U.S. Navy

Proposed Plan

Site 9 – Old Fire Fighting Training Area
Naval Station Newport
Newport, Rhode Island

The Proposed Plan

This Proposed Plan has been prepared in accordance with federal laws to present the Navy's proposed cleanup approach for the Old Fire Fighting Training Area, which is Operable Unit 3 (OU-3) of the Naval Education Training Center Superfund Site at the Naval Station Newport, in Newport, Rhode Island. This plan describes the Navy's proposed cleanup (remedy) for the Site, which, after careful study consists of **an asphalt / soil cover, long-term monitoring of groundwater and sediments, and land use controls to prevent access to soil and groundwater**. This document provides the public with information about the proposal.

Introduction

This Proposed Plan provides information to the public on the preferred course of action for the Old Fire Fighting Training Area (the Site) at the Naval Station Newport, located in Newport, Rhode Island. This plan has been prepared to inform the community of the Navy's basis for the preferred course of action for the Site, and encourage community participation in the decision process for the Site at Naval Station Newport.

Federal and state environmental laws govern cleanup activities at federal facilities. A federal law called the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, provides procedures for investigating and cleaning up environmental problems. Under this law, the Navy is pursuing cleanup of designated sites at Naval Station Newport to use the land for parking, roadways, and open space. The Navy works closely with the U.S. Environmental Protection Agency (EPA) and the Rhode Island Department of Environmental Management (RIDEM) to achieve this objective. The Navy is the lead agency for all investigation and cleanup programs ongoing at Naval Station Newport.

Let us know what you think!

Mark Your Calendar!

PUBLIC COMMENT PERIOD

June 28, 2010 to July 27, 2010

The Navy will accept written comments on the Proposed Plan for the Old Fire Fighting Training Area during this period. Send written comments postmarked no later than July 27, 2010 to:

Ms Lisa Rama
Public Affairs Office
690 Peary Street
Naval Station Newport,
Newport RI 02841
FAX: 401-841-2265

or email your comments to:
Lisa.Rama@navy.mil

PUBLIC INFORMATION SESSION AND PUBLIC HEARING – July 21, 2010

The Navy will hold a public information session from 7:00 p.m. to 7:30 p.m. that will include posters describing the Proposed Plan. A public meeting will follow from 7:30 p.m. to 8:00 p.m., during which the Navy will provide a presentation and host a question and answer session. Finally, the Navy will hold a formal public hearing from 8:00 p.m. until all comments are heard. At the formal hearing, an official transcript of comments will be recorded and entered into the record. These activities will be held at:

Hampton Inn & Suites
317 West Main Road
Middletown, Rhode Island

For more site information, visit one of the Information Repositories listed at the end of this Proposed Plan.

Introduction (continued)

As the lead agency, the Navy has prepared this Proposed Plan for the Site in accordance with CERCLA Section 177(a) and Section 300.430(f) (2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This plan and its associated public community opportunities fulfills the Navy's public participation responsibilities under these laws.

The purpose of this Proposed Plan is to:

- Encourage public review and comment on this Proposed Plan.
- Provide background information on the Site, which includes: a description of the Site, a summary of the results of investigations, and the conclusions of human health and ecological risk assessments.
- Describe cleanup alternatives (Remedial Action Alternatives) considered for the Site.
- Identify and explain the Navy's preferred cleanup plan for the Site.

Once the public has had the opportunity to review and comment on this Proposed Plan, the Navy will summarize and respond to all comments received during the comment period and public hearing in a document called the Responsiveness Summary. The Navy, EPA, and RIDEM will carefully consider all comments received and, based on the comments, could modify the proposed cleanup or even select a course of action different from that proposed. Ultimately, the selected actions for the Site will be documented in the Record of Decision (ROD) for the Site. The Responsiveness Summary will be issued with the ROD and will be publically available.

The information presented in this Proposed Plan highlights key information from previous reports about the Site, which have been presented to the public at various Restoration Advisory Board meetings. More detailed information about the Site can be found in the Remedial Investigation, Feasibility Study, and Conceptual Site Model reports, related regulatory agency comments, and other documents located at the Information Repositories established by the Navy for Naval Station Newport (see list of Information Repositories on the last page of this plan).

Scope and Role of the Response Action

The Old Fire Fighting Training Area, also referred to as Site 9 is one of several sites identified at Naval Station Newport for cleanup under CERCLA, which is commonly referred to as "Superfund." Each site undergoing cleanup under CERCLA progresses through the cleanup process independently of the others. The Navy's evaluation of the Site has concluded with a recommendation for asphalt/soil cover and land use controls to prevent access to contaminants in soil, and use restrictions to prevent use of groundwater as a potable water source. Long-term monitoring of sediment and groundwater will be necessary to support the action.

Site Background and Characteristics

Where is the Site?

Naval Station Newport is located approximately 25 miles south of Providence, Rhode Island. The facility layout is long and narrow, following the western shoreline of Aquidneck Island for nearly 6 miles facing the east passage of Narragansett Bay. The Site is located at the northern end of Coasters Harbor Island (see Figure 1).

What was the Site used for?

Activity on Coasters Island dates back to Colonial times. The north end of the island was home to a Navy fire fighting training facility from World War II until 1972. During the training operations, fuel oils were ignited at the site in various structures that simulated shipboard compartments, and then were extinguished by sailors. It was reported that a water/oil mixture was injected into buildings and then ignited for firefighting practice purposes. Underground piping carried the water/oil mixture from tanks to the buildings. Unburned fuels and water were carried from the buildings to an oil water separator located underground.

The fire fighting training facility was closed in 1972. Upon closure, the training structures were demolished and buried in mounds on the site, and then the entire area was covered with topsoil. The site was then converted into a recreational area known as Katy Field, comprised of a playground, a baseball field, and a picnic area. Katy Field was dedicated on July 4, 1976. Between 1983 and 1994, a day care center operated in Building 144. Katy field and the day care center were closed in October 1998, because of potential environmental and human health concerns. The area was fenced, for further study and both were eventually demolished.

Figure 1 – Site Location at the northern end of Coasters Harbor Island.

Environmental Investigations and Removal Actions

1983: Initial Assessment Study conducted.

1987: The Remedial Investigation for the Site was initiated.

1989: Endangered species survey conducted by RIDEM.

1990 and 1994: Sampling events conducted for Remedial Investigation.

1994: Remedial Investigation Report published.

1996: University of Rhode Island conducted Doppler current-profiling in Coasters Harbor.

1997: Source Area Removal Investigation conducted.

1997-1998: Sampling events conducted for Marine Ecological Risk Assessment.

2000: Marine Ecological Risk Assessment and Background Soil Investigation were published.

2001: Remedial Investigation updated to include a Baseline Human Health Risk Assessment.

2001-2002: Sampling events conducted to update groundwater and sediment conditions.

2002: Groundwater Risk Evaluation published.

2002: Sediment pre-design Investigations and forensic investigation conducted to refine contaminant source and quantity of affected sediment.

2005: Soil pre-design Investigations conducted to refine quantity of affected soil.

2004-2006: Removal of soil and debris mounds from the site.

2007: Supplemental Risk Evaluation prepared, and a Draft Revised Feasibility Study was prepared.

2007 -2008: Soil removal action conducted to remove drain pipes, oil-water separator and oil-contaminated soil.

2009: Design completed for replacement stone revetment at shoreline

2010: Revised Feasibility Study finalized.

2010: Construction began on the replacement stone retaining wall.

What does the Site look like today?

The area is generally flat, with surface elevations ranging from 8 to 12 feet above mean low water, and is partially within the 100 year coastal flood elevation.

Access to the original Old Fire Fighting Training Area Site, much of which is covered with gravel or soil, is restricted by a chain link fence along its eastern, southern, and western boundaries. The southern portion of the Site is currently covered by Taylor Drive and paved parking areas (Figure 2). Land use at the Site is anticipated to be industrial/commercial in the future. Current plans are to redevelop the site for parking.

How big is the Site?

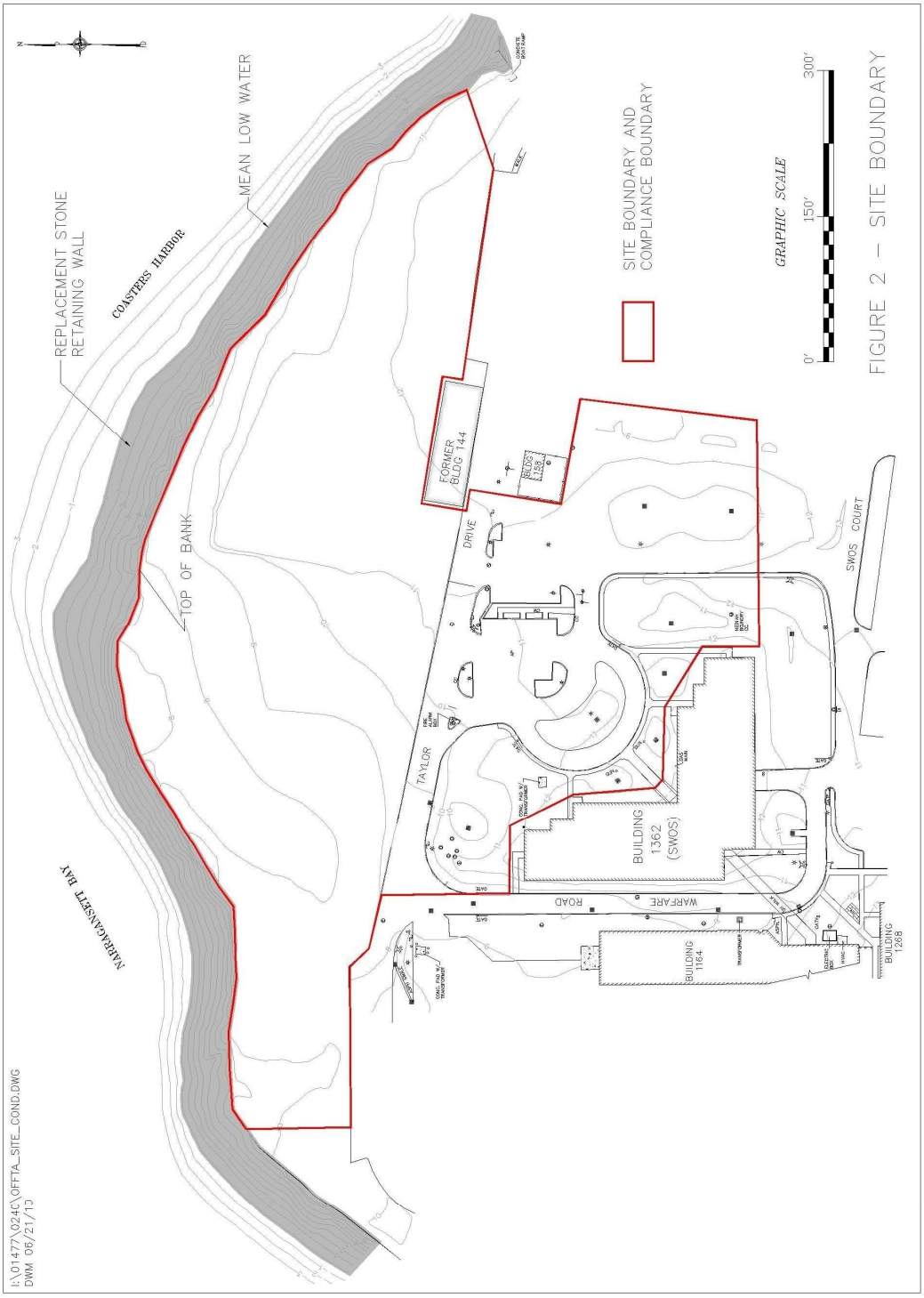
The Site is approximately 8.2 acres, consisting of the area north of Taylor Drive as well as the parking areas for the Surface Warfare Officers School.

What were the investigation results?

During the environmental studies performed at the Site, (see *Environmental Investigations* text box) soil, marine sediment, groundwater, and shellfish samples were collected. These samples were analyzed for one or more of the following: fuel components including gasoline-range organics (GRO), diesel-range organics (DRO), semi-volatile organic compounds (SVOCs) and polycyclic aromatic hydrocarbons (PAHs), metals, and volatile organic compounds (VOCs), pesticides, and polychlorinated biphenyls (PCBs).

The investigation results showed that while traces of many of these contaminants were detected, most did not pose risk to persons or the ecological community. Those that were found to pose potential health risks included metals and PAHs in soils, and metals, PAHs, and VOCs in groundwater.

Details of the investigation results are addressed in the Remedial Investigation Report, and summarized in the Feasibility Study.


REPLACEMENT STONE RETAINING WALL
COASTERS HARBOR
MEAN LOW WATER
TOP OF BANK
NARRAGANSETT BAY
FORMER BLDG 144
BLDG 1355
DRIVE
TAYLOR
WARFARE
ROAD
BUILDING 1362 (SWOS)
BUILDING 164
BUILDING 1268
SWOS COURT
SITE BOUNDARY AND COMPLIANCE BOUNDARY
GRAPHIC SCALE
0'
150'
300'
FIGURE 2 – SITE BOUNDARY
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DWM 06/21/13

Summary of Site Risks

The Navy completed risk assessments to evaluate potential current and future effects of chemicals on human health and the environment. The results of these assessments are described below.

HUMAN HEALTH RISKS

The human health risk assessment estimated the baseline risk, which is the likelihood of health problems occurring if no actions were taken at the Site. To estimate the baseline risk for humans, a four-step process was used.

Step 1 - Identify Chemicals of Potential Concern. Chemicals of potential concern are chemicals found at the Site at concentrations above federal and state risk-screening levels. Chemicals with concentrations above these levels were further evaluated in the human health risk assessment.

Chemicals of potential concern identified at the Site included the following:

- ***Soil –*** PAHs including benzo(a)pyrene at concentrations up to 10 miligrams/kilogram (mg/kg); benzo(a)anthracene at 14, mg/kg; and benzo(b)fluoranthene at 14 mg/kg. Lead, present at concentrations up to 8,250 mg/kg in fill. Some of these concentrations are over 100 times the risk screening levels established for soil.

- ***Groundwater -*** Lead, detected at an elevated concentration of 38.6 micrograms per liter (µg/L), exceeds the federal drinking water criteria of 15 µg /L. Manganese exceeds a federal health advisory for drinking water at several locations at the site. VOCs were detected in groundwater at concentrations below drinking water criteria, although benzene was detected exceeding federal drinking water criteria in two wells in 1997, but samples collected in 2004 did not exceed these criteria. SVOCs exceeded the EPA screening levels for drinking water. Contaminants in groundwater are present solely under the Site.

Not evaluated in the risk assessments, but still of concern is residual petroleum from fire training operations. Petroleum is bound within the soil, particularly at the water table. Generally, petroleum is excluded from CERCLA risk calculations and CERCLA regulation. It is normally cleaned up under other authorities such as state regulations. However, the petroleum at this Site is comingled with other contaminants because of the routine burning of petroleum products, which occurred as part of the Old Fire Fighting Training Area operations.

The CERCLA contaminants cannot effectively be cleaned up separately from the petroleum. Therefore, although these petroleum products are not identified as a concern for health and ecological risk, the Navy, EPA, and RIDEM have agreed that this cleanup will address the petroleum in order to effectively address the comingled CERCLA contaminants.

Step 2 - Conduct an Exposure Assessment. In this step, the ways that humans come into contact with soil, sediment, and/or groundwater at the Site were considered. Both current and reasonably foreseeable future exposure scenarios were identified.

For this Site, exposures that were evaluated included: residential, recreational (considered a restricted recreational scenario under RIDEM's standards), shoreline visitor, industrial workers and excavation workers. These evaluations assumed persons would be exposed to surface soil, subsurface soil, intertidal sediment, and shellfish (lobsters, clams, and mussels exposed to sediment). It assumes persons eating shellfish taken recreationally and for subsistence; and assumes lifetime residential (adult and child) exposure to groundwater as drinking water. Finally, it assumes a future industrial/commercial worker would be exposed to soil, indoor air, and groundwater.

Step 3 - Complete a Toxicity Assessment. Possible harmful effects (if any) from potential exposure to the individual chemicals of potential concern were evaluated. Generally, these chemicals were separated into two groups: carcinogens (chemicals that may cause cancer) and non-carcinogens (chemicals that may cause adverse effects other than cancer).

Step 4 - Characterize the Risk. The results of Steps 2 and 3 were combined to estimate overall risks from exposure to chemicals present at the Site. The terms used to define the estimated risk are explained in the text box, "*How is Risk to People Expressed?*"

The results of the risk assessment for evaluating health effects to persons utilizing the site indicated:

- For surface soil, the cancer risks under the lifetime recreational and lifetime resident scenarios are within EPA's target risk range, but slightly greater than the standard used by RIDEM. Primary contributors to risk (lifetime residential exposure to surface soil) include: arsenic, dibenzofurans, benzo(a)pyrene, and dibenzo(a,h)anthracene. Non-cancer risks for surface soil did not exceed standards.

- For subsurface soil, cancer risks are within EPA's target risk range, but are slightly greater than the RIDEM standard. Primary contributors to risk under lifetime exposure to subsurface soil in a residential scenario include: arsenic, and the PAHs benzo(a)pyrene, benzo(a)anthracene, and benzo(b)fluoranthene. Non-cancer risks for subsurface soil under all scenarios did not exceed standards.

- For sediment, risks to people were found to be within EPA's target risk range, but are slightly greater than the RIDEM standard. Primary contributors to this risk were arsenic and PAHs. It was recognized that much of the sediment that posed the risk is being removed as a part of the installation of a replacement stone retaining wall (revetment). Therefore risk to humans from sediment is much reduced.

- Risk to persons from exposure to lead is calculated differently – see the text box "*How is Risk to Humans Expressed?"* For residential children exposed to subsurface soil, the estimated probability for a person to exhibit an elevated blood lead level is 18.6 percent. This exceeds EPA's protective level cutoff of 5 percent and indicates possible adverse effects to children living at the site from lead exposure.

- The estimated cancer risk for a lifetime resident exposed to groundwater used as a potable water source exceeds EPA's target risk range and RIDEM's standard. Risks for the residential child and residential adult both exceed non-cancer standards. For a residential child, standards are also exceeded for manganese, arsenic, chromium, 2- methylnaphthalene, and benzene.

  This high level of risk is based on groundwater use as the primary drinking water source for hypothetical on-site residents, although groundwater at the site is not currently used for drinking or bathing. This scenario is unlikely to occur for the following reasons: the Site's proximity to the ocean and the groundwater salinity measured near the shoreline prevents unlimited use and the availability of city water supply precludes need of such use. Considering unrestricted use of groundwater for drinking water is only used in this evaluation to provide a conservative estimate of risk.

- For future industrial/commercial worker's exposure to soil, the cancer risk is within the EPA's target risk range, but exceeds RIDEM's standard. The major contributors to this cancer risk are PAHs and arsenic. For construction worker's exposure to groundwater, the cancer risk is estimated to be below standards. The total cancer risk to the construction worker (calculated by adding the risk from groundwater and the risk from soil) is above RIDEM standards but within EPA target risk range. Non-cancer risks are below standards for soil and groundwater.

- Industrial/commercial worker exposure to lead in soils at the Old Fire Fighting Training Area Site found that the probability of risk from lead is well below the standard provided by EPA.

How is Risk to People Expressed?

In evaluating risks to humans, risk estimates for carcinogens (chemicals that may cause cancer) and noncarcinogens (chemicals that may cause adverse effects other than cancer) are expressed differently.

For carcinogens, risk estimates are expressed in terms of probability. For example, exposure to a particular carcinogenic chemical may present a 1 in 10,000 chance of causing cancer over an estimated lifetime of 70 years. This can also be expressed as $1x10^{-4}$. The EPA acceptable risk range for carcinogens is $1x10^{-6}$ (1 in 1,000,000) to $1x10^{-4}$, and RIDEM's standard is 1×10^{-5}. In general, calculated risks higher than these values would require consideration of cleanup.

For noncarcinogens, exposures are first estimated and then compared to a reference dose (RfD). The RfD is developed by EPA scientists to estimate the amount of a chemical a person (including the most sensitive person) could be exposed to over a lifetime without developing adverse (non-cancer) health effects. The exposure dose is divided by the RfD to calculate the measure known as a hazard index. A hazard index (HI) greater than 1 suggests that adverse effects are possible.

Risk from exposure to lead is evaluated by using the slope-factor approach developed by the EPA. The approach is based on effects to a fetus through exposure to the mother. For fetuses born to mothers exposed to lead, a probability that the fetal blood-lead concentration exceeds 10 micrograms per deciliter (µg/dL) is calculated. If the probability is less than 5 percent, it is accepted that lead does not pose a risk to humans.

- Potential risks from evaporation of groundwater contaminants into indoor air spaces were evaluated through EPA's Subsurface Vapor Intrusion Guidance. Based on this evaluation, the vapor intrusion pathway was considered insignificant because all groundwater concentrations were below the vapor intrusion screening levels.

The chemicals of concern for the Site were identified in the human health risk assessment as primary contributors to human health risks for current and future land use. The chemicals of concern are summarized below:

- ***Soil –*** Lead, PAHs.
- ***Groundwater –*** Arsenic, chromium, lead, manganese, 2-methylnaphthalene, and benzene.

ECOLOGICAL RISKS

The ecological risk assessment was completed in three steps, which are discussed below.

Step 1 - Problem Formulation. The primary objective of the ecological risk assessment for the Site was to assess ecological risks from contaminants associated with Old Fire Fighting Training Area to plants and animals in the offshore environments of Coasters Harbor and Narragansett Bay. Based on sediment sampling results, PAHs and metals were initially identified as of possible concern and were further evaluated in the risk assessment.

Step 2 - Risk Analysis. Risks were measured for each sample station, based on several tests conducted, which focused on the concentration of contaminants present and how those contaminants might affect microorganisms, shellfish and other wildlife.

Step 3 - Risk Characterization. The results from the risk analysis were used to determine the probability of adverse effects to the ecology at the Site. The results of an ecological risk assessment are based on an interpretation of all the tests conducted at the Site, and each sample station was given a rating of high, intermediate, low, or baseline potential for ecological risk. Refer to the box to the right "How is Ecological Risk Expressed?"

The ecological risk assessment found *high* probability for adverse risk to ecological receptors at one sample station located near a storm drain outfall due to the PAHs that were detected in sediment. Most sediment from this area will be removed as a part of the construction of the replacement stone retaining wall.

An *intermediate* probability for adverse risk to receptors was determined for several shoreline stations and harbor stations. Sediment at the shoreline stations will mostly be removed as part of the construction of the replacement stone retaining wall.

How is Ecological Risk Expressed?

The risk to ecological receptors is expressed as a Hazard Quotient (HQ). A receptor's exposure estimate (e.g., amount of chemical in media or ingested in food) is compared to benchmarks for the chemicals that are designed to be protective. When the HQ is below 1.0, toxicological effects are unlikely to occur and no significant risk is present. When the HQ is above 1.0, there is a potential for significant risk to be present. For this site multiple tests were conducted to calculate multiple HQ values for each location sampled. Based on the HQ values calculated, an overall rating of *high, intermediate, low,* or *baseline* was assigned to each location.

Areas with high potential for risk showed a cause and effect relationship from contaminants present. Areas given a "intermediate" classification showed more than one possible cause of effects, but no direct effect measured. Low risk is assigned to a station where even one potential cause was evident. A "Baseline" condition is assigned for those stations with relatively pristine conditions.

A *low* probability for adverse risk was estimated for the remainder of the sample stations, including one reference station, and the near-shore stations that are more exposed to rough water conditions.

A *baseline* condition that would be associated with relatively pristine conditions was not observed at any of the site sample stations or reference sample stations that were evaluated in this assessment.

Other evaluations of subtidal sediment at Coasters Harbor have found lower concentrations of chemical contaminants and evidence of a healthy ecological community, with eelgrass beds, and reproductive populations of commercially important shellfish (bay scallops, oysters, clams, etc). However, a shellfish collection ban is imposed on this area, by the State of Rhode Island, because of nearby storm water outflows that release biological contaminants.

Cleanup Objectives

Cleanup Objectives (also known as Remedial Action Objectives) are the goals that a cleanup plan should achieve. They are established to protect human health and the environment, and comply with all pertinent federal and state regulations. The cleanup objectives are developed to address all the identified chemicals of concern in soil and groundwater. The following objectives were developed for the Site:

- Prevent the ingestion of and direct contact with soil containing site contaminants that exceed action levels developed for the Site, identify and prevent any transfer of contaminants from site soils to sediment via groundwater transport or via soil/beach face erosion, and prevent transport of contaminants from site soil via surface or groundwater transport to adjacent areas of uncontaminated groundwater.

- Prevent the ingestion of, and direct contact with groundwater with chemicals at concentrations that exceed action levels for the site. Ensure that the groundwater contaminants do not move beyond the compliance boundary established for contaminants remaining in place at the Site.

After full evaluation of newer Site sediment data showing results below previous concentrations, and after review of the retaining wall design plan, the Navy, with input from EPA, has concluded that sediment does not require cleanup at this site due to the levels and uncertainties of the risks estimated.

Action levels were developed in the Feasibility Study for the contaminants identified as human health chemicals of concern in Site soil and groundwater. These chemicals of concern, and their preliminary cleanup goal concentrations include:

- ***Soil (industrial use) –***
  lead (500 milligrams per kilogram [mg/kg])
  benzo(a)anthracene (2.11 mg/kg),
  benzo(a)pyrene (0.211 mg/kg),
  benzo(b)fluoranthene (2.11 mg/kg), and
  dibenzo(a,h)anthracene (0.211 mg/kg).

- ***Groundwater (as drinking water) –***
  Arsenic (0.04 micrograms per liter [µg/L]),
  chromium (30 µg/L),
  lead (15 µg/L),
  manganese (291 µg/L),
  2-methylnaphthalene (128 µg/L), and
  benzene (1 µg/L).

Groundwater action levels are met upgradient of the site boundary for the area where contaminants will be managed in place. Groundwater action levels do not need to be achieved inside of the site boundary. Downgradient groundwater is saline and, therefore, non-potable.

Summary of Cleanup Alternatives

Options were identified for the Site in the Feasibility Study. The alternatives were developed to meet the cleanup objectives listed above. Each alternative is briefly described below for soil and groundwater. All the alternatives were developed with the understanding that a new shoreline stone retaining wall, also called a stone revetment will be in place to prevent erosion of the Site soil. This revetment is being constructed as part of a different CERCLA based removal action. Long-term maintenance of the revetment is a component of these alternatives.

Soil Alternative 1: No Action

A “no action” alternative was evaluated for the Site. Under a no action alternative, the Site would be left as it is today. Although the Navy has not considered this to be an appropriate response action for the Site, it is a statutory requirement under CERCLA that a “no action” alternative be evaluated. Thus, this alternative is used as a baseline for comparison with other alternatives.

The No Action alternative would include only review of site conditions every five years.

Soil Alternative 2: Removal, Treatment, Backfill, and Land Use Controls

Soil Alternative 2 features excavation of soil exceeding industrial cleanup goal levels and on-site treatment of the contaminated soils. Treated soils would be used as backfill. Soil Alternative 2 would achieve cleanup objectives through the following components:

- Excavation would involve removal of soil, loading material onto trucks, and hauling material to a centralized location on the Site.

- Low-temperature thermal stripping (LTTS) and soil washing treatments would be performed on the Site. LTTS uses heating to evaporate organic contaminants in soils. Soil washing involves removal of contaminants by washing in a water-based system with additives to help remove

heavy metals. Treatment confirmation analyses would be performed on cleaned stockpiles.

- The excavations would be backfilled with treated soil from the clean stockpiles.

- Following excavation and backfill of Taylor Drive and the Surface Warfare Officers School parking areas, the utilities, pavement, and sidewalks would be replaced.

- Land use controls would be implemented to prevent residential use of the land.

- Pre- and post-cleanup groundwater monitoring would be conducted for trend comparison.

- Long-term monitoring of groundwater and sediment and Five-Year Reviews would be necessary.

Soil Alternative 3: Removal, Disposal, and Land Use Controls

Soil Alternative 3 specifies the removal and off-site disposal of soil with chemicals of concern exceeding the selected industrial action levels. Soil Alternative 3 would address the cleanup objectives through the following components:

- Excavation would involve removal of soil, loading material onto trucks, and hauling material to an approved off-site disposal facility.

- Backfilling would involve placement of clean fill in the excavated areas.

- Utilities would be replaced when the site is backfilled. Also, Taylor Drive and the Surface Warfare Officers School parking areas would be repaved after the earthmoving operations have been completed.

- Land use controls would be implemented to prevent residential use of the land.

- Long-term monitoring of groundwater and sediment and Five-Year Reviews would be necessary.

Soil Alternative 4: Asphalt/Soil Cover and Land Use Controls

Soil Alternative 4 would contain the contaminated soils with an asphalt/soil cover. Soil Alternative 4 would address the cleanup objectives through the following components:

- Areas that are not paved would be covered by geotextile and two feet of clean soil.
- Areas that are to be paved for parking, roadways and sidewalks would be done so with the purpose of that pavement providing an effective barrier to prevent access to contaminated soil, including soil contaminated with petroleum.

- Long-term management and land use controls (including establishing a legal restriction for an area where contaminants will be managed in place) would be required to prevent access to soils since soils exceeding action levels would remain on Site, and to maintain the pavement and any other barriers installed.

- Long-term monitoring of groundwater and sediment beyond the compliance boundary and Five-Year Reviews would be necessary.

Groundwater Alternative 1: No Action

A “No Action” alternative was evaluated for the Site. Under a no action alternative, the Site would be left as it is today. Although the Navy has not considered this to be an appropriate response action for the Site, it is a CERCLA statutory requirement that a “No Action” alternative be evaluated. Thus, this alternative is used as a baseline for comparison with other alternatives.

The No Action alternative would include only review of site conditions every five years.

Groundwater Alternative 2: Limited Action (use restrictions and monitoring)

Groundwater Alternative 2 would limit potential risks to human health through groundwater use restrictions and monitoring that would ensure that contaminated groundwater is not moving beyond the compliance boundary. This would meet the cleanup objectives through the following components:

- Groundwater use restrictions, would be established through a Base Instruction (as long as the property is under the control of the Navy) and deed restrictions if the property were ever transferred. These restrictions would be implemented to prevent the installation of wells for any consumptive use purpose, including for household use, drinking water supply, irrigation, or industrial use. The restriction would also describe any necessary protection measures for workers involved in future site development activities that may come into contact with groundwater.

- The Navy will submit an annual report to RIDEM and EPA documenting compliance with the restrictions as appropriate.

  A long-term monitoring program and Five-Year Reviews would be conducted to periodically measure quality of groundwater and to ensure that contaminated groundwater is not moving beyond the compliance boundary for the Site. This groundwater monitoring is also required to assess the protectiveness of any soil cleanup where contaminants exceed risk-based action levels.

Evaluation of Alternatives

EPA has established nine criteria for use in comparing the advantages/disadvantages of each action alternative. These criteria fall into three groups: threshold criteria that any selected alternative must meet; primary balancing criteria that are used to differentiate between alternatives; and modifying criteria that may be used to modify the recommended action. In the Feasibility Study, each action alternative is individually evaluated with respect to seven of the nine criteria and then compared against each other with respect to each criterion. The two modifying criteria are evaluated after receipt of state and public comments on the Feasibility Study and Proposed Plan. Tables 1 and 2 identify the evaluation criteria and present a summary of the evaluation of alternatives for groundwater and soil at the Site.

Preferred Action Alternatives

The Navy is proposing Soil Alternative 4, asphalt/soil cover and land use controls, and Groundwater Alternative 2, Limited Action (use restrictions and monitoring), as its preferred action for the Site. The Navy has concluded that these alternatives are protective of human health and the environment, and achieve the overall goals established for the Site. The Navy proposes that these alternatives be the final actions for the Site.

Preferred Alternative for Soil

Overall, the soil alternative will include the following steps:

- A 2-foot thick soil cover would be placed over unpaved areas.
- Areas which are currently covered by pavement or sidewalks would not be altered, with the understanding that the pavement provides a barrier from contact with the underlying soil. Additional parking areas which are planned for this site would need to be constructed to comply with this requirement.
- Grassed islands within the existing parking lots would be covered with a modified cover.
- Long-term Operation and Maintenance of the stone retaining wall would be required.
- Groundwater monitoring would be conducted to assess the protectiveness of the cover and to ensure the contaminated groundwater is not migrating beyond the compliance boundary.
- Downgradient of the Site, sediment will be monitored to ensure Site contamination is not migrating off-shore.
- Land use controls would be established through a Base Instruction (as long as the property is under the control of the Navy) and deed restrictions if the property were ever transferred. These controls would limit the use of the site for industrial/commercial purposes.
- Long-term monitoring with land use restrictions compliance and Operation and Maintenance of the cover would be conducted.
- Five-Year Reviews would be required.

When completed, Soil Alternative 4 will be: (1) protective of human health and the environment (e.g., achieve the Site-specific cleanup objectives); (2) comply with all state and federal regulations; (3) provide long-term effectiveness; and (4) provide a cost-effective action that can be easily implemented using proven technology.

While Soil Alternatives 2 and 3 would also achieve the cleanup objectives if successfully implemented, there is some uncertainty in the potential effectiveness of Soil Alternatives 2 and 3 for providing short term protection. In addition, there is uncertainty in the implementability of Soil Alternative 2: soil washing is only moderately reliable, and soils may require more than one pass through the treatment equipment to meet action levels. Intensive Operation and Maintenance activities would be required during the cleanup process. The excavation and backfilling of Taylor Drive and Surface Warfare Officers School parking area in Soil Alternatives 2 and 3 would be complicated by the utilities. Soil Alternative 3 would present a short-term risk to persons exposed to soils and fugitive emissions during excavation and transportation activities.

Soil Alternative 4 has high certainty in achieving action levels through the use of asphalt/soil cover and land use controls. Consistent with EPA guidance, the option that will be protective and will comply with regulations was selected. Soil Alternative 4 is recommended because it offers the best balance among the criteria used to evaluate the alternatives.

Preferred Alternative for Groundwater

Overall, the groundwater alternative will include use restrictions implemented in the form of land use controls, and monitoring. This will be implemented using the following steps:

- Land use controls would be established through a Base Instruction (as long as the property is under the control of the Navy) and deed restrictions if the property were ever transferred. These controls are rules, directives, policies, and other measures (e.g., preventing the usage of groundwater, preventing the installation of new groundwater production wells) adopted by the landowners and appropriate authorities in a manner consistent with applicable Federal, State, and local laws. Land use controls will be required within the compliance boundary for the Site.

- Long-term groundwater monitoring will be needed to ensure that contaminants are not migrating with groundwater beyond the compliance boundary for the Site. Monitoring would be conducted for as long as contamination exceeding CERCLA risk-levels remains in place and would include analysis for all the contaminants of concern (organics and metals). Sediment monitoring will ensure the contaminants are not migrating off-shore of the Site.

- Five-Year Reviews would be required. Five-year site reviews would consist of evaluating the monitoring data for effectiveness of the response and use restrictions. There also will be, at a minimum, yearly monitoring for compliance with land use restrictions.

The Navy evaluated a variety of criteria and followed available EPA guidance to select alternatives that would be protective and cost-effective. When completed, Groundwater Alternative 2 will be: (1) protective of human health and the environment (e.g., achieve the Site-specific cleanup objectives); (2) comply with all required state and federal regulations; (3) provide long-term effectiveness; and (4) provide a cost-effective action that can be implemented using proven technology.

Groundwater Alternative 1 will not achieve the cleanup objectives; Groundwater Alternative 2 will achieve action levels through the use of land use controls and monitoring. Consistent with EPA guidance, the option that will be protective and will comply with regulations was selected.

Next Steps

Community acceptance of this Proposed Plan is the next step in the cleanup process for the Site. The public is encouraged to review this plan and submit comments to the Navy. The Navy will accept written comments on the Proposed Plan during the public comment period, from June 28, 2010 to July 27, 2010. The Navy will accept oral comments during a Public Hearing that follows a Public Information Session to be held on July 21, 2010 at the Hampton Inn & Suites, 317 West Main Road, Middletown, Rhode Island. You do not have to be a technical expert to take part in the process. The Navy would like to know your thoughts before making a final decision on whether or not cover and land use controls for soils, and use restrictions and monitoring groundwater and sediment are appropriate actions for the Site.

Once the community has commented on this Proposed Plan, the Navy, EPA, and RIDEM will consider all comments received. It is possible that this Proposed Plan could change based on comments received from the community. The Navy will provide written responses to all formal comments received on the Proposed Plan. The responses to public comments will be provided in a document called a Responsiveness Summary, which will be submitted with the Record of Decision for the Site.

The Record of Decision will contain the rationale for the Navy's, EPA's, and RIDEM's decision for the Site. The Navy, EPA, and RIDEM anticipate that all comments will be reviewed and the Record of Decision will be signed by September 30, 2010. The document will then be made available to the public at the Information Repositories listed on the last page of this document. Also, the Navy will announce the availability of the Record of Decision through the local news media and the community mailing list.

After The Record of Decision

After the Record of Decision is signed, the Navy will design and implement the selected alternative. All data and information will be used to prepare an engineering design of the selected actions.

After the design is completed, and assuming there is no major opposition to the proposed action, the Navy will oversee the asphalt/soil cover and land use control activities to ensure that the actions are properly implemented. Long-term groundwater and sediment monitoring will be conducted to ensure that the remedies are protective.

Commitment to the Communities

The Navy is committed to keeping the communities informed of the environmental activities at Naval Station Newport. A Restoration Advisory Board, composed of the community and government agency representatives, meets regularly to discuss the environmental activities at Naval Station Newport. At these meetings, community Restoration Advisory Board members provide input and offer suggestions on program activities. Upcoming Restoration Advisory Board meetings are publicized in local news media and are open to the public. Past meeting minutes are available on the Naval Station Newport website: http://www.rabnewportri.org/

The Navy also maintains a community mailing list for distributing information about the environmental program. If you would like to be added to the mailing list, please contact Ms. Lisa Rama at the address provided on the front page of this Proposed Plan.

Important Dates

PUBLIC COMMENT PERIOD

June 28, 2010 to July 27, 2010

PUBLIC INFORMATION SESSION AND PUBLIC HEARING

July 21, 2010 7:00 – 8:00
Hampton Inn & Suites
317 West Main Road
Middletown, Rhode Island

Your Questions and Comments Are Important!

Formal comments are used to improve the decision-making process. The Navy will accept formal comments from the public during a 30-day comment period and will hold a public information session and hearing for both written and oral comments (see Page 1 regarding how to submit a formal comment to the Navy).

Your formal comments during this time will become part of the official record for the Old Fire Fighting Training Area. The Navy will consider the comments received during the comment period prior to making the final decisions for the Site. The public is encouraged to participate during this period as your thoughts and opinions will help in making the final decision. You do not have to be a technical expert to take part in the process.

TABLE 1

COMPARISON OF REMEDIAL ALTERNATIVES - SOIL
OLD FIRE FIGHTING TRAINING AREA

	EVALUATION CRITERIA	Alt. 1 No Action	Alt. 2 Removal, Treatment, Backfill and Land Use Controls	Alt. 3 Removal, Disposal, and Land Use Controls	Alt.4 Asphalt/Soil Cover and Land Use Controls
Threshold Criteria – Selected alternative must meet these criteria					
1	Protects Human Health and the Environment – *Will it protect people and animal life near the site? Is protection permanent?*	Ø	●	●	●
2	Meets Federal and State Standards – *Does alternative comply with federal and state environmental laws, regulations, and requirements?*	Ø	●	●	●
Balancing Criteria – Used to differentiate between alternatives meeting threshold criteria					
3	Provides Long-Term Effectiveness and Permanence – *Do risks remain on site? If so, are the controls adequate and reliable?*	Ø	●	●	●
4	Reduces Mobility, Toxicity, and Volume Through Treatment – *Is treatment used to reduce contaminant threats?*	Ø	●	Ø	Ø
5	Provides Short-Term Protection – *How soon will risks be reduced? Will implementing the action cause impacts to people or the environment? If so, are the impacts controllable and acceptable?*	Ø	O	O	●
6	Implementability – *Can it be implemented? Is the alternative technically feasible? Are necessary goods and services available?*	●	O	●	●
7	Costs				
	Capital Costs (up front costs to design and construct)	$0	$18,475,000	$14,819,000	$1,419,000
	Operation and Maintenance Costs (annual costs) (note that monitoring costs are on table 2)	$0	$15,000/ 5years $5,000 (others)	$15,000/ 5years $5,000 (others)	$26,000/ 5years $16,000 (others)
	Five-Year Review Costs	$0*	$0*	$0*	$0*
	Total Present Value (total cost over duration of alternative in today's $)	$0	$18,621,000	$14,966,000	$1,783,000
	Assumed Duration of Alternative (Years)	30	30	30	30
	Time to achieve cleanup objectives for Alternatives 2, 3, 4 (Years)	NA	4	2	2
Modifying Criteria – May be used to modify recommended cleanup					
8	State Agency Acceptance – *Do state agencies agree with Navy's recommended alternative?*	To be determined after public comment period based on comments on Feasibility Study and Proposed Remedial Action Plan			
9	Community Acceptance – *What objections, modifications, or suggestions do the public offer during the public comment period?*	To be determined after public comment period based on comments on Feasibility Study and Proposed Remedial Action Plan			

NOTES:
*Five-Year Reviews would be conducted under the groundwater alternatives

● Meets or Exceeds Criteria O Partially or Potentially Meets Criteria (some uncertainty) Ø Does NOT Meet Criteria

TABLE 2

COMPARISON OF REMEDIAL ALTERNATIVES - GROUNDWATER
OLD FIRE FIGHTING TRAINING AREA

	EVALUATION CRITERIA	Alt. 1 No Action	Alt. 2 Use Restrictions and Monitoring
Threshold Criteria – Selected alternative must meet these criteria			
1	Protects Human Health and the Environment – *Will it protect people and animal life near the site? Is protection permanent?*	Ø	●
2	Meets Federal and State Standards – *Does alternative comply with federal and state environmental laws, regulations, and requirements?*	Ø	●
Balancing Criteria – Used to differentiate between alternatives meeting threshold criteria			
3	Provides Long-Term Effectiveness and Permanence – *Do risks remain on site? If so, are the controls adequate and reliable?*	Ø	●
4	Reduces Mobility, Toxicity, and Volume Through Treatment – *Is treatment used to reduce contaminant threats?*	Ø	Ø
5	Provides Short-Term Protection – *How soon will risks be reduced? Will implementing the action cause impacts to people or the environment? If so, are the impacts controllable and acceptable?*	Ø	●
6	Implementability – *Can it be implemented? Is the alternative technically feasible? Are necessary goods and services available?*	●	●
7	Costs		
	Capital Costs (up front costs to design and construct)	$0	$76,000
	Operation and Maintenance Costs (annual costs), including groundwater and sediment monitoring costs.	$0	$75,000/yr - years 1-5, and 5 year intervals $3,000/yr - other years
	5-Year Review Costs (if wastes remain on site beyond year 5)	$31,000 each	$31,000 each
	Total Present Value (total cost over duration of alternative in today's $)	$120,000	$807,000
	Assumed Duration of Alternative (Years)	30	30
	Time to achieve cleanup objectives for Alternative 2 (Years)	NA	2
Modifying Criteria – May be used to modify recommended cleanup			
8	State Agency Acceptance – *Do state agencies agree with Navy's recommended alternative?*	To be determined after public comment period based on comments on Feasibility Study and Proposed Remedial Action Plan	
9	Community Acceptance – *What objections, modifications, or suggestions do the public offer during the public comment period?*	To be determined after public comment period based on comments on Feasibility Study and Proposed Remedial Action Plan	

NOTES: ● Meets or Exceeds Criteria O Partially or Potentially Meets Criteria (some uncertainty) Ø Does NOT Meet Criteria

GLOSSARY OF TERMS

Chemicals of Concern (COCs): Chemicals of concern are chemicals identified in the risk assessments as the primary drivers of unacceptable risks.

Chemicals of Potential Concern (COPCs): Chemicals of potential concern are chemicals found at the Site at concentrations above federal and state risk-screening levels and therefore are included in the risk assessment evaluations.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law passed in 1980 and amended in 1986 by the Superfund Amendments and Reauthorization Act (SARA). These laws created a system and funding mechanism, also known as Superfund, for investigating and cleaning up abandoned and/or uncontrolled hazardous waste sites. The Navy's cleanup of sites regulated by CERCLA/SARA is funded by the Department of Defense under the Defense Environmental Restoration Fund.

Conceptual Site Model (CSM): Describes the current understanding of the contaminants present at the SIte, based on historical information and data available to date.

Feasibility Study (FS): An engineering study of the potential cleanup alternatives for a site.

Operable Unit: A site or sites being addressed collectively under the CERCLA process.

Preliminary Remediation Goals (PRGs): Target cleanup concentrations for individual contaminants of concern in each media.

Proposed Plan: A CERCLA document that summarizes the Navy's preferred action for a site and provides the public with information on how they can participate in the alternative selection process.

Record of Decision (ROD): A legal, technical, and public document that explains the rationale and final cleanup decision for a site. It contains a summary of the public's involvement in the cleanup decision.

Remedial Action Objectives (RAOs): Remedial Action Objectives are goals that are set to protect human health and the environment, and provide the basis to select cleanup methods. This term is used as a technical definition of "cleanup objectives".

Remedial Investigation (RI): A step in the CERCLA process that is completed to gather sufficient information to support selection of a cleanup approach to a site. The RI involves site characterization or the collection of data and information necessary to characterize the nature and extent of contamination at a site. The RI also determines whether or not the contamination presents a significant risk to human health or the environment.

Responsiveness Summary: A document containing the responses to the formal comments submitted by the public regarding the Proposed Plan. This summary is issued as part of the ROD.

COMMENT SHEET – Proposed Plan for OU-3, Old Fire Fighting Training Area

Use this space to write your comments or to be added to the mailing list.

The Navy encourages your written comments on the Proposed Plan for OU-3 – Old Fire Fighting Training Area, Naval Station Newport, Newport, Rhode Island. You can use the form below to send written comments or submit them at the formal hearing on July 21, 2010. If you have questions about how to comment, please call Ms. Lisa Rama at 401-831-3831. This form is provided for your convenience.

Please mail this form or additional sheets of written comments, postmarked no later than July 27, 2010, to the address shown below:

Ms. Lisa Rama
Public Affairs Office
690 Peary Street
Naval Station Newport,
Newport RI 02841

Comment Submitted by: _____

Address: _____

_____

_____

_____

Affix
Postage

Ms. Lisa Rama
Public Affairs Office
690 Peary Street
Naval Station Newport,
Newport RI 02841

(Fold on dotted line, staple, stamp, and mail)

For More Information…

Contacts

If you have questions or comments about this Proposed Plan, or any other questions about the Old Fire Fighting Training Area, please contact us:

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Information Repositories

Documents relating to environmental cleanup activities for the Naval Station Newport property are available for public review at the following information repositories:

Middletown Public Library
West Main Road
Middletown Rhode Island
401-846-1573

Newport Public Library
300 Spring Street,
Newport Rhode Island
401-847-8720

Portsmouth Public Library
2658 East Main Road
Portsmouth Rhode Island
401-683-9457

VISIT OUR WEBSITE:
http://www.rabnewportri.org/