



# Naval Submarine Base New London

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NSB NEW LONDON  
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## DEFENSE REUTILIZATION AND MARKETING OFFICE (SITE 6) PROPOSED PLAN

### Introduction

In accordance with Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the law more commonly known as Superfund, this Proposed Plan summarizes the Navy's preferred option for the Defense Reutilization and Marketing Office (DRMO, Site 6) at Naval Submarine Base New London (NSB-NLON) (Figure 1). This site is one of 25 sites being addressed by the base's Installation Restoration Program (IRP). The IRP is being conducted to identify and clean up sites created by past operations that do not meet today's environmental standards.

This Proposed Plan recommends minimal action for Site 6. Detailed descriptions of Site 6 are provided in the March 1997 **Remedial Investigation (RI)** and September 1997 **Feasibility Study (FS)** reports which are available in the information repository at the locations identified on page 3. The RI report concluded that there were no significant human and ecological risk, therefore minimal action is proposed.

### The Cleanup Proposal...

After careful study of Site 6, the Navy proposes the following plan:

- Continued maintenance of the existing cap.
- Land use restrictions that would limit future development at the site.
- Fencing and notices posted on the site perimeter.
- Long-term monitoring of contaminants in **groundwater** and, if required, in **surface water and sediment**.
- Five-year reviews.

*Technical terms shown in bold print are defined in the glossary on page 4.*

### What Do You Think?

The Navy is accepting public comments on this proposed plan from September 18 to October 18, 1997. You do not have to be a technical expert to comment. If you have a comment or concern, the Navy wants to hear it before making a final decision.

There are two ways to formally register a comment:

1. Offer oral comments during the September 25 public meeting, or
2. Send written comments postmarked no later than October 18, 1997 to:

Mr. Mark Evans  
Naval Facilities Engineering Command  
Northern Division  
Code 1823/ME  
10 Industrial Highway  
Mail Stop 82  
Lester, Pennsylvania 19113-2090

To the extent possible, the Navy will respond to your oral comments during the September 25th public meeting. In addition, regulations require the Navy to respond to all formal comments in writing. The Navy will review the transcript of the comments received at the meeting, and all written comments received during the formal comment period, before making a final decision and providing a written response to the comments in a document called a **Responsiveness Summary**.

### Learn More About the Proposed Plan

The Navy will describe the proposed plan and hear your questions at an informational public meeting.

September  
25

### PUBLIC MEETING

Meeting: 6:30 pm



Date: Thursday  
September 25, 1997

Location: Olympic Inn/Best  
Western, Route 12,  
Groton, Connecticut

For further information regarding the public meeting, call Mr. Andy Stackpole at the Naval Submarine Base New London, Environmental Department, (860) 449-5191.

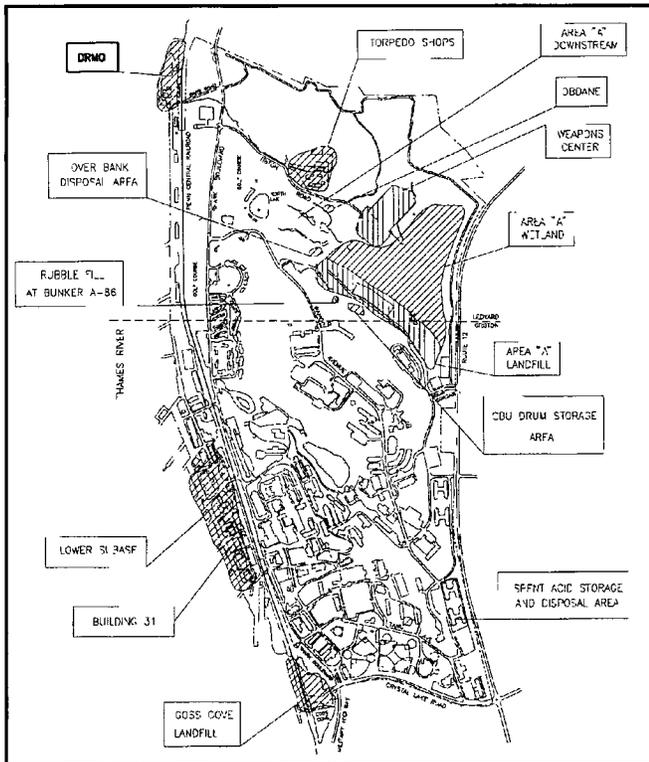


Figure 1. Site Location Map

## History

Site 6, DRMO is an open ground and warehouse complex located adjacent to the Thames River in the northwestern section of NSB-NLON. From 1950 to 1969, the DRMO was used as a landfill and waste burning area. Currently, the DRMO is used as a storage and collection facility for items to be sold at auctions and sales held periodically during the year.

In 1995, 4,700 tons of contaminated soil were removed and disposed off site and most of the site was covered with an asphalt/GCL cap as part of a **Time Critical Removal Action**.

## Finding of the Field Investigations

The Navy conducted several field investigations from 1992 to 1995 to assess the type and distribution of contaminants at Site 6. A **risk assessment** was performed to evaluate the potential effects of the contamination on human health and the environment.

The investigations at Site 6 included sampling and laboratory analysis of soil, **groundwater**, and **surface water**. These investigations showed that the soil contains relatively high concentrations of several organic (**PAHs** and **PCBs**) and inorganic (beryllium) chemicals but that, in spite of this fact, no substantial impact on **groundwater** quality has occurred to date. Investigations also detected no significant contamination of **surface water**.

## Summary of Alternatives Considered for Site 6

The Navy prepared a **Feasibility Study (FS)** to evaluate alternatives for Site 6. The following table summarizes the remedial alternatives considered in the **FS**.

Remedial Alternatives	Components	Comment
1 No Action	<ul style="list-style-type: none"> <li>None, except existing cap which would not be maintained</li> </ul>	<ul style="list-style-type: none"> <li>Provides limited protection of human health and the environment. Does not comply with regulatory requirements</li> <li>Cost: \$0</li> </ul>
2 Institutional Controls & Monitoring	<ul style="list-style-type: none"> <li>Maintenance of existing cap</li> <li>Land use restrictions</li> <li>Fencing and posting of notices</li> <li>Groundwater sampling &amp; analysis</li> <li>Five-Year Site Reviews</li> </ul>	<ul style="list-style-type: none"> <li>Protects human health. Will monitor potential risks to the environment to determine compliance with regulatory requirements</li> <li>Cost: \$708,000</li> </ul>
3 "Hot Spots" Excavation, Disposal, Institutional Controls, & Monitoring	<ul style="list-style-type: none"> <li>Excavation of contaminated soil "hot spots" with restoration of existing cap</li> <li>Offsite landfilling of excavated soil</li> <li>Same institutional controls and monitoring as Alternative 2</li> </ul>	<ul style="list-style-type: none"> <li>Protects human health. Will monitor potential risks to the environment to determine compliance with regulatory requirements</li> <li>Cost: \$4,981,000</li> </ul>
4 Excavation, Treatment, Disposal	<ul style="list-style-type: none"> <li>Excavation of contaminated soil</li> <li>Onsite <b>thermal desorption</b> and <b>chemical fixation-solidification</b> of contaminated soil</li> <li>Offsite <b>landfilling</b> of treated soil</li> </ul>	<ul style="list-style-type: none"> <li>Protects human health and the environment. Complies with regulatory requirements</li> <li>Cost: \$16,129,000</li> </ul>

## Alternatives Evaluation Criteria

The following is a summary of the nine Superfund-mandated criteria used to balance the pros and cons of the remedial alternatives. The **FS** alternatives have already been evaluated using the first seven criteria. Once comments from the state and public are received, the alternatives will be compared using the last two criteria to select the remedy for Site 6.

1. Overall protection of human health and the environment
2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)
3. Long-term effectiveness and permanence
4. Reduction of toxicity, mobility, or volume through treatment
5. Short-term effectiveness
6. Implementability
7. Cost
8. State acceptance
9. Community acceptance

## The Navy's Proposed Remedy

The Navy's proposed remedy for Site 6 is Remedial Alternative 2. This remedial alternative consists of two major components in addition to the existing cap: (1) Institutional Controls and (2) Monitoring.

Institutional controls would include maintenance of the existing cap, institution of land use restrictions to limit future development, and implementation of site access restrictions such as fencing and posting of notices around the site.

Monitoring would consist of long-term groundwater sampling and analysis at several site locations. If results of this sampling and analysis indicate that groundwater is being negatively impacted and that **contaminants** could be migrating to the Thames River, the monitoring would be

expanded to include **surface water** and **sediment** sampling and analysis. Monitoring would also include site reviews every 5 years for 30 years to evaluate site status and whether further remedial action is warranted by a change in this status.

## Glossary of Technical Terms

**Applicable, or Relevant and Appropriate Requirements (ARARs):** The federal and state environmental rules, regulations, and criteria which must be met by the selected remedy under Superfund.

**Asphalt/GCL cap:** Cover made up of a layer of asphalt and a Geosynthetic Clay Liner (GCL) which was placed over areas of contaminated soil at Site 6 in 1995. The GCL is a fabricated liner which consists of an impervious layer of bentonite clay "sandwiched" between two permeable layers of geotextile fabric.

**Chemical fixation-solidification:** Controlled mixing of waste material (typically soil or sludge) with selected chemicals which induce a solidification of this material and the immobilization (fixation) of certain **contaminants** within the solidified material.

**Contaminants:** Any physical, biological, or radiological substance or matter that, at a certain concentration, could have an adverse effect on human health and the environment.

**Excavation:** Earth removal with construction equipment such as backhoe, trencher, front-end loader, etc.

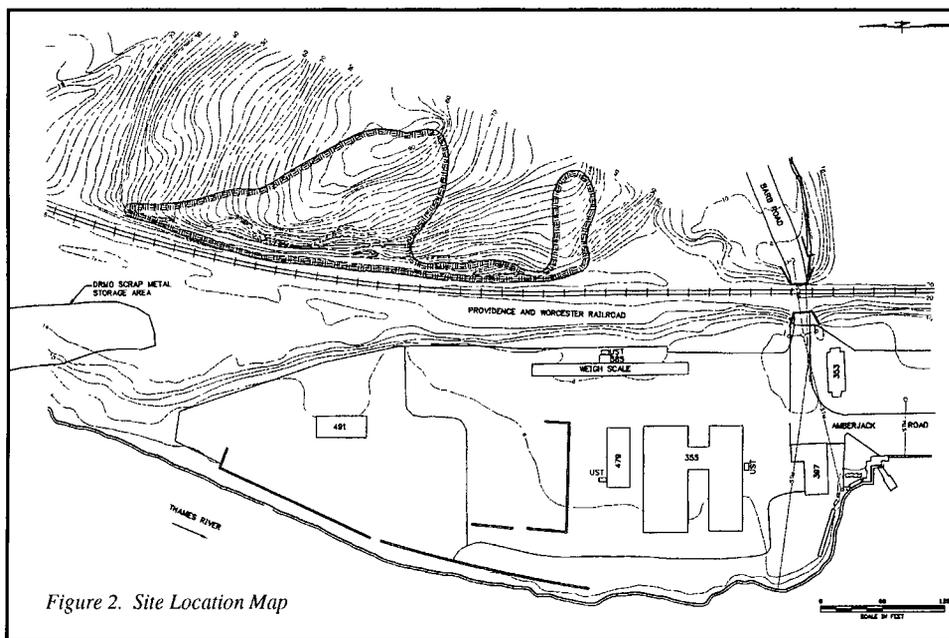


Figure 2. Site Location Map

## The Public's Role in Alternative Selection

Community input is integral to the selection process. The Navy and regulatory agencies will consider all comments in selecting the remedial action prior to signing the **Record of Decision (ROD)**. The public is encouraged to participate in the decision-making process.

This Proposed Plan for Site 3 is available for review, along with supplemental documentation, at the:

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|--|--|
| ☞ Groton Public Library<br>52 Route 117<br>Groton, CT 06340<br>(860) 441-6750        | Hours:<br>Mon.-Thurs.: 9:00 am-9:00 pm<br>Fri.: 9:00 am-5:30 pm<br>Sat.: 9:00 am-5:00 pm<br>Sun.: noon-6:00 pm |
| ☞ Bill Library<br>718 Colonel Ledyard Highway<br>Ledyard, CT 06339<br>(860) 464-9912 | Hours:<br>Mon.-Thurs.: 9:00 am-9:00 pm<br>Fri. & Sat.: 9:00 am-5:00 pm<br>Sun.: 1:00 pm-5:00 pm                |

For further information, please contact:

- |   |  |
|---|--|
| ☞ Andy Stackpole<br>Installation Restoration Manager<br>Naval Submarine Base New London<br>Groton, CT 06349-5100<br>(860) 449-5191  | ☞ Kymberlee Keckler<br>Remedial Project Manager<br>U.S. Environmental Protection Agency<br>JFK Building<br>Boston, MA 02203-2211<br>(617) 573-5777 |
| ☞ Mark Lewis<br>Environmental Analyst 2<br>Connecticut Department of Environmental Protection<br>Bureau of Water Management<br>79 Elm Street<br>Hartford, CT 06106-5127<br>(860) 424-3768 |  |

**Feasibility Study (FS):** A report that presents the development, analysis, and comparison of remedial alternatives.

**Groundwater:** Water found beneath the earth's surface. Groundwater may transport substances that have percolated downward from the ground surface as it flows towards its point of discharge.

**"Hot Spots":** These areas of soil at Site 6 where **contaminants** concentrations result in unacceptable risk to site workers if the site continues to be used as it presently is.

**Landfilling:** Controlled burial of material at a site specifically designed for this purpose.

**PAHs:** Polycyclical Aromatic Hydrocarbons. High molecular weight, relatively immobile, and moderately toxic solid organic chemicals featuring multiple benzenic (aromatic) rings in their chemical formula. Typical examples of PAHs are naphthalene and phenanthrene.

**PCBs:** Poly Chlorinated Biphenyls. High molecular weight, moderately mobile, and moderately to highly toxic liquid organic chemicals featuring two benzenic rings and multiple chlorine atoms in their chemical formula. In the past, **PCBs** were commonly used as cooling fluid in electronic transformers and, as a result, **PCB** contamination is relatively widespread.

**Record of Decision (ROD):** An official document that describes the selected Superfund remedy for a site. The ROD documents the remedy selection process and is issued by the Navy and U.S. EPA following the public comment period.

**Remedial Investigation (RI):** A report which describes the site, documents the type and distribution of contaminants detected at the site, and present the results of the risk assessment.

**Responsiveness Summary:** A summary of written and oral comments received during the public comment period, together with the Navy's and U.S. EPA's responses to these comments.

**Risk Assessment:** Evaluation and estimation of the current and future potential for adverse human health or environmental effects from exposure to contaminants.

**Sediment:** Soil, sand, and minerals typically transported by erosion from soil to the bottom of surface water bodies, such as streams, rivers, ponds, and lakes.

**Source:** Area(s) of a site where contamination originates.

**Surface Water:** Water from streams, rivers, ponds, and lakes. For this Proposed Plan, **surface water** means water of the Thames River.

**Thermal Desorption:** Removal of volatile and semivolatile **contaminants** (typically organic chemicals) through heating of the contaminated material with hot air, followed by capture and treatment of the removed contaminants from the exhaust gases.

**Time Critical Removal Action:** Site cleanup action conducted on an accelerated schedule for the rapid correction of an environmental situation of particular concern.



Naval Submarine Base New London

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