Hunters Point Shipyard Parcel B

REVISED

San Francisco, California ***June 2008***

NAVY ANNOUNCES PROPOSED PLAN

The U.S. Navy encourages the public to comment on its ***Proposed Plan**** for cleanup of Parcel B at Hunters Point Shipyard in San Francisco, California. This Proposed Plan proposes to amend the ***Record of Decision (ROD)*** for Parcel B issued in 1997 to select a modified remedy. The ***U.S. Environmental Protection Agency, Region 9 (EPA)*** and the California Environmental Protection Agency, including the ***Department of Toxic Substances Control (DTSC)*** and the ***San Francisco Bay Regional Water Quality Control Board (Water Board)***, worked with the Navy in the evaluation of alternatives and in selection of the ***preferred alternatives***.

This Proposed Plan summarizes the alternatives evaluated under the ***Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*** and explains the basis for choosing the preferred remedial (cleanup) alternatives for soil and ***groundwater*** contamination at Parcel B at Hunters Point Shipyard. The Navy proposes the following actions to address contamination in soil, groundwater, and structures at Parcel B:

- Removing soil in areas where concentrations of organic chemicals and metals are higher than the levels considered safe for human health and ecological receptors.
- Installing covers over the entire parcel to prevent contact with any metals or radiological contaminants that are not excavated.
- Surveying and decontaminating buildings, former building sites, sewer lines, and other areas affected by radiological sources.
- Screening, separating, and disposing of radiological sources and radiologically contaminated materials and soil.
- Transporting excavated contaminated soil and materials off site to an appropriate landfill.
- Operating a ***soil vapor extraction (SVE)*** system to remove and treat ***volatile organic compounds (VOC)*** in soil at ***Installation Restoration (IR)*** Site 10.
- Building a shoreline ***revetment*** in required areas to protect ecological receptors from chemicals in shoreline sediments.
- Treating groundwater at IR Site 10 by injecting chemicals to break down the contaminants.
- Implementing a groundwater monitoring program to verify that remediation efforts meet the ***remediation goals*** defined in the amended ROD.
- Using ***engineering controls (EC)*** and ***institutional controls (IC)*** to limit exposure to contaminated soil and groundwater by restricting specified land uses and activities on the parcel. (See the insert on pages 17 and 18 for more details on ICs).

This Proposed Plan summarizes the regulatory process that governs the cleanup; describes the site history, environmental investigations, risk assessments, and remedial alternatives for Parcel B; and indicates how the Navy selected the preferred alternative for cleaning up the soil and groundwater at the site. The Navy will consider public comments on this Proposed Plan during preparation of the amended ROD for Parcel B. The Navy invites you to provide comments on the Proposed Plan; see page 15 for information on how to comment. After all the proposed actions are conducted and operation and maintenance and ICs are implemented, the actions proposed will be protective of human health and the environment and meet all cleanup objectives.

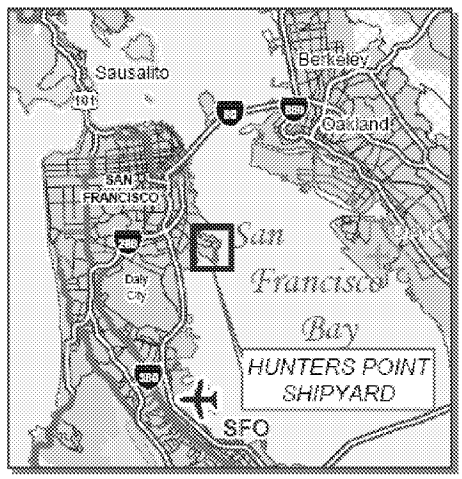

Figure 1. Location of HPS

— Notice —

Public Comment Period

June 28 to July 28, 2008

Public Meeting

July 8, 2008

6:30 p.m. to 8:00 p.m.

Southeast Community Facility Commission Building
Alex L. Pitcher, Jr. Room
1800 Oakdale Avenue, San Francisco

*Words in ***bold italic*** type are defined in the glossary on page 20

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THE CERCLA PROCESS

Since the mid-1980s, numerous investigations have been conducted at Hunters Point Shipyard under the Navy's IR Program, which is a comprehensive environmental investigation and cleanup program that identifies, investigates, and remediates chemical and radiological contamination that resulted from past activities. The IR Program complies with CERCLA, the California Hazardous Substances Account Act, and all other federal and state laws that govern environmental cleanups.

In accordance with CERCLA, 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)***. This Proposed Plan is being prepared to address the results of a 5-year review of the original remedial action for Parcel B. Figure 2 to the right illustrates the CERCLA process from the time of the original ROD through completion of cleanup of Parcel B and indicates the current status of Parcel B.

The original ROD for Parcel B was completed in 1997. The remedy for soil focused on removal of soil to 10 feet ***below ground surface (bgs)*** and off-site disposal of contaminated soil. The remedy for groundwater included investigating storm drains, removing fuel and steam lines, groundwater monitoring, and ICs.

Per the terms of the ROD, the Navy conducted cleanup actions from 1998 through 2001 to remove soil and monitor groundwater. Soil removals proved to be much larger and more costly than expected. Although the Navy successfully met the cleanup goals at 93 of 106 excavations, the strategy of removal and off-site disposal did not achieve the cleanup goals everywhere across Parcel B.

The 5-year review in 2003 concluded that new information gained at the site since the ROD was completed in 1997 should be considered and the selected remedy modified to provide long-term protection to human health and the environment. This new information included (1) the widespread presence of metals in soil across Parcel B, (2) the findings of a ***screening-level ecological risk assessment (SLERA)*** for shoreline areas, (3) updates to reference criteria used in the ***human health risk assessment (HHRA)***, (4) the presence of methane and mercury in specific areas, and (5) the findings from surveys and removal actions conducted to address radiological contaminants identified by a ***Historical Radiological Assessment (HRA)***. The Navy prepared the ***Technical Memorandum in Support of a ROD Amendment (TMSRA)*** in December 2007 and a Radiological Addendum to the TMSRA (TMSRA RA) describing radiological considerations in March 2008. The TMSRA and TMSRA RA describe this new information and provide a basis for amending the ROD. The next step in the process is preparing the amended ROD for Parcel B that will present the selected remedial alternatives, identify remediation goals, and outline performance standards that the selected remedy must meet.

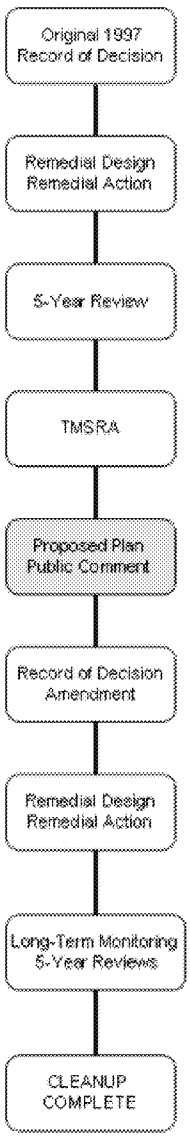

Figure 2. CERCLA Process

The Proposed Plan summarizes information detailed in the TMSRA, TMSRA RA, and in other documents contained in the ***Administrative Record*** file for this site. The Navy encourages the public to review these documents to gain an understanding of the environmental assessments and investigations that have been conducted. Documents are available for public review at the locations listed on page 16.

The remedial alternatives presented in this Proposed Plan are based on the currently anticipated future land uses outlined in the redevelopment plan from the San Francisco Redevelopment Agency. However, reuse plans are subject to

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change. Changes in the planned reuse may lead to reconsideration of the ***remedial action objectives (RAO)*** and remediation goals and could cause further modifications to the ROD for Parcel B. CERCLA requires public involvement in changes to the remedy that are significant or fundamental.

A public comment period will be held from June 28 through July 28, 2008, and public comments can be submitted via mail, fax, or e-mail throughout the period. A public meeting will be held from 6:30 p.m. to 8:00 p.m. on July 8, 2008 at the Southeast Community Facility Commission Building in the Alex L. Pitcher, Jr. Room located at 1800 Oakdale Avenue, San Francisco. Members of the public may submit written and oral comments on this Proposed Plan at the public meeting. Written comments must be provided no later than July 28, 2008. Please refer to page 15 for further information on how to provide comments.

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

PARCEL B HISTORY

Hunters Point Shipyard is located in southeastern San Francisco on a peninsula that extends east into San Francisco Bay (see Figure 1 on page 1). This Proposed Plan applies to Parcel B, which includes about 59 acres on the northern side of the shipyard (see Figure 3).

Parcel B was formerly part of the industrial support area and was used for shipping, ship maintenance and repair, training, barracks, and offices. Other significant activities at Parcel B included radiological operations including radiological decontamination of ships and personnel, storage of radioactive material, and potential disposal of radioactive material.

Most of Parcel B consists of level lowlands constructed by placing borrowed fill material derived from local bedrock, construction debris, and waste materials. The fill supported new buildings and, in some areas, filled the margin of San Francisco Bay. About 75 percent of the parcel is paved or covered by structures. Groundwater beneath Parcel B includes the shallow A-***aquifer*** and the deeper B-aquifer; groundwater is not currently used for any purpose at Parcel B. Groundwater in the A-aquifer is not suitable as a potential drinking water source; groundwater in the B-aquifer has a low potential as a

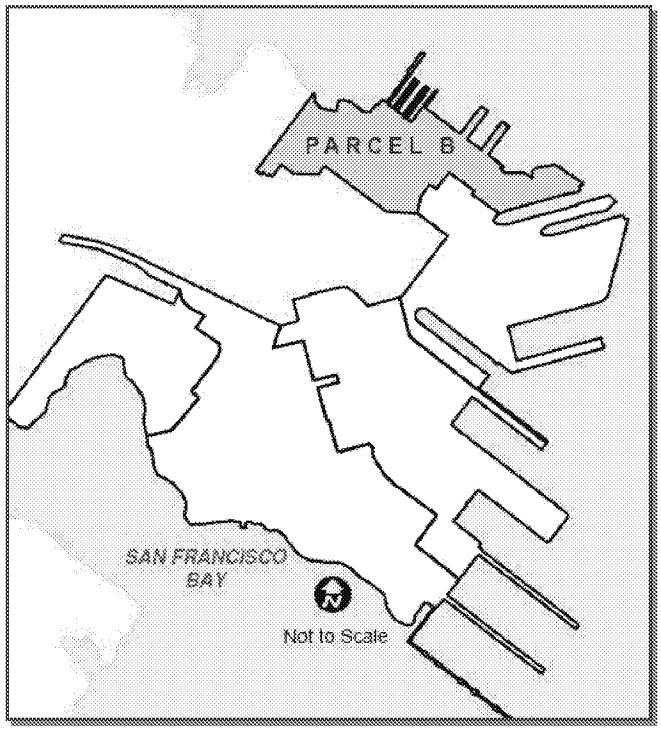

Figure 3. Location of Parcel B

future drinking water source. Subsurface materials at Parcel B include fill, native sediments (such as sand and the Bay Mud), and bedrock.

ACTIVITIES AT PARCEL B SINCE THE 1997 ROD

The Navy has completed a series of activities since the ROD was signed in 1997. These activities include removal of more than 100,000 cubic yards of soil from 106 excavations, quarterly monitoring of groundwater since 1999, and identification and removal of radiological contaminants from buildings, sewer lines, and other areas. The volume of soil removed would cover a football field about 50 feet deep. These activities have resulted in an increased understanding of soil and groundwater at Parcel B, including the location of remaining contaminants, and provided the new information that supports the need to amend the ROD. This new information is described below.

Metals in Soil. The excavation remedy selected in the ROD was based on the localized release of chemicals (such as dumping from a truck). However, concentrations of metals were found to exceed cleanup goals beyond these localized areas. The Navy believes that these metals are the result of bedrock fill quarried to build the shipyard in the 1940s. The fill also included construction debris and waste materials (such as sandblast grit) that may have contained contaminants. Therefore, the Navy has worked together with the

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regulatory agencies to identify remedial alternatives that address metals in soil, regardless of their source.

Ecological Risk Assessment. Since the 1997 ROD, the Navy has evaluated potential risk related to sediment at the shoreline and from exposure to groundwater as it interacts with the surface water of San Francisco Bay. This evaluation of potential risk from sediment was presented in a SLERA. The Navy also completed a screening evaluation of surface water quality to identify potential risks from groundwater entering the bay.

Updates to Reference Criteria. EPA and DTSC have updated information about the toxicity characteristics of VOCs since the ROD was prepared. Agency guidelines are now more stringent and intrusion of VOC vapors into buildings is now considered a more significant risk to human health.

Methane. Fill containing a high proportion of construction debris was placed on the northwestern side of Parcel B (an area known as IR Sites 7 and 18) during the expansion of the shipyard in the 1950s (see Figure 4 below). The Navy completed a survey of methane and VOC vapors in soil throughout IR Sites 7 and 18. The survey found methane present at concentrations that could be explosive if the vapors accumulated in a structure. The presence of methane may be related to the construction debris.

Mercury. The Navy collects groundwater samples from wells located near the shoreline during the ongoing monitoring program. Results for samples at two wells have indicated the presence of mercury at concentrations that may pose risk to ecological receptors. The Navy identified mercury contamination in soil beneath a nearby excavation as a potential source of the mercury in groundwater.

Radiological Removal Actions. The Navy identified radiologically impacted areas, buildings, equipment, and infrastructure at Parcel B associated with the former use of general radioactive materials and decontamination of ships used in atomic weapons testing in the South Pacific (see Figure 4 below) in the HRA.

The new information summarized above supports the need to amend the 1997 ROD.

The Navy decided to address some of these sources of contamination using ***time-critical removal actions (TCRA)***. The following discussion describes the TCRAs for methane, mercury, and radiological contaminants and the relationship of the TCRAs to the remedial actions that the Navy anticipates will be selected in the amended ROD.

Time-Critical Removal Actions. A TCRA is an expedited CERCLA response action with an abbreviated planning period (see EPA Office of Solid Waste and Emergency Response Directive 9318.0-05, and Title 40 of the Code of Federal Regulations Section 300.415(n)(2)). The Navy prepares an Action Memorandum to document the decision to undertake a TCRA while the ROD and amended ROD document the decisions for the final remedial action.

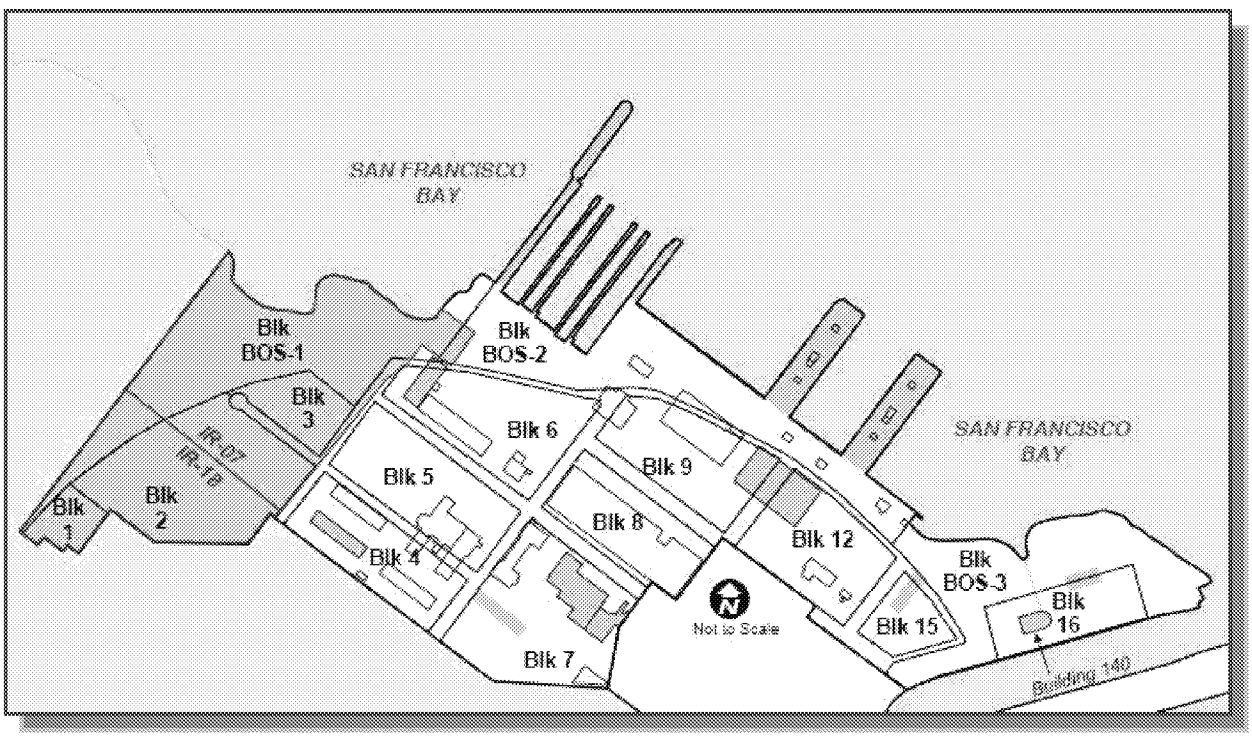

Figure 4. Radiologically Impacted Areas (pink) and Redevelopment Blocks

Methane and mercury. The Navy will excavate the methane and mercury source areas and dispose of the excavated soil (and debris at the methane source area) at an off-site landfill. The field work for these TCRAs is expected to begin in late summer to early fall 2008.

Radiological contaminants. The Navy is currently conducting a TCRA at Parcel B to remove radiologically impacted storm drain and sanitary sewer lines and to survey radiologically impacted sites as identified in the HRA. The majority of the storm drain and sanitary sewer lines have been removed at Parcel B as part of this TCRA; surveys of other radiologically impacted areas at Parcel B are ongoing.

The use of TCRAs allows the Navy to get an early start on cleanup at these newly identified source areas. The TCRAs are consistent with the cleanup alternatives described later in this Proposed Plan; for example, several of the soil cleanup alternatives include excavation at areas that are also addressed in the TCRAs. Although the TCRAs may not be completed by the time the amended ROD is signed, the Navy anticipates that the TCRAs will meet the RAOs described in this Proposed Plan.

OVERVIEW OF SITE CONDITIONS

In addition to the characterization activities for soil discussed above, the Navy identified three small areas where soil contains lead or polycyclic aromatic hydrocarbons (PAH) resulting from Navy activities. The proposed remedial alternatives address these chemicals in soil.

The Navy has monitored groundwater at Parcel B quarterly since 1999. Monitoring results further defined the locations of chemicals in groundwater, including VOCs at IR Site 10, mercury at IR Site 26, and other metals at various other locations. The proposed remedial alternatives address these chemicals in groundwater.

WHAT ARE THE SITE RISKS?

"Risk" is the likelihood or probability that a hazardous chemical, when released to the environment, will cause adverse effects on exposed humans or other ecological receptors. The Navy evaluated risk to human health (HHRA) and ecological receptors (SLERA) in risk assessments that were presented in the TMSRA and its radiological addendum. These risk assessments are summarized below.

Human Health Risk Assessment (HHRA). The Navy considered the different ways that humans might be exposed to chemicals, the possible concentrations of chemicals that could be encountered during exposure, and the potential frequency and duration of exposure. These exposure scenarios depend on the future use of the land.

The redevelopment plan from the San Francisco Redevelopment Agency outlines the proposed reuses for Parcel B. The redevelopment plan divides Parcel B into reuse areas (see Figure 5 below). The expected long-term uses include research and development and mixed use (including residential), educational/cultural, and open space. The Navy evaluated these reuses using residential

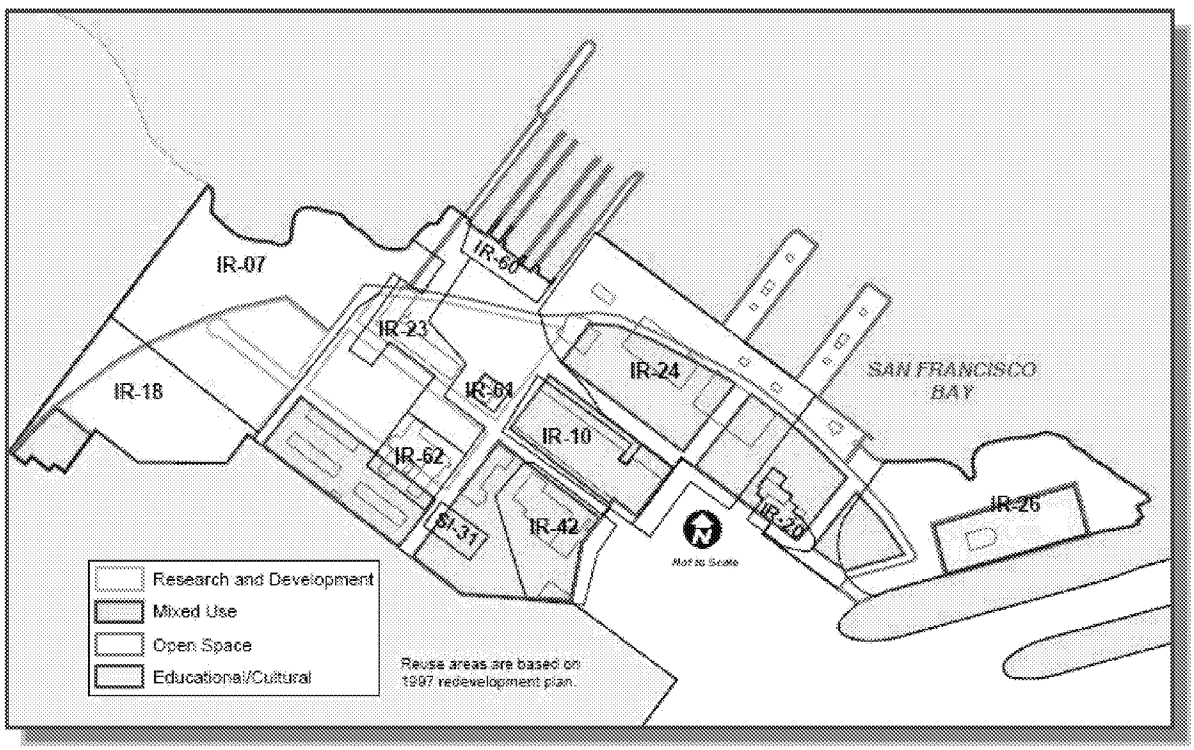

Figure 5. Reuse Areas and Installation Restoration Sites

(research and development and mixed use blocks), industrial (educational/cultural block), and recreational (open space blocks) exposure scenarios. In areas such as IR Sites 7 and 18, where remedial actions include restrictions on the use of the property, some contaminants have already been excavated and disposed of by TCRAs. Redevelopment in areas containing residual contamination would be conducted under the oversight of the Navy and regulatory agencies.

Risk calculations were based on conservative assumptions to protect human health. "Conservative" means the assumption will tend to overestimate risk, resulting in remediation goals that are more protective of human health. The residential scenario is considered the most conservative. Human health risk is classified as cancer (from exposure to carcinogens) or noncancer (from exposure to noncarcinogens).

Cancer risk is generally expressed as a probability. For example, a cancer risk probability of 5 in 100,000 (5×10^{-5}) based on the risk assumptions indicates that, out of 100,000 people exposed, five cancer cases may occur. To help characterize cancer risk, EPA's established risk management range (10^{-4} to 10^{-6}) is often used by risk managers to evaluate whether site risks are significant enough to warrant further cleanup. According to EPA, cleanup is generally warranted for sites where the cumulative site risk for future and current land use is greater than 10^{-4} and action may be considered for risks in the 10^{-4} to 10^{-6} range. However, the Navy adopted a conservative approach at Parcel B and evaluated action for risks greater than 10^{-6}.

Noncancer risk is expressed as a number called the ***hazard index (HI)*** and is estimated by comparing chemical exposure levels with reference values established by the regulatory agencies. An HI of 1 or less is considered an acceptable exposure level for noncancer health hazards.

The risk assessment for soil indicated cancer risks greater than 10^{-6} or noncancer hazards greater than 1 at nearly all reuse areas (see Table 1 on page 7). Potential risks from soil are based on exposure to metals, pesticides, ***polychlorinated biphenyls (PCB)***, PAHs, and radionuclides. The risk assessment for groundwater estimated cancer risks greater than 10^{-6} or noncancer hazards greater than 1 at 7 of the 15 redevelopment blocks, mostly in residential reuse areas (see Table 2 on page 7). Potential risks from groundwater are based on (1) breathing VOC vapors in indoor air that have migrated from groundwater in the A-aquifer and (2) exposure to metals, VOCs, and ***semivolatile organic compounds (SVOC)*** during domestic use of groundwater from the B-aquifer. The HHRA calculations for soil and groundwater are based on reasonable maximum exposure assumptions recommended by EPA and DTSC. These assumptions provide a conservative and protective approach that estimates the highest health risks that are reasonably expected to occur at a site. Actual risks from exposures to chemicals in soil and groundwater at Parcel B are likely to be lower.

Screening-Level Ecological Risk Assessment (SLERA). An ecological risk assessment considers risk to ecological receptors, such as small mammals, birds, and marine life. The Navy completed a SLERA to evaluate potential risk related to sediment at the shoreline and a screening evaluation of surface water quality to assess potential exposure to groundwater as it interacts with the surface water of San Francisco Bay. The SLERA did not include inland areas at Parcel B because most of the land is paved and the parcel has no identified terrestrial habitat. The SLERA concluded that a variety of chemicals in shoreline sediment including several metals, pesticides, and PCBs may pose risk to organisms that live along the shoreline. The screening evaluation of surface water quality found that four metals in groundwater (chromium VI, copper, lead, and mercury) may pose risk to marine organisms.

REMEDIAL ACTION OBJECTIVES

RAOs are established to assist in identifying and assessing remedial alternatives to address risks associated with the site. RAOs are medium-specific (such as soil and groundwater) goals for protecting human health and the environment. Each RAO should specify (1) the contaminants of concern, (2) the exposure routes and receptors, and (3) an acceptable contaminant concentration or range of concentrations for each exposure pathway and medium (known as "remediation goals"). Remediation goals provide a quantitative means of (1) identifying areas for potential remedial action, (2) screening appropriate types of technologies, and (3) assessing a remedial action's potential to achieve the RAO. Ultimately, the success of a remedial action is measured by the action's ability to meet the respective RAOs. Planned future land use is an important component in developing RAOs. The RAOs for Parcel B are based on the San Francisco Redevelopment Agency's reuse plan. These RAOs were developed in conjunction with the regulatory agencies.

Most of the RAOs include remediation goals. A remediation goal is a chemical concentration that corresponds to a human health risk of 10^{-6} for the exposure pathway listed in the RAO. Preliminary values for

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Table 1: Cancer Risks and Noncancer Hazards from Soil[a]				
Redevelopment Block	Exposure Scenario	Cancer Risk		Noncancer HI
		Chemical	Radiological[b]	
1	Residential	2×10^{-6}	3×10^{-5}	< 1
2	Residential	9×10^{-6}	3×10^{-5}	2
3	Residential	3×10^{-3}	3×10^{-5}	9
4	Residential	c	1×10^{-6}	c
5	Residential	4×10^{-6}	d	< 1
6	Residential	8×10^{-6}	1×10^{-6}	2
7	Residential	4×10^{-4}	2×10^{-6}	3
8	Residential	2×10^{-4}	d	2
9	Residential	6×10^{-6}	2×10^{-6}	3
12	Residential	2×10^{-5}	2×10^{-6}	4
15	Residential	4×10^{-5}	6×10^{-5}	2
16	Industrial	1×10^{-4}	4×10^{-5}	< 1
BOS-1	Recreational	8×10^{-6}	3×10^{-5}	< 1
BOS-2	Recreational	3×10^{-7}	d	< 1
BOS-3	Recreational	8×10^{-5}	4×10^{-5}	< 1

Notes:

a Listed risk value is maximum in each redevelopment block; risk based on conditions before remediation.

b Risk from radiological contaminants includes soil and structures.

c Not applicable; samples were not collected because no historical activities occurred there.

d Not applicable; no radiologically impacted areas or buildings were located in this block.

Table 2: Cancer Risks and Noncancer Hazards from Groundwater			
Redevelopment Block	Exposure Scenario	Cancer Risk	Noncancer HI
A-Aquifer. Risks based on Vapor Intrusion.			
1	Residential	a	a
2	Residential	b	b
3	Residential	$< 10^{-6}$	< 1
4	Residential	a	a
5	Residential	2×10^{-6}	< 1
6	Residential	$< 10^{-6}$	< 1
7	Residential	b	b
8	Residential	1×10^{-1}	331
9	Residential	6×10^{-3}	2
12	Residential	1×10^{-1}	331
15	Residential	c	1
16	Industrial	3×10^{-6}	< 1
BOS-1	Recreational	d	d
BOS-2	Recreational	d	d
BOS-3	Recreational	d	d
B-Aquifer. Risks based on Domestic Use[e].			
2	Residential	9×10^{-4}	< 1
BOS-1	Residential	1×10^{-3}	4

Notes:

a Not applicable; samples were not collected because no historical activities occurred there.

b Not applicable; volatile chemicals not detected in groundwater in this block.

c Not applicable; carcinogenic chemicals were not detected in groundwater in this block.

d Not applicable; recreational users are not assumed to be exposed to groundwater.

e B-aquifer is present only at Redevelopment Blocks 2 and BOS-1. Risks for B-aquifer include A-aquifer data to address potential hydraulic communication between aquifers; risk based on conditions before remediation.

remediation goals are presented in Tables 3 through 6, following their respective RAO discussion, and will be finalized in the amended ROD. The RAOs are discussed below.

Soil and Sediment. Separate RAOs were developed for human and ecological receptors. Ecological RAOs were developed only for soil and sediment in shoreline areas. The RAOs for soil and sediment include:

1. Prevent exposure to organic and inorganic compounds in soil at concentrations above remediation goals (see Table 3 on page 8) developed in the HHRA for the following exposure pathways:

   (a) Ingestion of, outdoor inhalation of, and dermal exposure to soil

   - From 0 to 10 feet bgs for residents in research and development and mixed-use reuse areas
   - From 0 to 10 feet bgs for industrial workers in the educational/cultural reuse area
   - From 0 to 2 feet bgs for recreational users in open space reuse areas
   - From 0 to 10 feet bgs for construction workers in all reuse areas

   (b) Ingestion of homegrown produce by residents in research and development and mixed-use areas

2. Prevent exposure to VOCs in soil gas at concentrations that would pose unacceptable risk (that is, risk greater than 10^{-6}) via indoor inhalation of vapors.

3. Prevent presence of methane in soil gas at concentrations that could accumulate and become explosive in structures.

4. Prevent exposure of ecological receptors to organic and inorganic compounds in soil and sediment in shoreline areas at concentrations above remediation goals established for sediment (see Table 4 on page 8).

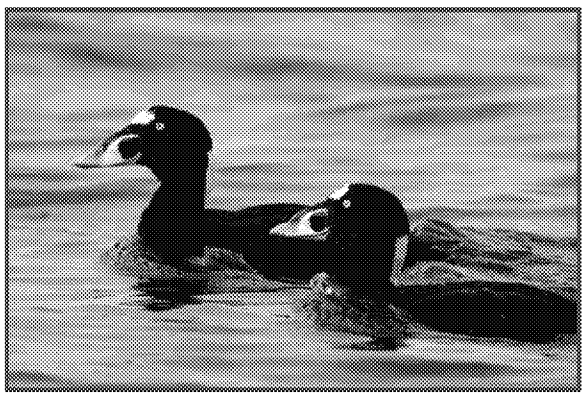

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Table 3. Preliminary Remediation Goals for Soil			
Exposure Scenario	Chemical of Concern	RG (mg/kg)	Basis for RG
Residential	Antimony	10	Risk
	Aroclor-1254	0.093	Risk
	Aroclor-1260	0.21	Risk
	Arsenic	11.1	HPAL
	Benzo(a)anthracene	0.37	Risk
	Benzo(a)pyrene	0.33	PQL
	Benzo(b)fluoranthene	0.34	Risk
	Benzo(k)fluoranthene	0.34	Risk
	Beta-BHC	0.0066	Risk
	Bis(2-ethylhexyl) phthalate	1.1	Risk
	Cadmium	3.5	Risk
	Copper	159	Risk
	Dibenz(a,h)anthracene	0.33	PQL
	Dieldrin	0.0034	PQL
	Heptachlor epoxide	0.0017	PQL
	Indeno(1,2,3-cd) pyrene	0.35	Risk
	Iron	58,000	HPAL
	Lead	155	Risk
	Manganese	1,431	HPAL
	Mercury	2.3	HPAL
	Naphthalene	1.7	Risk
	Tetrachloroethene	0.48	Risk
	Trichloroethene	2.9	Risk
	Vanadium	117	HPAL
	Zinc	373	Risk
Recreational	Aroclor-1254	0.74	Risk
	Aroclor-1260	0.74	Risk
	Arsenic	11.1	HPAL
	Benzo(a)pyrene	0.33	PQL
	Lead	155	Risk
Industrial	Arsenic	11.1	HPAL
	Benzo(a)anthracene	1.8	Risk
	Benzo(a)pyrene	0.33	PQL
Construction Worker	Aroclor-1260	2.1	Risk
	Arsenic	11.1	HPAL
	Benzo(a)pyrene	0.65	Risk
	Lead	800	Risk
	Trichloroethene	151	Risk

Table 4. Preliminary Remediation Goals for Sediment			
Exposure Scenario	Chemical of Concern	RG (mg/kg)	Basis for RG
Ecological Receptor	Aluminum	3,400	Risk
	Copper	270	Risk
	Dibenz(a,h)anthracene	0.33	PQL
	Dieldrin	0.008	Risk
	Lead	218	Risk
	Methoxychlor	0.4	Risk
	Total Aroclors	0.18	Risk
	Total DDT	0.046	Risk
	Zinc	410	Risk

Groundwater. RAOs for groundwater were selected based on the various exposure scenarios indicating potential risk to human health and ecological receptors from groundwater. The RAOs for groundwater include:

1. Prevent exposure to VOCs and mercury in the A-aquifer groundwater at concentrations above remediation goals (see Table 5 on page 9) via indoor inhalation of vapors from groundwater.
2. Prevent direct exposure to B-aquifer groundwater at concentrations above remediation goals (see Table 5 on page 9) through the domestic use pathway (for example, drinking water or showering).
3. Prevent or minimize exposure of construction workers to metals, VOCs, and SVOCs in the A-aquifer groundwater at concentrations above remediation goals (see Table 5 on page 9) from dermal exposure and inhalation of vapors from groundwater.
4. Prevent or minimize migration to the surface water of San Francisco Bay of chromium VI, copper, lead, and mercury in the A-aquifer groundwater that would result in concentrations of chromium VI above 50 ***micrograms per liter (µg/L)***, copper above 28.04 µg/L, lead above 14.44 µg/L, and mercury above 0.6 µg/L in the surface water of San Francisco Bay. This RAO is intended to protect the beneficial uses of the bay, including ecological receptors.

Remediation goals for soil, sediment, and groundwater were selected, by chemical, based on a comparison of (1) the concentration calculated in the risk assessment corresponding to a cancer risk of 10^{-6} or a noncancer hazard index of 1, (2) the laboratory ***practical quantitation limit (PQL)***, and (3) for metals only, the ambient level at Hunters Point Shipyard (called the HPAL for soil and the HGAL for groundwater). The highest of the three values was selected as the remediation goal for each chemical. The same comparison was made for groundwater, with one additional constraint. If a legal requirement (see the discussion of ***applicable or relevant and appropriate requirements [ARAR]*** later) applied to the chemical, the value specified in the legal requirement was selected.

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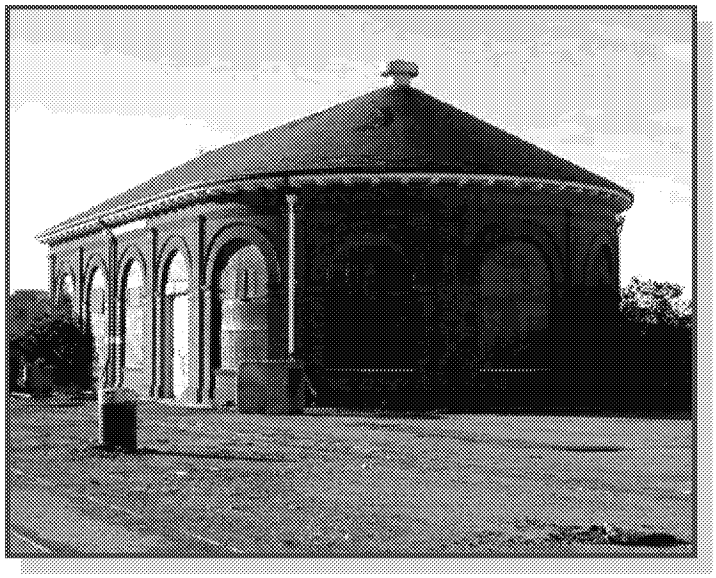
Table 5. Preliminary Remediation Goals for Groundwater			
Exposure Scenario	Chemical of Concern	RG (µg/L)	Basis for RG
A-Aquifer Groundwater			
Residential Vapor Intrusion	1,2,4-Trichlorobenzene	66	Risk
	1,2,4-Trimethylbenzene	25	Risk
	1,2-Dichlorobenzene	2,561	Risk
	1,2-Dichloroethane	2.3	Risk
	1,2-Dichloroethene (total)	209	Risk
	1,2-Dichloropropane	1.1	Risk
	1,3,5-Trimethylbenzene	19	Risk
	1,4-Dichlorobenzene	2.1	Risk
	2-Methylnaphthalene	707	Risk
	Benzene	0.5	PQL
	Bromodichloromethane	1	Risk
	Chlorobenzene	392	Risk
	Chloroethane	6.5	Risk
	Chloroform	1.0	PQL
	cis-1,2-Dichloroethene	209	Risk
	Dichlorodifluoro-methane	14	Risk
	Mercury	0.68	Risk
	Methylene chloride	27	Risk
	Naphthalene	3.6	Risk
	Tetrachloroethene	1	PQL
	trans-1,2-Dichloroethene	182	Risk
	Trichloroethene	2.9	Risk
	Trichlorofluoromethane	176	Risk
	Vinyl chloride	0.5	PQL
Industrial Vapor Intrusion	Chloroform	1.2	Risk
Construc-tion Worker Trench Exposure	1,2,4-Trichlorobenzene	55	Risk
	1,2,4-Trimethylbenzene	72	Risk
	1,2-Dichlorobenzene	2,215	Risk
	1,2-Dichloroethane	30	Risk
	1,2-Dichloroethene (total)	363	Risk
	1,2-Dichloropropane	40	Risk
	1,4-Dichlorobenzene	68	Risk
	2,4,6-Trichlorophenol	15	Risk
	2,4-Dimethylphenol	9,801	Risk
	2,4-Dinitrotoluene	179	Risk
	2-Methylnaphthalene	140	Risk
	4-Methylphenol	3,500	Risk
	Arsenic	40	Risk
	Benzene	22	Risk
	Benzo(a)anthracene	2	PQL
	Benzo(a)pyrene	2	PQL
	Bromodichloromethane	26	Risk
	Chlorobenzene	594	Risk
	Chloroform	36	Risk
	Chrysene	6.4	Risk
	cis-1,2-Dichloroethene	363	Risk
	Mercury	4.68	Risk
	Naphthalene	20	Risk
	Pentachlorophenol	25	PQL
	Tetrachloroethene	19	Risk
	trans-1,2-Dichloroethene	721	Risk
	Trichloroethene	374	Risk
	Vinyl chloride	7.2	Risk

Table 5. Preliminary Remediation Goals for Groundwater (Continued)			
Exposure Scenario	Chemical of Concern	RG (µg/L)	Basis for RG
B-Aquifer Groundwater			
Residential Domestic Use	1,4-Dichlorobenzene	7.5	ARAR
	Antimony	43.26	HGAL
	Arsenic	27.34	HGAL
	Benzene	5	ARAR
	Chloroethane	4.6	Risk
	Manganese	8,140	HGAL
	Pentachlorophenol	25	PQL
	Thallium	12.97	HGAL
	Trichloroethene	5	ARAR

Note: Remediation goals for vapor intrusion from groundwater will be replaced in the future by remediation goals based on soil gas which will encompass potential vapor intrusion from both soil and groundwater. Remediation goals for soil gas will be determined based on a soil gas survey conducted following the remedial actions. Remediation goals will be used to evaluate the need for additional action or to define areas requiring ICs.

Radiologically Impacted Soil and Structures. RAOs for radiologically impacted sites include:

1. Prevent ingestion, dermal contact, or inhalation of radionuclides of concern in concentrations that exceed remediation goals (see Table 6 on page 10).
2. Ensure that the increased lifetime cancer risk does not exceed the risk range of 10^{-6} to 10^{-4} for future use scenarios.



Building 140, Dry Dock 3 Pump Station, Historical Structure

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Table 6. Preliminary Remediation Goals for Radionuclides					
	Surfaces (dpm/100 cm²)		Soil (pCi/g)		Water (pCi/L)
Radionuclide	Equipment/Waste (dpm/100 cm²)	Structures (dpm/100 cm²)	Construction Worker	Resident	Equipment/Waste
Cesium-137	5,000	5,000	0.113	0.113	119
Cobalt-60	5,000	5,000	0.0602	0.0361	100
Plutonium-239	100	100	14.0	2.59	15
Radium-226	100	100	1.0[a]	1.0[a]	5.0
Strontium-90	1,000	1,000	10.8	0.331	8

Notes:

a 1 pCi/g above background

cm² Square centimeter
dpm Disintegration per minute
pCi/g Picocurie per gram
pCi/L Picocurie per liter

SUMMARY OF REMEDIAL ALTERNATIVES EVALUATED

The remedial alternatives evaluated in the TMSRA ranged from no action to extensive remediation to address soil, groundwater, and radiologically impacted areas.

Remedial Alternatives for Soil and Sediment. Remedial technologies were screened for their potential to achieve the RAOs at Parcel B. Technologies were retained and assembled into the remedial alternatives presented in Table 7 on page 11.

Alternative S-2 relies mainly on ECs (such as fences) and ICs to prevent exposure and involves little active remediation. Alternative S-3 also uses ECs and ICs as primary components but adds limited excavation to address Navy releases of lead, mercury, and organic compounds. Alternative S-4 uses covers as the primary protection from exposure. Alternative S-5 combines the excavation components from S-3 and the cover components from S-4 and adds SVE to address VOCs in soil. Alternative S-5 has the most active remediation components. Alternatives S-2 through S-5 all use a revetment as the remedy to address contaminants in shoreline sediment.

Remedial Alternatives for Groundwater. Remedial technologies were screened for their potential to achieve the RAOs at Parcel B. Technologies were retained and assembled into the remedial alternatives presented in Table 8 on page 11.

Alternative GW-2 primarily involves groundwater monitoring to assess whether contaminants migrate over time. Alternatives GW-3A and GW-3B propose active treatment of groundwater using biological compounds (GW-3A) or zero-valent iron (GW-3B). Both alternatives include ICs to prevent exposure to groundwater.

Remedial Alternatives for Radiologically Impacted Soil and Structures. Remedial technologies were screened for their potential to achieve the RAOs at Parcel B. Technologies were retained and assembled into the remedial alternatives presented in Table 9 on page 12.

Both Alternatives R-2 and R-3 include (1) surveying structures, former building sites, and radiologically impacted areas; (2) decontaminating (and demolishing if necessary) buildings; (3) excavating storm drain and sanitary sewer lines; (4) screening, separating, and disposing of radioactive sources and contaminated excavated soil at an off-site low-level radioactive waste facility, and (5) ICs. Both alternatives also include a surface scan at IR Sites 7 and 18, and removal of any radiological anomalies to a depth of 1 foot (the maximum effective depth of the surface scan). A demarcation layer would be installed on the surveyed soil surface before covers were constructed at IR Sites 7 and 18 to mark the boundary between the existing surface and a new 2-foot-thick soil cover. Alternative R-3 adds closure of a pump shaft beneath Building 140 using backfilled stone and a concrete cap.

ICs are an integral component of every remedial alternative and the insert on pages 17 and 18 provides an overview of ICs common to all the alternatives, including a description of some of the ICs that will be applicable only to IR Sites 7 and 18 and the pump shaft beneath Building 140. The Navy and DTSC will implement ICs through legal instruments known as Quitclaim Deeds and covenants to restrict use of property.

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Table 7. Remedial Alternatives for Soil and Sediment		
Remedial Alternative	Cost ($M)	Components of Remedial Alternative
S-1	0	**No Action:** No actions or costs; this alternative is required by CERCLA as a baseline for comparison with the other alternatives.
S-2	5.5	**ICs:** Impose ICs to limit the use of land or activities that take place within an area. The insert on pages 17 and 18 lists the ICs for soil. **Maintained Landscaping:** Maintain landscaping for bare or disturbed areas that have not been restored with a cover to prevent potential exposure to asbestos that may be present in surface soil and transported by wind erosion. **Shoreline Revetment:** Implement an erosion-control structure such as riprap or a concrete structure that also incorporates a geomembrane to prevent migration of fine-grained sediment into the bay.
S-3	11.2	**Excavation and Off-Site Disposal:** Excavate areas where lead, mercury, and organic chemicals exceed remediation goals, including methane and mercury source areas, and dispose of excavated soil at an off-site landfill. **Maintained Landscaping, Shoreline Revetment, and ICs:** See description for Alternative S-2.
S-4	12.4	**Covers**: Implement physical barriers to cut off exposure pathways to soil across all of Parcel B. Covers will be a durable material that will not break, erode, or deteriorate such that the underlying soil becomes exposed. Existing asphalt and concrete surfaces and buildings may be used as covers as long as they meet the durability requirement. **Excavation of Mercury and Methane Source Areas and Off-Site Disposal:** Excavate methane and mercury source areas (only), and dispose of excavated soil at an off-site landfill. **Shoreline Revetment and ICs**: See description for Alternative S-2.
S-5	13.0	**Excavation and Off-Site Disposal:** See description for Alternative S-3. **Covers:** See description for Alternative S-4. **Soil Vapor Extraction (SVE):** Operate a vacuum system to remove VOC vapors from the soil and capture them for off-site treatment or disposal. **Shoreline Revetment and ICs:** See description for Alternative S-2.
1997 ROD	> 60	**Excavation and Off-Site Disposal:** Excavate areas where chemicals exceed cleanup goals established in the 1997 ROD and dispose of excavated soil at an off-site landfill. **ICs:** Impose ICs to limit the use of land or activities that take place within an area.

Table 8. Remedial Alternatives for Groundwater		
Remedial Alternative	Cost ($M)	Components of Remedial Alternative
GW-1	0	**No Action:** No actions or costs; this alternative is required by CERCLA as a baseline for comparison with the other alternatives.
GW-2	2.0	**Monitoring:** Implement long-term monitoring (for about 30 years) of groundwater to assess whether chemicals are migrating and to monitor changes in ambient conditions. **ICs:** Impose ICs to limit the use of land or activities that take place within an area. The insert on pages 17 and 18 lists the ICs for soil.
GW-3A	2.7	**In Situ Treatment Using Biological Substrate:** Inject an organic compound to stimulate biological activity that will destroy VOCs in groundwater. **Monitoring:** Implement long-term monitoring (for about 30 years) of groundwater to assess whether chemicals are migrating and to evaluate the effects of treatment. **ICs:** See description for Alternative GW-2.
GW-3B	3.1	**In Situ Treatment Using Zero-Valent Iron:** Inject iron powder to destroy VOCs in groundwater. **Monitoring:** See description for Alternative GW-3A. **ICs:** See description for Alternative GW-2.
1997 ROD	> 2	**Lining Storm Drains and Removing Steam and Fuel Lines:** Repair storm drains where contaminated groundwater may infiltrate. Excavate steam and fuel lines and dispose of excavated lines and soil at an off-site landfill. **Monitoring:** Implement long-term monitoring (for about 30 years) of groundwater to assess whether chemicals are migrating and to monitor changes in ambient conditions. **ICs:** Impose ICs to limit the use of land or activities that take place within an area.

Table 9. Remedial Alternatives for Radiologically Impacted Soil and Structures		
Remedial Alternative	Cost ($M)	Components of Remedial Alternative
R-1	0	**No Action:** No actions or costs; this alternative is required by CERCLA as a baseline for comparison with the other alternatives.
R-2	28.9	**Survey:** Survey radiologically impacted structures, former building sites, sanitary and storm sewers, and open areas. **Decontamination and Off-Site Disposal:** Decontaminate radiologically impacted sites, excavate storm drain and sanitary sewer lines, and dispose of contaminated material at off-site low-level radioactive waste disposal facilities. **Release:** Conduct surveys to ensure that remediation goals are met for radiologically impacted sites scheduled for unrestricted release. Apply remedies and maintain ICs for radiologically impacted areas scheduled for restricted release. Groundwater would be monitored at IR Sites 7 and 18. **ICs:** Impose ICs to limit the use of land or impose radiological controls for activities that would cause a remedy to no longer be in place. The insert on pages 17 and 18 lists the ICs for soil.
R-3	29.6	**Survey:** See description for Alternative R-2. **Decontamination and Off-Site Disposal:** See description for Alternative R-2. **Close In Place:** Close the pump shaft beneath Building 140 in place by filling it with stone and adding a concrete cap. **Release:** See description for Alternative R-2. **ICs:** See description for Alternative R-2.
1997 ROD	--	The 1997 ROD did not address radiologically impacted areas.

HOW DO THE REMEDIAL ALTERNATIVES COMPARE?

Selection of the preferred alternatives was based on an evaluation of the remedial alternatives using seven of the nine criteria specified in the NCP. The other two criteria, state acceptance and community acceptance, will be evaluated after the public comment period. General descriptions of the nine criteria are presented on Figure 6 . Tables 10, 11, and 12 on page 13 summarize the comparison of the remedial alternatives for soil, groundwater, and radiologically impacted soil and structures. The Navy's preferred alternatives to clean up Parcel B are described in the next section.

PREFERRED ALTERNATIVES

Based on the available information, the preferred alternatives for soil, groundwater, and radiologically impacted soil and structures meet the NCP threshold criteria and satisfy the following statutory requirements of CERCLA Section 121(b):

1. Protect human health and the environment
2. Comply with ARARs
3. Are cost effective
4. Use permanent solutions and alternative treatment technologies to the maximum extent practicable

Based on the comparison of remedial alternatives, the Navy identified preferred alternatives for soil, groundwater, and radiologically impacted soil and structures. EPA accepts the preferred alternatives. State

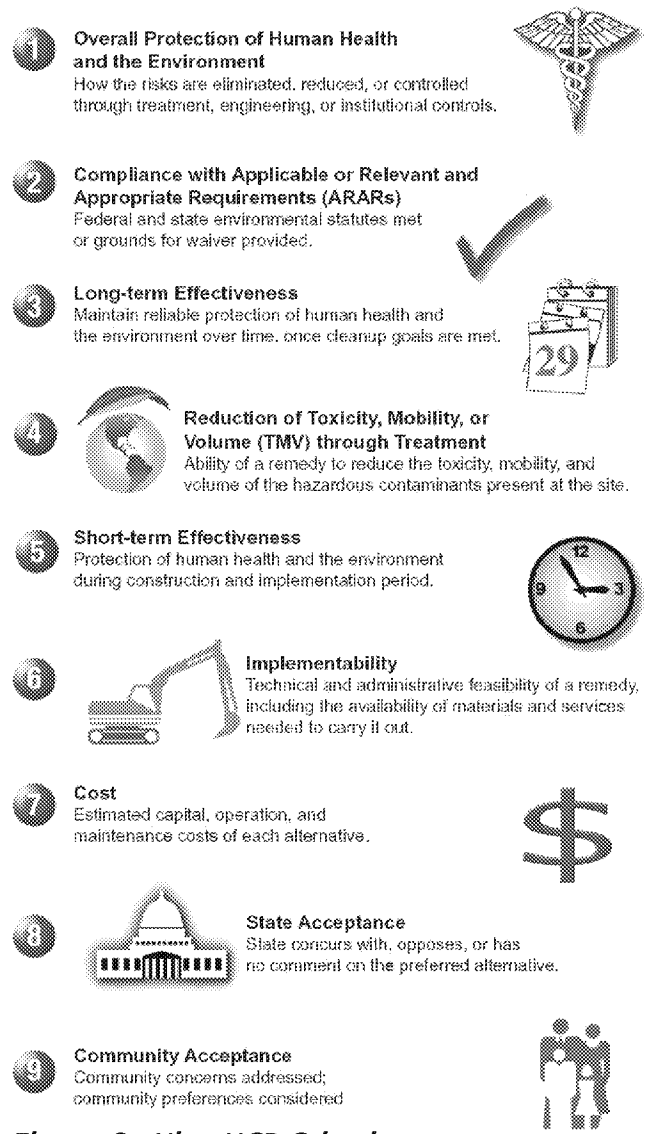

Figure 6. Nine NCP Criteria

Table 10. Comparative Analysis of Alternatives for Soil and Sediment

Remedial Alternative	Overall Protection of Human Health and Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of Toxicity, Mobility, or Volume via Treatment	Short-Term Effectiveness	Implement-ability	Cost ($M)
S-1: No Action	No	NA					0
S-2: ICs, Maintained Landscaping, Revetment	Yes	Yes					5.5
S-3: Excavation, Source Removals, Maintained Landscaping, Revetment, ICs	Yes	Yes					11.2
S-4: Covers, Source Removals, Revetment, ICs	Yes	Yes					12.4
S-5: Excavation, Source Removals, Covers, SVE, Revetment, ICs	Yes	Yes					13.0
1997 ROD	**No**	**No**					**> 60**

Table 11. Comparative Analysis of Alternatives for Groundwater

Remedial Alternative	Overall Protection of Human Health and Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of Toxicity, Mobility, or Volume via Treatment	Short-Term Effectiveness	Implement-ability	Cost ($M)
GW-1: No Action	No	NA					0
GW-2: Long-Term Monitoring, ICs	Yes	Yes					2.0
GW-3A: In situ treatment with biological substrate, monitoring, ICs	Yes	Yes					2.7
GW-3B: In situ treatment with ZVI, monitoring, ICs	Yes	Yes					3.1
1997 ROD	**No**	**Yes**					**> 2**

Table 12. Comparative Analysis of Alternatives for Radiologically Impacted Soil and Structures

Remedial Alternative	Overall Protection of Human Health and Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of Toxicity, Mobility, or Volume via Treatment	Short-Term Effectiveness	Implement-ability	Cost ($M)
R-1: No Action	No	NA					0
R-2: Survey, Decontamination, Disposal, Release, ICs	Yes	Yes					28.9
R-3: Survey, Decontamination, Disposal, Close In Place, Release, ICs	Yes	Yes					**29.6**
1997 ROD	**No**	**The 1997 ROD did not address radiologically impacted areas.**					

Notes: Text in green indicates preferred alternative.
Text in **blue** indicates alternative in 1997 ROD.
Fill symbols by quarters from open (not acceptable) to full (excellent).

and community acceptance will be evaluated after the public comment period for the Proposed Plan. Community input will be summarized in a responsiveness summary that will be part of the amended ROD.

Each preferred alternative is summarized below.

Soil (Alternative S-5). This alternative would achieve RAOs by removing soil where chemicals exceed remediation goals (including the methane and mercury source areas) and disposing of excavated soil at an off-site facility. Following excavation, durable covers would be applied as physical barriers to cut off exposure pathways to soil across all of Parcel B. Existing asphalt and concrete surfaces (repaired as necessary to be durable) and buildings will act as covers. New covers would be installed according to the redevelopment plan (for example, soil covers for open space areas or asphalt for mixed-use areas). The cover design, including details on how the cover will be finished at the seawalls, will be provided in the ***remedial design (RD)***. Covers would be maintained to contain the soil at the shoreline. The RD will include plans for inspection and maintenance to ensure covers remain intact. ICs will be implemented to maintain the integrity of the covers, including where the covers meet the shoreline. Excavated soil from radiologically impacted sites would be screened and radioactive sources and contaminated soil removed and disposed of at an off-site low-level radioactive waste facility. An SVE system would remove VOCs from soil at IR Site 10. A soil gas survey would be conducted following the remedial actions to provide data to establish numeric goals for VOCs in soil gas which will then be used to evaluate the need for additional action or ICs. In some areas, site-specific pre-remediation soil gas surveys may be necessary to support the RD. Methane would be monitored following the removal of the methane source to identify whether contingencies such as additional ECs (for example, methane venting or vapor barriers) or additional ICs would be necessary. A shoreline revetment would be constructed along Redevelopment Blocks BOS-1 (at IR Site 7) and BOS-3 (at IR Site 26) to protect ecological receptors from chemicals in shoreline sediments.

Following these activities, the Navy and regulatory agencies will implement ICs for the continued protection of public health and the environment and to ensure the integrity of the containment remedies (for example, soil covers and shoreline revetment). ICs are specified in legally binding Quitclaim Deeds and covenants to restrict use of property. The insert on pages 17 and 18 provides an overview of ICs.

A ***risk management plan (RMP)*** will be prepared by the City and County of San Francisco and approved by the Navy and the ***federal facility agreement (FFA)*** signatories (EPA, DTSC, and the Water Board). The RMP will specify soil and groundwater management procedures for implementation of the ICs during redevelopment and future operation and maintenance of the soil and groundwater remedies. The RMP will identify the roles of local, state, and federal government in administering the RMP and will include, but not be limited to, procedures for any necessary sampling and analysis requirements, worker health and safety requirements, and any necessary site-specific construction or use approvals that may be required. The insert on pages 17 and 18 contains more details about ICs.

Some components of this alternative are in progress as TCRAs (methane and mercury source removals). The use of TCRAs allows the Navy to get an early start on cleanup at these newly identified source areas. Although the TCRAs may not be completed by the time the amended ROD is signed, the Navy anticipates that the TCRAs will meet the RAOs described in this Proposed Plan. After the TCRAs are completed, the Navy will evaluate the need for additional response actions.

Why is this a preferred soil alternative?

- Provides best long-term effectiveness by permanently removing the greatest volume of contamination (by excavation), and preventing migration of remaining contamination (by covers).
- Includes the largest amount of treatment to destroy contaminants (using SVE).
- Contains the most active remediation components and involves the least reliance on ICs to prevent exposure.

Groundwater (Alternative GW-3A). This alternative would achieve RAOs by actively treating VOCs in groundwater using an injected ***biological substrate*** to destroy VOCs in the groundwater ***plume*** near IR Site 10 (in Redevelopment Blocks 8 and 9). Groundwater would be monitored in the area of the mercury source removal to evaluate the effectiveness of the removal in remediating mercury in groundwater. If necessary, groundwater would be treated by injecting an organo-sulfur compound to immobilize mercury within the aquifer. Other areas at Parcel B where concentrations of VOCs or metals were found to exceed cleanup goals would be monitored and further evaluated for the need for remediation. Risks in these other areas of Parcel B were based on groundwater samples collected many years ago and new samples will be collected from these

locations to evaluate whether remediation is still needed. The Navy's monitoring plan will be flexible to allow adjustment in response to data being collected. ICs would be implemented to restrict groundwater use.

Why is this a preferred groundwater alternative?

- Provides long-term protection by reducing concentrations of VOCs and their associated risk.
- Reduces the toxicity, mobility, and volume of VOCs by implementing an expedient and aggressive treatment strategy.
- Is potentially more effective because the injected biological substrate can flow with groundwater and remediate a larger volume than zero-valent iron which remains in place after injection.
- Is slightly less expensive than the other alternative that includes active treatment.

Radiologically Impacted Soil and Structures (Alternative R-3). This alternative would achieve RAOs by surveying radiologically impacted buildings and former building sites for unrestricted release. Decontamination would be performed and buildings would be dismantled, if necessary. Radiologically impacted storm drain and sanitary sewer lines throughout Parcel B would be removed and radiologically contaminated pipe and soils would be disposed of off site as low-level radioactive waste. A surface scan would be completed at IR Sites 7 and 18, and any radiological anomalies would be removed to a depth of 1 foot (the maximum effective depth of the surface scan). Although there is potential, however unlikely, for radiological contamination to exist beyond the depth of 1 foot, the soil cover would be effective in preventing any unacceptable exposure, and additional investigation beyond 1 foot is not proposed. A demarcation layer would be installed on the surveyed soil surface before covers were constructed at IR Sites 7 and 18 to mark the boundary between the existing surface and the new cover. The survey and removals would occur before any covers were installed as part of Alternative S-5. Groundwater would be monitored at IR Sites 7 and 18. The pump shaft beneath Building 140, as shown on Figure 4, would be closed in place with backfilled stone and a concrete cap. Buildings, former building sites, and excavated areas would be surveyed after cleanup is completed to ensure no residual radioactivity is present above the remediation goals. ICs would be implemented for Building 140 and IR Sites 7 and 18 to minimize inadvertent contact with radiologically impacted media and ensure radiological controls would be implemented if the remedies were not in place.

Similar to the preferred alternative for soil, some components of this alternative are in progress as a TCRA (storm drain and sanitary sewer removals and building surveys). Although the TCRA may not be completed before the amended ROD is signed, the Navy anticipates that the TCRA will meet the RAOs described in this Proposed Plan.

Why is this a preferred radiological alternative?

- Provides best long-term effectiveness by removing contaminants from radiologically impacted buildings and former building sites, removing the sanitary and storm sewers, permanently closing the pump shaft beneath Building 140, and removing radiological anomalies from the surface of IR Sites 7 and 18 followed by application of a cover.

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARAR)

CERCLA requires that remedial actions meet federal or state (if more stringent) environmental standards, requirements, criteria, or limitations that are determined to be ARARs. Attachment 1 summarizes the significant potential ARARs that will be met by the preferred alternatives.

HOW DO YOU PROVIDE INPUT TO THE NAVY?

The Navy provides information on the cleanup of Parcel B to the public through public meetings, the administrative record file for the site, and notices published in the local newspapers.

The Navy, EPA, DTSC, and the Water Board encourage the public to gain a more thorough understanding of Parcel B and CERCLA activities conducted at Hunters Point Shipyard by visiting the information repositories, reviewing the relevant records contained in the administrative record file, and attending public meetings. Restoration Advisory Board (RAB) meetings are held on the fourth Thursday of every month and are open to the public. Please visit the Navy's website.

INFORMATION AVAILABLE ON THE INTERNET

For more information on the closure of Hunters Point Shipyard and Parcel B, go to the website at: http://www.bracpmo.navy.mil/bracbases/california/hps/default.aspx

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Administrative Record

The collection of reports and historical documents used by the Navy, in conjunction with the regulatory agencies, in the selection of cleanup or environmental alternatives is the administrative record. The administrative record includes such documents as the Final ***Remedial Investigation*** Report, Final ***Feasibility Study*** Report, Final 5-Year Review Report, the TMSRA and its Radiological Addendum, that are central to understanding the need to revise the remedy at Parcel B. The administrative record also contains other supporting documents and data for Parcel B. Administrative record files are located at the following address:

Naval Facilities Engineering Command, Southwest
Attention: Diane Silva
FISC Building 1, 3rd Floor
1220 Pacific Highway
San Diego, CA 92132-5190
Phone: (619) 532-3676

Community members interested in the full technical details beyond the scope of this Proposed Plan can also find key supporting documents that pertain to Parcel B and a complete index of all Navy Hunters Point Shipyard documents at the following information repositories:

Information Repositories

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, CA 94102
Phone: (415) 557-4500

Anna E. Waden Bayview Library
5075 Third Street
San Francisco, CA 94124
Phone: (415) 355-5757

Providing Comments on This Proposed Plan

There are two ways to provide comments during the public comment period (June 28, 2008, to July 28, 2008):

1. Offer oral comments during the public meeting
2. Provide written comments by mail, fax, or e-mail to the Navy no later than July 28, 2008 (see contact information below)

The public meeting will be held from 6:30 p.m. to 8:00 p.m. on July 8, 2008, at the Southeast Community Facility Commission Building in the Alex L. Pitcher, Jr. Room located at 1800 Oakdale Avenue, San Francisco, California. Navy representatives will provide visual displays and information on the environmental investigations and the remedial alternatives at Parcel B.

The Navy will also give a presentation on the Proposed Plan. You will have an opportunity to ask questions and formally comment on the remedial alternatives summarized in this Proposed Plan.

Please send all written comments to:

Mr. Keith Forman
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Telephone: (619) 532-0913
Cell Phone: (415) 308-1458
Fax: (619) 532-0995
E-mail: keith.s.forman@navy.mil

For More Information

If you have any questions about environmental activities at Hunters Point Shipyard, feel free to contact any of the following project representatives:

Navy
Mr. Keith Forman
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
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Cell Phone: (415) 308-1458
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U.S. EPA
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Project Manager
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DTSC
Mr. Thomas Lanphar
Project Manager
Department of Toxic Substances Control
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Water Board
Mr. Erich Simon
Project Manager
San Francisco Bay
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Telephone: (510) 622-2355
E-mail: ersimon@waterboards.ca.gov

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Overview of Proposed Institutional Controls

Institutional controls (IC) are legal and administrative mechanisms used to implement land use restrictions that are used to limit the exposure of future landowner(s) and/or user(s) of the property to hazardous substances present on the property, and to ensure the integrity of the remedial action. Institutional controls are required on a property where the selected remedial cleanup levels result in contamination remaining at the property above levels that allow for unlimited use and unrestricted exposure. Institutional controls would likely remain in place unless the remedial action taken would allow for unrestricted use of the property. Implementation of institutional controls includes requirements for monitoring and inspections, and reporting to ensure compliance with land use or activity restrictions.

The Navy has determined that it will rely upon proprietary controls in the form of environmental restrictive covenants as provided in the "Memorandum of Agreement Between the United States Department of the Navy and the California Department of Toxic Substances Control" and attached covenant models (Navy and DTSC 2000) (hereinafter referred to as "Navy/DTSC MOA"). Appendix G of the TMSRA contains the Navy/DTSC MOA. More specifically, land use and activity restrictions will be incorporated into two separate legal instruments as provided in the Navy/DTSC MOA:

1. Restrictive covenants included in one or more "Covenant(s) to Restrict Use of Property" entered into by the Navy and DTSC as provided in the "Memorandum of Agreement Between the United States Department of the Navy and the California Department of Toxic Substances Control" and its attached covenant models (Navy and DTSC 2000) and consistent with the substantive provisions of Title 22 of the California Code of Regulations, Section 67391.1.
2. Restrictive covenants included in one or more Quitclaim Deed(s) from the Navy to the property recipient.

The "Covenant(s) to Restrict Use of Property" will incorporate the land use restrictions into environmental restrictive covenants that run with the land and that are enforceable by DTSC against future transferees. The Quitclaim Deed(s) will include the identical land use and activity restrictions in environmental restrictive covenants that run with the land and that will be enforceable by the Navy against future transferees.

Proposed Activity Restrictions that Apply Throughout Parcel B

The activity restrictions in the "Covenant(s) to Restrict Use of Property" and Deed(s) shall be implemented through the Parcel B Risk Management Plan ("Parcel B RMP") to be prepared by the City of San Francisco and approved by the Navy and Federal Facility Agreement (FFA) Signatories. The Parcel B RMP shall be discussed in the Parcel B amended ROD and shall be attached to and incorporated by reference into the Covenant(s) to Restrict Use of Property and Deed(s) as an enforceable part thereof. It shall specify soil and groundwater management procedures for compliance with the remedy selected in the Parcel B amended ROD. The Parcel B RMP identifies the roles of local, state, and federal government in administering the Parcel B RMP and shall include but not be limited to procedures for any necessary sampling and analysis requirements, worker health and safety requirements, and any necessary site-specific construction and/or use approvals that may be required.

<u>Restricted Activities</u>

The following restricted activities throughout Parcel B must be conducted in accordance with the "Covenant(s) to Restrict Use of Property," Quitclaim Deed(s), and the Parcel B RMP, and, if required, any other work plan or document approved in accordance with these referenced documents.

a. "Land disturbing activity" which includes but is not limited to: (1) excavation of soil; (2) construction of roads, utilities, facilities, structures, and appurtenances of any kind; (3) demolition or removal of "hardscape" (for example, concrete roadways, parking lots, foundations, and sidewalks); (4) any activity that involves movement of soil to the surface from below the surface of the land; and (5) any other activity that causes or facilitates the movement of known contaminated groundwater.

b. Alteration, disturbance, or removal of any component of a response or cleanup action (including but not limited to pump-and-treat facilities, revetment walls and shoreline protection, and soil cap/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment; or associated utilities.

c. Extraction of groundwater and installation of new groundwater wells.

d. 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.

Prohibited Activities

The following activities are prohibited throughout Parcel B:

a. Growing vegetables or fruits in native soil for human consumption.

b. Use of groundwater.

Proposed Activity Restrictions Relating to VOC Vapors at Specific Locations within Parcel B

Any proposed construction of enclosed structures must be approved in accordance with the "Covenant(s) to Restrict Use of the Property," Quitclaim Deed(s), and Parcel B RMP prior to the conduct of such activity within the ***area requiring institutional controls (ARIC)*** for VOC vapors to ensure that the risks of potential exposures to VOC vapors are reduced to acceptable levels that are adequately protective of human health. This can be achieved through engineering controls or other design alternatives that meet the specifications set forth in the amended ROD, remedial design reports, land use control remedial design (LUC RD) report, and Parcel B RMP. Initially, the ARIC will include all of Parcel B except Redevelopment Block 4 (see Figure 7 on page 19). The ARIC may be modified as the soil contamination areas and groundwater contaminant plumes that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis for VOCs that establishes that areas now included in the ARIC do not pose unacceptable potential exposure risk to VOC vapors.

Proposed Land Use Restrictions for IR Sites 7 and 18 and the Sump under Building 140

The following restricted land uses for the ARIC for IR Sites 7 and 18 must be reviewed and approved in accordance with the "Covenant(s) to Restrict Use of the Property," Quitclaim Deed(s), and Parcel B RMP before the property can be used for any of the following restricted uses.

a. A residence, including any mobile home or factory-built housing, constructed, or installed for use as residential human habitation.

b. A hospital for humans.

c. A school for persons under 21 years of age.

d. A daycare facility for children.

Proposed Activity Restrictions for IR Sites 7 and 18 and Deep Pump Shaft under Building 140

The following activity restriction requirements shall apply in the "Potential Radionuclide ARICs" for potential radionuclides located on IR Sites 7 and 18 and the deep pump shaft under Building 140 (figures to be included in ROD). At the time of transfer, the areas that require this restriction will be surveyed to define the legal metes and bounds for inclusion in the property transfer documents.

The Parcel B RMP shall address any necessary additional soil and radiological management issues within the ARIC for potential radionuclides defined in the amended ROD and property transfer documents.

For excavations at IR Sites 7 and 18 that are solely in clean fill, e.g. the fill that is placed above the physical or visual barrier (the barrier) which will be placed directly on top of the soils as detailed in the remedial design or other appropriate documents, the Parcel B RMP will list the procedures to be followed to be sure that the barrier is not disturbed or breeched.

For any excavation into the IR Sites 7 and 18 soils beneath the barrier or the deep pump shaft under Building 140, the proposed excavation will be required to be described in a work plan that will include, but not be limited to, a radiological work plan, soil sampling and analysis requirements, and a plan for off-site disposal of any excavated radioactively contaminated devices or soil in accordance with federal and state law. This work plan must be submitted to the Navy and the regulatory agencies in accordance with procedures (including dispute resolution procedures) and timeframes that will be set forth in the RMP. The integrity of the cover must be restored when excavation is complete, as provided in the RMP. A completion report describing the details of the implementation of the work plan, the sampling and analysis, the off-site disposal, and the restoration of the integrity of the cover must be submitted to and approved in writing by the Navy and the regulatory agencies in accordance with procedures (including dispute resolution procedures) and timeframes that will be set forth in the RMP.

Implementation

The Navy shall address/describe institutional control implementation and maintenance actions including periodic inspections and reporting requirements in the preliminary and final remedial design (RD) reports to be developed and submitted to the FFA Signatories for review pursuant to the FFA (see "Navy Principles and Procedures for Specifying, Monitoring and Enforcement of Land Use Controls and Other Post-ROD Actions" attached to January 16, 2004 DoD memorandum titled "Comprehensive Environmental Response, Compensation and Liability Act [CERCLA] Record of Decision [ROD] and Post-ROD Policy")

Access

The Deed and Covenant shall provide that the Navy and FFA Signatories and their authorized agents, employees, contractors and subcontractors shall have the right to enter upon Parcel B to conduct investigations, tests, or surveys; inspect field activities; or construct, operate, and maintain any response or remedial action as required or necessary under the cleanup program, including but not limited to monitoring wells, pumping wells, treatment facilities, and cap/containment systems.

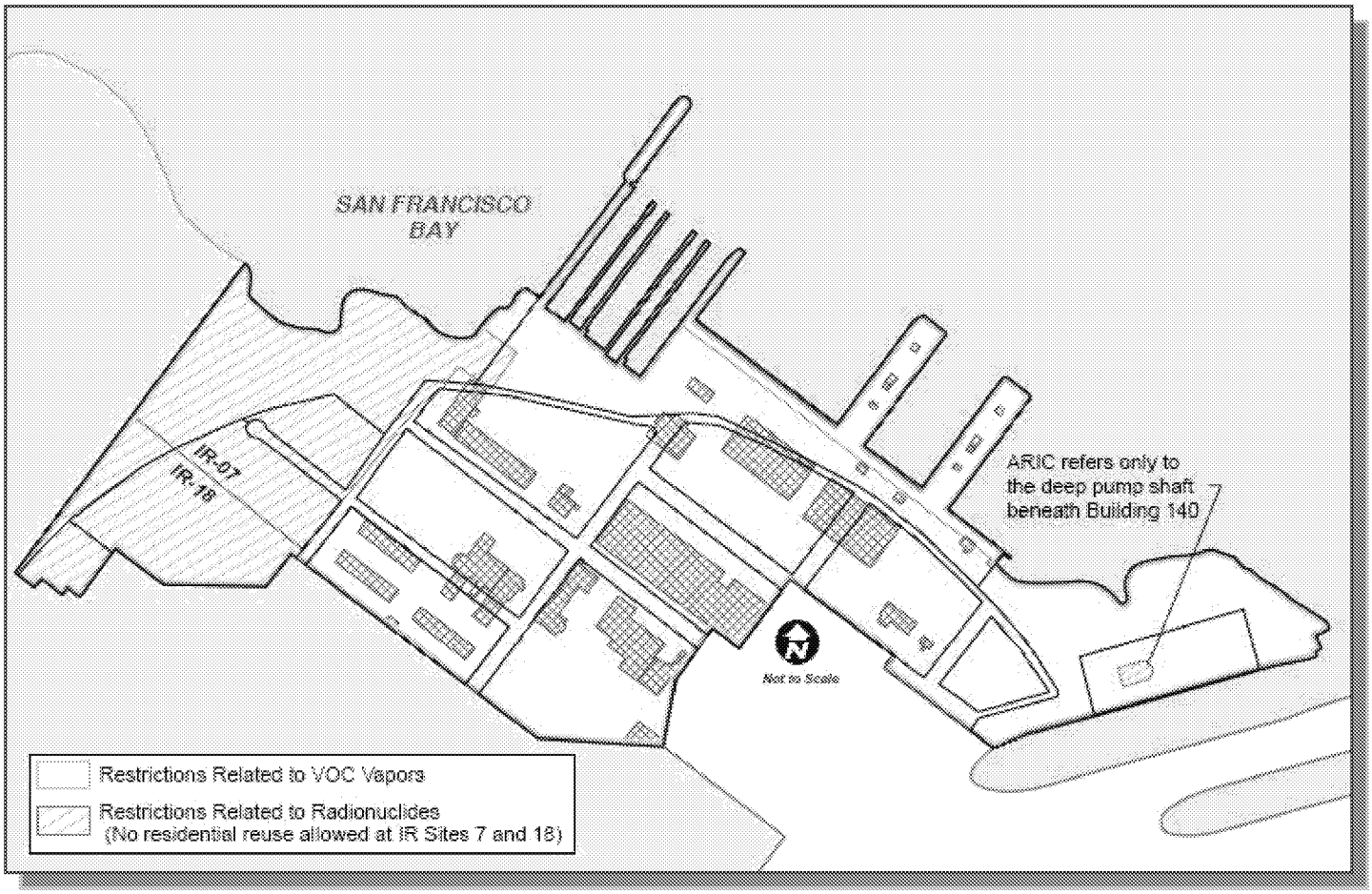

Figure 7. Areas Requiring Institutional Controls (ARIC)

Administrative Record: The reports and historical documents used in selection of cleanup or environmental management activities.

Anomaly: An irregularity, a misproportion, or something that is strange or unusual. Numerical criteria defining an anomaly specifically related to the surface scan for radioactive substances at IR Sites 7 and 18 will be established in planning documents for the action at that area (whether it is a portion of the TCRA or part of the remedial design).

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.

Aquifer: A zone of rock or soil below the earth's surface through which groundwater moves in sufficient quantity to serve as a source of water.

ARIC: Area requiring institutional control.

Below ground surface (bgs): Collection depth of a sample or depth of an excavation.

Biological substrate: A chemical that acts as a source of food for microorganisms.

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

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): The federal law establishing a program to identify hazardous waste sites and procedures for cleaning up sites to protect human health and the environment, and to evaluate damages to natural resources.

Department of Toxic Substances Control (DTSC): Part of the California Environmental Protection Agency (Cal/EPA).

Ecological Receptor: Organisms (plants, insects, fish, birds, mammals etc.) that inhabit or visit a site. Ecological receptors at the shoreline of Parcel B include marine organisms that live in the sediment (worms or insects, for example) and other organisms like birds that visit the shoreline.

Engineering Controls (EC): Barriers, such as fencing, warning signs, or any other physical structures designed to limit exposure to contaminated waste, soil, or groundwater.

Feasibility Study (FS): A study to identify, screen, and compare cleanup (remedial) alternatives for a site.

Federal Facility Agreement (FFA): A written agreement among the Navy, U.S. EPA, and Cal/EPA (including DTSC and the Water Board) for environmental remediation. The FFA outlines the roles and responsibilities of each party, and sets timetables for cleanup actions.

Groundwater: Water in the subsurface that fills pores in soil or openings in rocks.

Hazard Index (HI): A calculated value used to represent a potential noncancer health risk. An HI value of 1 or less is considered an acceptable exposure level.

Historical Radiological Assessment (HRA): A document that summarizes the review completed by the Navy to evaluate potential radiological contamination from the use of general radioactive materials at HPS and the identification of radiologically impacted areas at HPS.

Human Health Risk Assessment (HHRA): An analysis of the potential human health effects caused by exposure to hazardous substances at a site.

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

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

Institutional Controls (IC): Non-engineered mechanisms established to limit human exposure to contaminated waste, soil, or groundwater. These mechanisms may include deed restrictions, covenants, easements, laws, and regulations.

Microgram per liter (µg/L): Unit used to describe concentrations of chemicals in groundwater that is nearly equal to one part per billion. This is equivalent to about 50 drops in an Olympic-size swimming pool.

Milligram per kilogram (mg/kg): Unit used to describe concentrations of chemicals in soil or sediment that is nearly equal to one part per million. A part per million is equivalent to about 4 drops in 55 gallons or 15 grains of sand in a 90-pound bag.

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

Plume: A zone of contaminated groundwater.

Polychlorinated biphenyl (PCB): A mixture of up to 209 individual chlorinated organic compounds. PCBs have been used as coolants and lubricants in electrical equipment. Their use is now banned.

Polycyclic aromatic hydrocarbon (PAH): A group of over 100 different chemicals commonly present in coal and petroleum products and are formed during burning of organic substances.

Practical quantitation limit (PQL): The lowest concentration of a chemical that a laboratory can reliably measure.

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

Proposed Plan: A document that summarizes remedial alternatives, presents the recommended cleanup action, explains the recommendation, and solicits comments from the community.

Radiologically Impacted: An area, building, or piece of equipment that, under professional interpretation, has the distinct possibility of having residual radioactive material associated with it.

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, FS, and other reports, and on public comments and community concerns.

Remedial Action: A general term used to describe technologies or actions implemented to contain, collect, or treat hazardous wastes to protect human health and the environment.

Remedial Action Objective (RAO): A set of statements that each contains 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 Design (RD): The phase in the Superfund site cleanup process where the technical specifications for cleanup remedies and technologies are identified. The RD contains the detailed information describing how the selected remedy will be implemented.

Remedial Investigation (RI): The first of 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 a site and to estimate the risks presented by the contamination.

Remediation Goal: Chemical concentration limit that provides a quantitative means of identifying areas for potential remedial action, screening the types of appropriate technologies, and assessing a remedial action's potential to achieve the RAO.

Restoration Advisory Board (RAB): An advisory body designated to act as a focal point for exchanging information and concerns between the Navy and the local community regarding environmental issues. The RAB consists primarily of community members, but also includes representatives from the Navy, EPA, DTSC, the Water Board, and the City and County of San Francisco.

Revetment: A structure placed on a bank, cliff, or shoreline in such a way as to absorb the energy of incoming waves.

Risk Management Plan (RMP): A document prepared by the City and County of San Francisco and approved by the Navy and the FFA signatories that will specify soil and groundwater management procedures for implementation of institutional controls. The RMP will identify the roles of local, state, and federal government in administering the RMP and will include, but not be limited to, procedures for any necessary sampling and analysis requirements, worker health and safety requirements, and any necessary site-specific construction or use approvals that may be required.

Screening-Level Ecological Risk Assessment (SLERA): An analysis of the potential ecological effects caused by exposure to hazardous substances at a site using conservative exposure assumptions and maximum detected chemical concentrations.

Semivolatile Organic Compound (SVOC): An organic (carbon containing) compound that does not readily evaporate at room temperature. SVOCs include certain oils, pesticides, and PAHs.

Soil Vapor Extraction (SVE): A remediation technology that removes vapors from the subsurface by applying a vacuum to pull out the vapors.

Technical Memorandum in Support of a Record of Decision Amendment (TMSRA): A document presenting the identification, screening, and comparison of cleanup (remedial) alternatives for Parcel B. The TMSRA provides the support for the decisions on remedial alternatives in this Proposed Plan and the future amended ROD in the same way that the FS report supported the initial Proposed Plan and ROD.

Time-Critical Removal Action (TCRA): A removal action that requires a maximum 6-month planning phase. The removal action may contribute to the implementation phase of a CERCLA site cleanup.

U.S. Environmental Protection Agency (EPA): Federal agency established to protect human health and the environment.

U.S. Nuclear Regulatory Commission (NRC): Federal agency that formulates policies, develops regulations governing nuclear reactor and nuclear material safety, issues orders to licensees, and settles legal matters.

Volatile Organic Compound (VOC): An organic (carbon containing) compound that evaporates readily at room temperature. VOCs are found in industrial solvents commonly used in dry cleaning, metal plating, and machinery degreasing operations.

Water Board: San Francisco Bay Regional Water Quality Control Board.

ATTACHMENT 1

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

CERCLA requires that remedial actions meet federal or state (if more stringent) environmental standards, requirements, criteria, or limitations that are determined to be ARARs. The following summarizes the significant potential chemical-, location- and action-specific ARARs for the preferred alternatives described in this proposed plan. Refer to the TMSRA (Appendix C) and its radiological addendum (also Appendix C), for more specific information on potential ARARs.

Potential federal chemical-specific ARARs:

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

Soil

- Determination of Resource Conservation and Recovery Act (RCRA) hazardous waste at *California Code of Regulations* (Cal. Code Regs.) Title (tit.) 22, section (§) 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100
- Toxic Substances Control Act regulations governing disposal of PCB remediation waste at 40 *Code of Federal Regulations* (CFR) § 761.61(c)
- Uranium Mill Tailings Radiation Control Act at 40 CFR § 192.12(a), (b)(1) and (b)(2); 192.32(b)(2), and 192.41
- Nuclear Regulatory Commission Standards for Protection of Radiation at 10 CFR § 20.1301; 20.1402*; and 61.41

Groundwater

- For the B-aquifer, federal maximum contaminant levels (MCL) and non-zero MCL goals, National Primary Drinking Water Standards at 40 CFR § 141.61(a) and (c) and 141.51. The A-aquifer is not a potential source of drinking water and these requirements do not apply to the A-aquifer.
- RCRA groundwater protection standards at Cal. Code Regs. tit. 22, § 66264.94(a)(1), (a)(3), (c), (d), and (e)
- Determination of RCRA hazardous waste at Cal. Code Regs. tit. 22, § 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100

Surface Water

- Clean Water Act California Toxics Rule at 40 CFR § 131.38

Air

- Clean Air Act requirements for radionuclides at 40 CFR § 61.92 and 61.102

Potential state chemical-specific ARARs:

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

Soil

- Non-RCRA hazardous waste determinations at Cal. Code Regs. tit. 22 § 66261.22(a)(3) and (4), 66261.24(a)(2) to (a)(8), 66261.101, 66261.3(a)(2)(C) or 66261.3(a)(2)(F)
- Definitions of designated and nonhazardous waste at Cal. Code Regs. tit. 27 § 20210 and 20220

Groundwater

- San Francisco Bay Basin Water Quality Control Plan promulgated pursuant to the Porter-Cologne Water Quality Control Act at *California Water Code* § 13240, 13241, 13243, 13263(a), 13269, and 13360 and selected substantive provisions of Chapters 2 and 3 (except the MUN designation for the A-aquifer)
- State Water Resources Control Board (SWRCB) Resolution No. 88-63 establishing criteria to identify potential sources of drinking water
- The San Francisco Regional Water Quality Control Board (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 Parcel B groundwater remedial action. The SWRCB interprets Res. 68-16 as prohibiting further migration of the volatile organic compound plumes in Parcel B; however, the U.S. Environmental Protection Agency 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 § 66424.94, determined to be ARARs for Parcel B groundwater remedial action. The Water Board and the California Department of Toxic Substances Control (DTSC) do not agree with the Navy's determination that SWRCB Res. 92-49 and 68-16 are not ARARs for Parcel B remedial action; however, the Water Board and DTSC agree that the proposed remedial action would comply with SWRCB Res. 92-49 and 68-16.

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* U.S. EPA does not believe this NRC regulation is protective of human health and the environment; however, the HPS cleanup goals are more protective. The Navy's position is that this regulation is an ARAR only for radiologically impacted sites that are undergoing TCRAs and any additional remedial action required for those sites. It is not an ARAR for radiologically impacted portions of IR Sites 7 and 18 and Building 140 that will be transferred with engineering and institutional controls for radiological contaminants.

- Non-RCRA hazardous waste determinations at Cal. Code Regs. tit. 22 § 66261.22(a)(3) and (4), 66261.24(a)(2) to (a)(8), 66261.101, 66261.3(a)(2)(C) or 66261.3(a)(2)(F)
- Definitions of designated and nonhazardous waste at Cal. Code Regs. tit. 27 § 20210 and 20220

Surface Water

- San Francisco Bay Basin Water Quality Control Plan, Table 3-3, for marine waters with salinities equal to or greater than 10 parts per thousand, 95 percent of the time

Potential federal location-specific ARARs:

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

- Executive Order 11990, Protection of Wetlands at 40 CFR 6.302(a) and 40 CFR Part 6 Appendix A § 6(a)(1), (3), and (5) (at the end of § 6.1007)
- Coastal Zone Management Act at 16 *United States Code* (U.S.C.) § 1456(c)(1)(a) and 15 CFR Part 930
- National Historic Preservation Act at 16 U.S.C. § 470–470x-6, 36 CFR Part 800, and 40 CFR § 6.301(b)

Potential state location-specific ARARs:

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

- San Francisco Bay Plan at Cal. Code Regs. tit. 14 §§ 10110 through 11990 and enabling legislation in the McAteer-Petris Act (California Government Code §§ 66600 through 66661)

Potential federal action-specific ARARs:

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

- RCRA on-site waste generation at Cal. Code Regs. tit. 22 § 66262.10(a), 66262.11, and 66264.13(a) and (b)
- RCRA cover requirements at Cal. Code Regs. tit. 22 § 66264.310(a)(5), (b)(1), (b)(4), and (b)(5)
- RCRA waste pile requirements at Cal. Code Regs. tit. 22 § 66246.553(b), (d), (e), and (f) and 40 CFR § 264.554(d)(1)(i-ii), (d)(2), (e), (f), (h), (i), (j), and (k)
- Clean Water Act storm water discharge requirements at 40 CFR § 12.44(k)(2) and discharge of dredged material and filling of wetlands at 33 U.S.C. § 1344; 33 CFR § 320.4 and 323; 40 CFR § 230.10, 230.11, 230.20 through 230.25, 230.31, 230.32, 230.41, 230.42, and 230.53
- Clean air provisions of the Bay Area Air Quality Management District, Regulation 6, Rule 6-302, Regulation 2-1-301, and Regulation 8-47
- RCRA monitoring requirements at Cal. Code Regs. tit. 22 § 66264.93; 66264.97(b)(1)(A), (b)(1)(D)(1) and (b)(1)(D)(2); (b)(4), (5), (6), and (7); (e)(6), (e)(12)(A)(3), (e)(12)(B), (e)(13), and (e)(15) ; 66264.100(d)
- Safe Drinking Water Act underground injection requirements at 40 CFR § 144.12(a), excluding reporting requirements in § 144.12(b) and 144.12(c)(1)

Potential state action-specific ARARs:

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

- Requirements for institutional controls at California Civil Code § 1471; Cal. Code Regs. tit. 22 § 67391.1; California Health and Safety Code § 25202.5, 25222.1, 25232(b)(1)(A)-(E), 25233(c), 25234, and 25355.5(a)(1)(C)
- Cover requirements at Cal. Code Regs. tit. 27 § 20080(b), 20090(d), 20950(d), 21090(b)(1), (c)(4), (e)(1) and (e)(3), 21140, 21145(a), and 21150
- Construction activity requirements in asbestos-containing rock or soil at Cal. Code Regs. tit. 17 § 93105
- Waste characterization requirements at Cal. Code Regs. tit. 27 § 20200(c), 20210, 20220(b), (c), and (d)

Attn: Keith Forman
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1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

BRAC
PMO

Revised Proposed Plan for Parcel B

Hunters Point Shipyard
San Francisco, California

Proposed Plan Comment Form

Parcel B, Hunters Point Shipyard

The public comment period for the Proposed Plan for Parcel B at Hunters Point Shipyard, San Francisco, California, is from June 28 to July 28, 2008. A public meeting to present the Proposed Plan will be held at the Southeast Community Facility Commission Building in the Alex L. Pitcher, Jr. Room, located at 1800 Oakdale Avenue in San Francisco, California, on July 8, 2008, from 6:30 pm to 8:00 pm. You may provide comments verbally at the public meeting, where all comments will be recorded by a stenographer. Alternatively, you may provide written comments in the space provided below or on your own stationery. After completing 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 July 28, 2008. 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 keith.s.forman@navy.mil. Comments are also being accepted by fax: (619) 532-0995.

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 Hunters Point Shipyard.

Comments:

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