Soil Alternative 2. Soil Alternative 6 would be prohibitively expensive. Groundwater Alternative 2 would be relatively inexpensive and approximately four times less expensive than Groundwater Alternative 3.

Figure 4. NCP Criteria

Modifying Criteria:

8. State Acceptance. The State of California, as a participant in the decision-making team, has reviewed this Proposed Plan and supports the Navy's preferred cleanup alternatives.
9. Community Acceptance. Community acceptance will be evaluated after the public comment period on this Proposed Plan closes. A Responsiveness Summary in the ROD will document responses to public comments on this Proposed Plan.

PREFERRED REMEDIAL ALTERNATIVES

The Navy, in coordination with the regulatory agencies, selected the preferred alternatives for IR Site 2 soil and groundwater based on the evaluation of the multiple alternatives against the nine NCP criteria.

For soil, the following alternative is preferred:

Multilayer Soil Cover, Engineering and Institutional Controls, and Monitoring (Alternative 2)

Landfill waste and contaminated soil would remain in place at IR Site 2 but would be covered by a clean multilayer soil cover to prevent exposure to waste material and COCs. Conceptually, the multilayer soil cover would consist of certified clean imported fill material and a barrier to prevent animal intrusion. The multilayer soil cover would be placed over the entire former landfill area within the landfill perimeter berm and a significant amount of the northeastern portion of the site formerly referred to as the interior margin. The multilayer soil cover would also be placed over limited portions of the far northern edge of the wetlands. To address the loss of transitional wetlands, an equivalent acreage of similar or more viable wetland habitat would be constructed within IR Site 2. Overall, the conceptual multilayer soil cover would extend roughly 60 acres (Figure 5). During the remedial design phase, the Navy will conduct some additional exploratory trenching with a sufficient number of samples in the northeastern and northwestern corners of the site to determine whether the multilayer soil cover should extend into those areas. The specific boundaries for the multilayer soil cover will be developed during the remedial design phase.

Engineering controls would be implemented during remedy construction to avoid injury to humans or damage to ecological resources. Appropriate

Table 6. Comparative Analysis of Soil Alternatives for IR Site 2				
NCP Criterion	**Soil Alternative**			
	1 No Action	**2 Multilayer Soil Cover**	**3 Engineered Cap**	**6 Near-complete Removal**
Protective of Human Health and the Environment	NO	YES	YES	YES
Compliant with ARARs	NE	YES	YES	YES
Long-term Effectiveness and Permanence	NE	●	●	●
Reduction of Toxicity, Mobility, and Volume through Treatment	NE	○	○	○
Short-term Effectiveness	NE	●	●	◑
Implementability	NE	●	◑	○
Cost ($M)*	NE	◑ ($21)	◑ ($47)	○ ($900)
State Acceptance	The State of California agrees with the preferred soil alternative			
Community Acceptance	To be evaluated after public comment period			

Table 7. Comparative Analysis of Groundwater Alternatives for IR Site 2			
NCP Criterion	**Groundwater Alternative**		
	1 No Action	**2 Monitored Natural Attenuation**	**3 Hydraulic Barrier**
Protective of Human Health and the Environment	NO	YES	YES
Compliant with ARARs	NE	YES	YES
Long-term Effectiveness and Permanence	NE	●	●
Reduction of Toxicity, Mobility, and Volume through Treatment	NE	○	●
Short-term Effectiveness	NE	●	◑
Implementability	NE	●	◑
Cost ($M)*	NE	● ($6)	◑ ($23)
State Acceptance	The State of California agrees with the preferred groundwater alternative		
Community Acceptance	To be evaluated after public comment period		
Notes: * = cost evaluation is based on *net present value (NPV)* Preferred Alternative = Soil Alternative 2 and Groundwater Alternative 2	NE = not evaluated because it did not meet threshold criteria. M = millions.	Relative Performance: ○ Low ◑ Medium ● High	

access controls would be in place to prohibit anyone other than essential workers from entering the work zone. Necessary engineering controls would be used to ensure the stability of existing landfill berms, as well as the remedy, both during and after remedy construction. All appropriate health and safety precautions would be taken to protect site workers against potential exposure to contamination or buried waste.

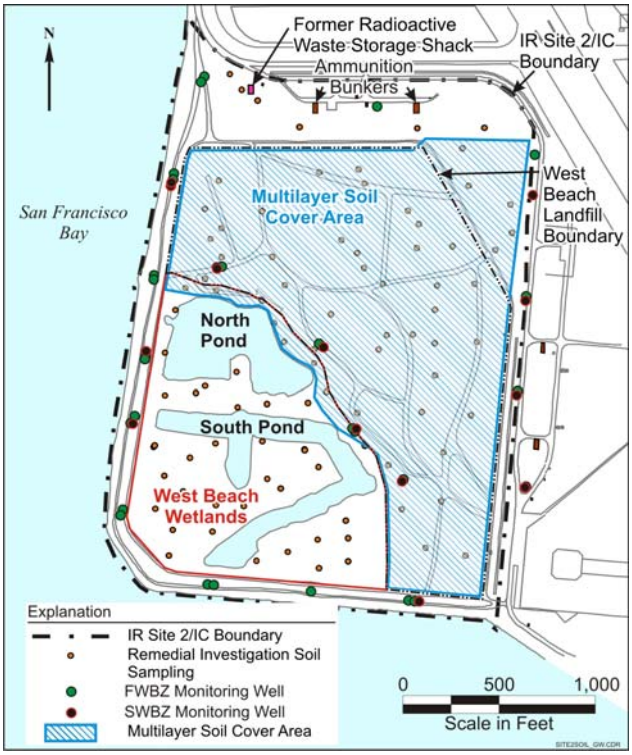

Figure 5. Preferred Soil and Groundwater Remedy for IR Site 2 – Multilayer Soil Cover and Monitored Natural Attenuation of Groundwater

ICs would be implemented across the entire site to limit human exposure to contaminants in soil. Monitoring would be in the form of both construction monitoring and long-term monitoring. Construction monitoring would include periodic assessment of imported materials to ensure their characteristics and suitability, as well as routine quality assurance to ensure the proper working condition of all equipment and facilities. Construction monitoring would also include appropriate health and safety monitoring to ensure that site workers and off-site receptors in the community would not be exposed to fugitive dusts or other potential sources of contamination. Long-term monitoring would consist of annual inspections of the remedy and the IC mechanisms to ensure their continued integrity and effectiveness. In addition, constructed wetlands would be inspected to ensure their long-term health and integrity.

In the past the Navy has had to clear blockage from a culvert connecting the North Pond and the Bay. A permanent solution to address this issue will be incorporated during the remedial design phase of the project.

For groundwater, the following alternative is preferred:

Monitored Natural Attenuation and Engineering and Institutional Controls (Alternative 2)

MNA combines natural attenuation of groundwater contaminants with monitoring to verify the occurrence of natural attenuation processes and the long-term effectiveness of the strategy. The contaminants present in FWBZ groundwater at IR Site 2 would not be actively remediated, but would be allowed to degrade, adsorb, dilute, and/or transform according to natural, unaided environmental processes. MNA was identified as the preferred alternative based on the evaluation of the nine NCP criteria and the weight of evidence summarized in the text box shown below.

MNA for Groundwater at IR Site 2 is a Viable Option Based on the Following Weight of Evidence

- **Applicability of California Toxics Rule (CTR) Criteria:** CTR criteria apply to surface water and not to groundwater.
- **Long-term Contaminant Trends:** The observed contaminant levels in shoreline monitoring wells, and long-term stable to declining trends in these contaminant levels suggest that MNA is occurring.
- **Waste Saturation:** Site conditions and historical waste disposal practices suggest that the buried waste mass is in constant or nearly constant contact with groundwater and/or infiltrating precipitation. This suggests the likelihood that the buried waste mass is (at a minimum) at steady state with the local groundwater system in terms of contaminant dissolution.
- **Contaminant Fate and Transport:** The conceptual site model indicates that the general fate and transport of the contaminants identified in IR Site 2 groundwater, and the large-scale mixing expected upon discharge of IR Site 2 groundwater to San Francisco Bay, would result in a lack of risk to the Bay.
- **IR Site 2 Pond and Western Bayside Characterization:** There is a lack of observed environmental impairment and risk in the IR Site 2 wetland ponds and Western Bayside, which includes the open water environment immediately offshore of IR Site 2. The characterization work done at Western Bayside has resulted in regulatory approval of No Further Action.
- **Beneficial Use of IR Site 2 Groundwater and Regulatory Guidance on MNA:** IR Site 2 groundwater is not currently nor will it be used in the future for drinking water purposes, and available regulatory guidance on the proper consideration and application of MNA as a groundwater remedy supports its use at IR Site 2.

Engineering controls during the implementation of the remedy are not an issue because active remediation of the groundwater is not proposed. However, an extensive groundwater monitoring network and monitoring program would be required along the shoreline to support this remedy. Engineering controls would be in place to protect monitoring wells from damage and/or to protect site users from harm. These controls would be in the form of barricading and identification of wells, potentially with the use of signs. ICs would be used to ensure that potential exposures to contamination would be minimized during and after implementation of this remedial alternative (Table 5).

Long-term monitoring would consist of regular groundwater monitoring which is expected to document stable or declining trends in contaminant levels and support the expectation that natural attenuation will be occurring. If, however, monitoring indicates that contaminant levels are not stable or declining, the remedy will be reevaluated on the basis of a procedure to be developed during the remedial design phase. The existing monitoring well network at the site is shown on Figure 5. At the detailed remedial design stage, the monitoring well network, monitoring schedule, and the methods used to assess data trends will be finalized. Long-term monitoring would be conducted throughout the FWBZ and in the SWBZ along the coastal margin of the site to confirm that contaminant levels remain within an acceptable range. All groundwater samples would be analyzed for an extensive list of compounds to evaluate the principal contaminant classes observed in FWBZ groundwater.

Applicable or Relevant and Appropriate Requirements

CERCLA requires that remedial actions meet federal standards, requirements, criteria or limitations that are determined to be ARARs, or state standards, requirements, criteria or limitations if they are more stringent. A summary of the potential ARARs associated with the preferred soil and groundwater alternatives at IR Site 2 is provided in Attachment 1.

SUMMARY STATEMENT

The preferred alternatives for soil and groundwater at IR Site 2 meet the NCP threshold criteria and satisfy the statutory requirements of CERCLA 121(b). They are protective of human health and the environment, compliant with ARARs, cost effective, and use permanent solutions and alternative treatment technologies to the maximum extent practicable.

Multi-Agency Environmental Team Concurs with Preferred Remedy

The *Base Realignment and Closure (BRAC)* Cleanup Team, which has been working cooperatively to address remedial decisions for Alameda Point, concurs with this Proposed Plan for IR Site 2:

- Navy
- DTSC
- EPA Region IX (9)
- Water Board

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Information Repository

Individuals interested in the full technical details beyond the scope of this Proposed Plan can find more detailed documents at the local Information Repository in Alameda:

- Alameda Point – 950 West Mall Square, Bldg 1, Room 240

In addition, the Alameda Public Library maintains new Navy environmental documents during review periods and is located at 1550 Oak Street, Alameda, CA 97501. Supporting documents describing field investigations, laboratory analyses, and risk assessments are available for your review at the Information Repository in Alameda. These reports include:

- Final Feasibility Study Report for IR Site 2 (2008), AR#N00236/002504
- Final Remedial Investigation Report for IR Site 2 (2006), AR#N00236/002317
- Final Remedial Investigation Sampling Work Plan for IR Site 2 (2005), AR#N00236/001976
- Final Time-critical Removal Action Closeout Report for IR Site 2 [OEW] (2002), AR#N00236/000434

Did You Know…?

You can read more about the Navy's environmental program at Alameda Point on the Internet at:

http://www.bracpmo.navy.mil

Administrative Record – A Source for Reports and Studies

The Administrative Record (AR) is the comprehensive collection of reports, key correspondence, regulatory review comments and

responses, and historical documents used by the decision-making team in selecting the cleanup or environmental management alternatives for a site. The AR file provides a record of actions by the Navy for the site discussed in this Proposed Plan. The AR file is located at:

- Naval Facilities Engineering Command Southwest

  1220 Pacific Highway
  San Diego, CA 92132-5190
  ATTN: Ms. Diane Silva
  Phone: (619) 532-3676

You may view these documents by appointment during working hours (Monday through Friday, 8 a.m. to 5 p.m.). Please contact Ms. Silva at the number provided to make an appointment.

PUBLIC COMMENT PERIOD

The 30-day public comment period for the Proposed Plan is August 4, 2009 through September 14, 2009.

Submit Comments

There are two ways to provide comments during this period:

- Offer oral comments during the public meeting
- Provide written comments by mail, e-mail or fax (no later than September 14, 2009)

Send Comments to:

Mr. George Patrick Brooks
BRAC Environmental Coordinator

(See address under Site Contacts below)

Public Meeting

The public meeting will be held on Thursday, August 27, 2009 at Alameda Point, 950 West Mall Square, Room 201 from 6:30 p.m. to 8:00 p.m. This meeting provides an opportunity to hear the Navy's presentation of its Proposed Plan and discuss the information presented in this Proposed Plan. Navy representatives will present visual displays and information on the environmental investigations and the cleanup alternatives evaluated. You will have an opportunity to ask questions and formally comment on this Proposed Plan.

SITE CONTACTS

Community involvement in the decision-making process is encouraged. If you have any questions or concerns about environmental activities at Alameda Point, please feel free to contact any of the project representatives listed below.

Mr. George Patrick Brooks
BRAC Environmental Coordinator
Department of the Navy
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
(619) 532-0907

Ms. Xuan-Mai Tran
Project Manager
US EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3002

Ms. Dot Lofstrom
Project Manager
Department of Toxic Substances Control
8800 California Center Drive
Sacramento, CA 95826
(916) 255-6449

Mr. John West
Project Manager
San Francisco Bay Water Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
(510) 622-2438

Mr. Marcus Simpson
Public Participation Specialist
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826
(916) 255-6683

Mr. David Cooper
Community Involvement Coordinator
US EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3245
toll-free (800) 231-3075

GLOSSARY OF TECHNICAL TERMS

Applicable or Relevant and Appropriate Requirements (ARARs) – Federal or State (if more stringent) environmental standards, requirements, criteria, or limitations.

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.

Bathymetric Surveying – Measuring the depth of water in a surface water body to develop elevation contours of the submerged sediment surface.

Bioaccumulation Tests – Tests that measure the likelihood that a contaminant is propagated through the food chain by accumulating in biological tissue.

California Environmental Protection Agency (EPA) Department of Toxic Substances Control (DTSC) – A department within the California EPA charged with overseeing the investigation and cleanup of hazardous waste sites, and serving as the lead state agency at Alameda Point.

Carcinogen – A compound known or suspected to cause cancer.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) – Also known as Superfund, this federal law regulates environmental investigation and cleanup of sites identified as possibly posing a risk to human health or the environment.

Contaminants – Substances that are not naturally present in the environment, or are present in unnatural concentrations that can, in sufficient concentrations, adversely alter the environment.

Contaminants of Concern (COCs) – Contaminants that are associated with potentially unacceptable risk and that drive remediation of a site.

Contaminants of Potential Concern (COPCs) – Contaminants that are associated with potentially unacceptable risk and may drive remediation of a site.

DDx – The sum of pesticides 2,4-DDT, 4,4-DDT, 2,4-DDD, 4,4-DDD, 2,4-DDE, and 4,4-DDE.

Ecological Risk Assessment (ERA) – Evaluation of potential hazard to plants, animals, and habitat as a result of environmental exposure to chemicals.

Engineering Controls – physical or process controls that protect personnel, the physical environment, and/or remediation systems.

Feasibility Study (FS) – Analysis of proposed remedial alternatives to evaluate their effectiveness in reduction of risk to human health and the environment.

Geophysical Survey – A survey that measures the presence of non-earth materials beneath the surface, typically using magnetic or radar measurement tools.

Hazard Index (HI) – Sum of hazard quotients.

Hazard Quotient (HQ) – Ratio of exposure to toxicity of an individual chemical.

High Molecular Weight PAHs (HPAHs) – PAHs with seven or more rings.

Human Health Risk Assessment (HHRA) – Estimate of potential harmful effects humans may experience as a result of exposure to

Institutional Controls (ICs) – Administrative and legal controls, established and administered to restrict use of property to limit human exposure to contaminated waste, soil, sediment, or groundwater and protect the integrity of the remedy.

Installation Restoration (IR) – Department of Defense's comprehensive program to investigate and clean up environmental contamination at military facilities in full compliance with CERCLA.

Maximum Contaminant Levels (MCLs) – The maximum permissible levels of contaminants in drinking water delivered to any user of a public system. MCLs are enforceable standards.

Memorandum of Agreement (MOA) – An official agreement designed to ensure consistency in administrative projects.

Memorandum of Understanding (MOU) – A bilateral or multilateral agreement to express a convergence of will between parties.

Monitored Natural Attenuation (MNA) – Careful tracking of natural in-situ processes that degrade groundwater contamination.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP) – The federal regulation that guides determination of the sites to be corrected under the Superfund program.

Net Present Value (NPV) – An assessment of financial conditions factoring in present costs and future liabilities or discounts, generally accomplished by applying a discount factor to present dollars.

Ordnance and Explosives Waste (OEW) – Any disposed potentially explosive munitions, munitions components, or related wastes.

Petroleum Hydrocarbons – A large family of several hundred chemical compounds that originally come from crude oil.

Polycyclic Aromatic Hydrocarbons (PAHs) – Specific class or group of semivolatile organic compounds whose molecules consist of multiple benzene rings. "Polycyclic" means multi-ringed.

Polychlorinated Biphenyls (PCBs) – Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees.

Polychlorinated Dibenzodioxins (PCDDs) and Polychorinated Dibenzofurans (PCDFs) – A group of highly toxic chlorinated hydrocarbon compounds generally derived from incomplete combustion.

Radionuclides – Naturally-occurring or synthetic radioactive elements.

Reasonable Maximum Exposure – The potential duration and frequency estimated by dividing daily intake time by time of exposure.

Record of Decision (ROD) – A legal document that explains the selected cleanup method to be used. It is signed by the Navy and regulatory agencies and is a binding agreement regarding how and when a site remediation is conducted.

Remedial Action Objectives (RAOs) – A set of statements that contains a 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 Alternative – An alternative or option for cleaning up a site.

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 FS is the second study). The RI is designed to determine the nature and extent of contamination at the site.

Resource Conservation and Recovery Act (RCRA) – Federal law governing the treatment, storage, and disposal of hazardous waste.

Semivolatile Organic Compounds (SVOCs) – A general term for organic compounds that volatilize relatively slowly.

Time-critical Removal Action (TCRA) – Expedited regulatory approach to cleaning up a potentially imminently dangerous release or spill.

Topographic Surveying – Measuring land surface elevations to develop contours of the land.

Toxicity Tests – Tests that use living organisms to determine the potential toxicity of a site-specific sample by measuring important biological responses of the organisms from exposure to a potentially toxic sample.

Volatile Organic Compounds (VOCs) – Organic (carbon-containing) compounds that evaporate readily at room temperature. VOCs are found in industrial solvents commonly used in dry cleaning, metal plating, and machinery degreasing operations.

Water Quality Control Board (Water Board) – A department within the California Environmental Protection Agency charged with preserving, enhancing, and restoring water quality. The San Francisco Regional Water Board serves as CERCLA support and lead petroleum regulatory oversight at Alameda Point.

Attachment 1. Applicable or Relevant and Appropriate Requirements for Preferred Soil and Groundwater Alternative

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 soil and groundwater are listed below. See the FS Report for more specific information on potential ARARs.

Federal and State Chemical-Specific ARARs

The Navy has determined that substantive requirements of Section 141.61(a) of 40 CFR pertaining to *maximum contaminant levels (MCL)* are not federal chemical-specific ARARs for groundwater. The Navy does not consider the MCLs to be relevant and appropriate because groundwater is unlikely to be used as a drinking water supply because of the poor quality of the water.

The substantive provisions of the following requirements were identified as chemical-specific ARARs:

- Determination of *Resource Conservation and Recovery Act (RCRA)* characteristic hazardous waste [California Code of Regulations (Cal. Code Regs.) tit. 22 §66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100]
- RCRA groundwater protection standards [Cal. Code Regs. tit. 22 §66264.94 (a) (1) and (3), (c), (d), and (e)]
- Toxic Substances Control Act regulations governing disposal of PCB waste [40 Code of Federal Regulations (C.F.R.) §761.61(a)(4), (b), and (c)]
- Uranium Mill Tailings Radiation Control Act [40 C.F.R. §192.12(b)(1) and 192.41(b); §192.12(b)(2); 10 C.F.R §61.41]
- Clean Water Act (CWA) requirements for discharge to surface waters of the United States [40 C.F.R. §131.36(b) and 131.38 and 33 United States Code (U.S.C.), Chapter 26, §1311(b)(2)]
- Characterization of non-RCRA hazardous waste determinations [Cal. Code Regs. tit. 22 §66261.3(a)(2)(C) or (a)(2)(F), 66261.22(a)(3) and (4), 66261.24(a)(2) through (8), and 66261.101]
- Characterization of designated, non-hazardous, and inert wastes [Cal. Code Regs. tit. 27 §§20210, 20220, and 20230]
- Water Board and State Water Board requirements for groundwater and surface water protection [California Water Code, Division 7, §§13240, 13241, 13243, 13263(a), 13269, and 13360], and substantive provisions of Chapters 2 and 3 (Basin Plan)
- State Water Board Resolution 88-63 for definition of drinking water
- State Water Board requirements for discharges to surface waters in the Inland Surface Waters Plan, §1.3 and 1.4
- The Water Board identified the substantive provisions of the "Statement of Policy with Respect to Maintaining High Quality of Waters in California" SWRCB Res. 68-16) and "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under California Water Code Section 13304" (SWRCB Res. 92-49) as State ARARs for the IR Site 2 groundwater remedial action. The SWRCB interprets Res. 68-16 as prohibiting further migration of the volatile organic contaminant plume at IR Site 2; however, EPA and the Navy do not agree that SWRCB Res. 68-16 applies to further migration. Further, the Navy's position is that the SWRCB Res. 68-16 and 92-49 do not constitute chemical-specific ARARs (numerical values or methodologies that result in the establishment of a cleanup level at the site) since they are State requirements and are not more stringent than federal provisions of Cal. Code Regs. tit. 22 Section 66424.94, determined to be ARARs for IR Site 2 groundwater remedial action. The Water Board and DTSC do not agree with the Navy's determination that SWRCB Res. 92-49 and 68-16 are not ARARs for IR Site 2 remedial action; however, the Water Board and DTSC agree that the proposed remedial action would comply with SWRCB Res. 92-49 and 68-16.

Federal and State Location-Specific ARARs

The substantive provisions of the following requirements were identified as location-specific ARARs:

- Executive Order Number 11990 for protection of wetlands [40 C.F.R §6.302(a)]
- CWA requirements for discharge of material into wetlands [33 U.S.C. §1344]
- Federal Endangered Species Act [16 U.S.C. §1536(a) and (h)(1)(B)]
- Migratory Bird Treaty Act [16 U.S.C. §703]
- Coastal Zone Management Act [16 U.S.C. §1456(c) and 15 C.F.R. §930]
- California Endangered Species Act (CESA) [California Fish and Game Code §2080 and §2081(b)]
- California Fish and Game Code §§5650(a), (b), and (c), §§3511
- McAteer-Petris Act [Cal. Code Regs. tit. 14 §§10110 through 11990]

Federal and State Action-Specific ARARs

The substantive provisions of the following requirements were identified as action-specific ARARs:

- RCRA site closure [Cal. Code Regs Title (tit.) 22 §66264.111]
- RCRA landfill requirements [Cal. Code Regs. tit. 22 §66264.228(e) through (r) and §66264.310(a)(2), (3), and (4) (design of a landfill cover); Cal. Code Regs. tit. 22 §66264.310(a)(5) (seismic design of a landfill cover); Cal. Code Regs. tit. 22 §66264.310(b)(1) (maintaining the integrity and effectiveness of the final cover); Cal. Code Regs. tit. 22 §66264.14(a) (securing a landfill facility)]
- RCRA on-site waste generation and accumulation [Cal. Code Regs. tit. 22 §§66262.10(a), 66262.11, 66262.34, and 66264.13(a) and (b)]

Attachment 1. Applicable or Relevant and Appropriate Requirements for Preferred Soil and Groundwater Alternative

- RCRA hazardous waste container storage [Cal. Code Regs. tit. 22 66264.171 to 173, 66264.174, 66264.175(a) and (b), 66264.177, 66264.178, and 66264.553(b), (d), (e), and (f)]
- RCRA corrective action monitoring [Cal. Code Regs. tit. 22 §66264.100(d), 66264.100(g)(1), 66264.117(b)(1)(A) and (b)(2)(A), 66264.310(b)(3), 66264.90(c)(1) and (c)(2), 66264.93, 66264.97(b)(1)(A), (b)(1)(D)(1) and (2), (b)(4) to (7), (e)(6), (12)(A), (12)(B), (13), and (15), 66264.98(e)(1) to (5), (i), (j), (k)(1) to (3), (4)(A) and (D), (5), (7)(C) and (D), (n)(1) and (2)(B) and (C), and 66264.310(b)(3)]
- CWA control of storm water discharge [40 C.F.R §122.44(k)(2) and (4)]]
- CWA for filling of wetland areas [40 C.F.R. §230.10(d) Part 230, subpart H]
- CWA for discharge of materials to waters of the United States [33 C.F.R. §§320 to 330]
- Clean Air Act (CAA) for control of air emissions, as implemented through a State Implementation Plan under the Bay Area Air Quality Management District (BAAQMD) [40 U.S.C. §7410 and portions of 40 C.F.R. §52.220]
- BAAQMD for control of air emissions and fugitive dust [CAA Regulation 6, §6-301, 302, and 305]
- California landfill requirements [Cal. Code Regs. tit. 27 §20921(a)(1), (2), and (3) (landfill gas control); Cal. Code Regs. tit. 27 §§20365(c) and (d), 21090(c)(4), and 21150 (erosion control); Cal. Code Regs. tit. 27 §§20080(b) and (c) and 21090(a) (engineered alternatives to prescriptive landfill closure requirements); Cal. Code Regs. tit. 27 §21090(a)(3) (vegetative layer); Cal. Code Regs. tit. 27 §21090(b)(1) (final grading)]
- State Water Board requirements for land use covenants [Cal. Code Regs. tit. 22 §67391.1(a) and (e)(1)]

Proposed Plan Comment Form

IR Site 2

The public comment period for the Proposed Plan for IR Site 2, Former Naval Air Station (NAS) Alameda at Alameda Point, Alameda, California is from August 4, 2009 through September 14, 2009. A public meeting to present the Proposed Plan will be held at the Alameda Point Main Office Building, Room 201, 950 West Mall Square, Bldg. 1, Alameda, California on August 27, 2009 from 6:30 to 8:00 p.m. You may provide your comments orally at the public meeting and they will be recorded by a court reporter. Alternatively, you may provide written comments in the space provided below or on your own stationery. All written comments must be postmarked no later than September 14, 2009. You may also submit this form to a Navy representative at the public meeting. Comments are also being accepted by e-mail and fax. Please address e-mail comments to george.brooks@navy.mil, or fax to (619) 532-0940.

Name: _____

Representing:
(if applicable) _____

Phone Number:
(optional) _____

Address:
(optional) _____

☐ Please check here if you would like to be added to the Navy's Environmental Mailing List for Alameda Point.

Comments:

Mail to:
Mr. George Patrick Brooks
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Proposed Plan for IR Site 2

Former NAS Alameda