5090
Ser 1832.2/L6262
12 Jun 1996

From: Commanding Officer, Engineering Field Activity, West, Naval Facilities Engineering Command
To: Distribution

Subj: INDUSTRIAL LANDFILL GROUND WATER PLUME AND STORM DRAIN SYSTEM REMOVAL ACTIONS, AT HUNTERS POINT SHIPYARD, ENGINEERING FIELD ACTIVITY, WEST, NAVAL FACILITIES ENGINEERING COMMAND, SAN FRANCISCO, CALIFORNIA

Encl: (1) Public Summary and Restoration Advisory Board Impact Summary of Site IR-1/21 Industrial Landfill Ground Water Plume Removal Action, Engineering Evaluation and Cost Analysis Report, Hunters Point Shipyard, San Francisco, California,
(2) Public Summary and Restoration Advisory Board Impact Summary of Storm Drain System Removal Action, Engineering Evaluation and Cost Analysis Report, Hunters Point Shipyard, San Francisco, California,

1. Enclosures (1) and (2) are forwarded to members of the Hunters Point Shipyard (HPS) Restoration Advisory Board (RAB) for information. As announced in the 28 May 1996, INDEPENDENT, the public comment period for these projects started on 28 May 1996, and will end on 25 June 1996. Copies of the Engineering Evaluation and Cost Analysis reports are available at the HPS public information repositories at the San Francisco Main Library and the Anna E. Waden Branch Library. Additional information on these removal actions will be available at the next RAB meeting, which is scheduled for 26 June 1996.

2. If you have any questions regarding this enclosure, please contact Mr. Richard Powell, Code 1832, at (415) 244-2655, or Mr. William Radzevich, Code 1832.2, at (415) 244-2555.

[redacted] signed by WM

for RICHARD POWELL
By direction of
the Commanding Officer

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PUBLIC SUMMARY OF
SITE IR-1/21: INDUSTRIAL LANDFILL GROUNDWATER PLUME REMOVAL ACTION
ENGINEERING EVALUATION AND COST ANALYSIS REPORT
HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

This public summary explains an action being taken by the Navy to address groundwater pollution at the industrial landfill (identified as Installation Restoration [IR]-1/21) located at Hunters Point Shipyard.

Hunters Point Shipyard began operation as a private shipyard in 1869. The Navy purchased and operated the shipyard from 1939 to 1974 when it was placed in reserve status. Hunters Point Shipyard was leased to a private firm from 1976 to 1986 as a commercial ship repair service. The Navy has been conducting a comprehensive program to investigate and cleanup environmental contamination due to these past industrial operations at the shipyard.

The IR-1/21 industrial landfill covers 36 acres and is located on the southwestern shoreline of the shipyard. It was used as a landfill from 1942 to 1974. The Navy does not have good records on what was placed in the landfill. However, aerial photographs show that construction material, sandblast waste, domestic waste, paints, and chemicals were placed in the landfill. Investigations have identified groundwater contamination moving in the landfill close to San Francisco Bay. The contamination consists of small amounts of cleaning fluids, fuel-related materials, and polychlorinated biphenyls (PCB).

A removal action is planned to prevent contaminated groundwater from working its way from the landfill into San Francisco Bay. The goals of the removal action are:

1. Reduce the risks to the environment and human health

2. Prevent contaminated groundwater from moving into the bay

3. Conduct a removal action that will support future cleanup actions and reuse planned for Hunters Point Shipyard.

To meet these goals, an engineering evaluation and cost analysis (EE/CA) was conducted to evaluate the different ways and the costs of addressing the contamination.

The first step of the evaluation was to find out if the groundwater contamination could impact sea life in the bay around Hunters Point Shipyard and possibly cause harm to humans eating fish caught in the bay. To find out if unsafe levels of contamination could possibly move into the bay from the landfill, groundwater data fromwas reviewed from different locations around the landfill and near the bay was reviewed. The data was evaluated to determine if there is a possibility that groundwater from the landfill could cause harm to sea life in the bay around the shipyard and to anyone eating fish caught there. The evaluation showed that there is some contamination in the groundwater that may be moving into the bay and needs to be taken care of though a removal action.

The Navy is working on the removal action with the U.S. Environmental Protection Agency (EPA), the State of California Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board (RWQCB). Three ways (known as alternatives) to address the possible movement of groundwater are identified in the report:

1. Install thin steel sheets between the landfill and the bay to stop groundwater movement, pump out the groundwater, and send the groundwater to the sewage treatment plant.

2. Install a slurry wall underground to stop groundwater movement, pump out the groundwater, and send it to the sewage treatment plant.

3. Install a biopolymer slurry trench to stop groundwater movement, remove the groundwater through a drain, and send it to the sewage treatment plant.

The alternatives were compared against three items: effectiveness, ability to install, and cost.

Alternative 1 is proposed as the best alternative because it has been proven to work, can be easily installed, and works well at a low cost. The proposed action will involve installing a steel wall underground between the landfill and the bay. Groundwater movement will be reduced by installing thin steel sheets into the ground until they come in contact with the clay bed beneath the landfill. Groundwater flows above the clay bed which is a natural layer. The contaminated groundwater between the clay layer and the ground surface will then be pumped out of the ground, and sent to the local sewage treatment plant where it will be treated and disposed.

RESTORATION ADVISORY BOARD
IMPACT SUMMARY OF
SITE IR-1/21: INDUSTRIAL LANDFILL GROUNDWATER PLUME REMOVAL ACTION
ENGINEERING EVALUATION AND COST ANALYSIS REPORT
HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

This restoration advisory board (RAB) impact summary of the engineering evaluation and cost analysis report for addressing the industrial landfill groundwater pollution identifies impacts on

1. Jobs in the local community

2. The environment and human health of the local community

3. Hunters Point Shipyard land reuse

Community Jobs:	The Navy's Remedial Action Contractor will actively seek qualified community companies and individuals to subcontract as much of the cleanup work as possible.
Community Health:	Helps reduce possible harm to sea life in San Francisco Bay and reduce possible health effects that may be associated with eating fish caught in the San Francisco Bay.
Land Reuse:	The proposed (cleanup) action will help the overall cleanup and future reuse of the shipyard.

PUBLIC SUMMARY OF
THE STORM DRAIN SYSTEM REMOVAL ACTION
ENGINEERING EVALUATION AND COST ANALYSIS REPORT
HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

This public summary explains an action that the Navy is proposing to take to remove contaminants from the storm drains at Hunters Point Shipyard.

Hunters Point Shipyard began operation as a private shipyard in 1869. The Navy purchased and operated the shipyard from 1939 to 1974 when it was placed in reserve status. Hunters Point Shipyard was leased to a private firm from 1976 to 1986 as a commercial ship repair service. The Navy has been conducting a comprehensive program to investigate and cleanup environmental contamination due to these past industrial operations at the shipyard.

Samples collected from storm drains at the shipyard showed contaminated soils in manholes and catch basins throughout the shipyard. Contaminants included metals, volatile organic compounds and semivolatile organic compounds (associated with cleaning solvents and fuels), pesticides, and PCBs.

A removal action is planned to prevent the contaminated soils from entering the San Francisco Bay through the shipyard storm drain system. The goals of the removal action are:

1. Reduce the risks to the environment and human health

2. Prevent contaminated soils from moving into the bay

3. Conduct a removal action that will support future cleanup actions and reuse planned for Hunters Point Shipyard

To meet these goals, an engineering evaluation and cost analysis (EE/CA) was conducted to evaluate the different ways and costs of addressing the contamination.

To evaluate whether the contaminated soils within the storm drain system may harm the environment, soil samples from within the storm drain were tested. If the concentration of contaminants found in the soil samples had been below levels established by the regulatory agencies as safe, the environmental impact would be considered nonthreatening. However, contaminant concentrations were found to be higher than acceptable levels, so there may be possible harm to the environment. The EE/CA report recommends a removal action consisting of cleaning out all contaminated soils from the storm drain system.

The Navy is working with the U.S. Environmental Protection Agency (EPA), the State of California Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board (RWQCB) to perform the removal action. As a critical first step, contaminated soils will be removed from the storm drains. Once the contaminated soils are removed, several options (alternatives) could be used to handle the removed soils. Four ways to handle the removed soils are identified in the report:

1. Remove contaminated soils in the storm drains, manholes, and catch basins; dispose of the hazardous portion of soils offsite; and reuse the non-hazardous soils onsite as subbase material.

2. Remove contaminated soils in the storm drains, manholes, and catch basins, and dispose of all soils offsite.

3. Remove contaminated soils in the storm drains, manholes, and catch basins, and manage the removed soils onsite.

4. Remove contaminated soils in the storm drains, manholes, and catch basins; treat only the hazardous portions of the removed soils on site; and dispose of all soils offsite.

The alternatives were compared against three items: effectiveness, ability to install, and cost.

Alternative 2 is proposed as the best method for this removal action because it will effectively prevent possible harm caused by movement of contaminants into the bay, involves readily available technologies, and offers a high degree of reliability at reasonably low cost. This alternative will provide a cost effective means for ensuring protection of human health and the environment.

Under Alternative 2, contaminated soils will be removed from the storm drain system with a high pressure jet washer. Wet soils generated from the cleaning will be collected in rolloff containers, and the leftover liquid will either be reused or sent to the sanitary sewer system. The solid materials will be tested to determine if they contain any hazardous components and the soils will be transported to a licensed landfill for treatment and disposal.

RESTORATION ADVISORY BOARD
IMPACT SUMMARY
OF THE STORM DRAIN SYSTEM REMOVAL ACTION
ENGINEERING EVALUATION AND COST ANALYSIS REPORT
HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

This restoration advisory board (RAB) impact summary of the engineering evaluation and cost analysis report for removing contaminants in the storm drains identifies impacts on

1. Jobs in the local community
2. The environment and human health of the local community
3. Hunters Point Shipyard land reuse

Community Jobs:	The Navy's Remedial Action Contractor will actively seek qualified community companies and individuals to subcontract as much of the cleanup work as possible.
Community Health:	Helps reduce possible harm to sea life in San Francisco Bay and reduce possible health effects that may be associated with eating fish caught in the San Francisco Bay.
Land Reuse:	The proposed (cleanup) action will help the overall cleanup and future reuse of the shipyard