



DEPARTMENT OF THE NAVY
NAVAL SUBMARINE BASE NEW LONDON
GROTON, CONNECTICUT 06349-5000

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From: Commanding Officer, Naval Submarine Base New London
To: Commanding Officer, Northern Division, Naval Facilities Engineering Command
Subj: OVER BANK DISPOSAL AREA, NORTHEAST ACTION MEMORANDUM
Ref: (a) Navy/Marine Corps Installation Restoration Manual, Feb 97
Encl: (1) Action Memorandum for the Over Bank Disposal Area

1. Please find enclosed the signed Action Memorandum (AM) for the non-time critical removal action that will be conducted at the Over Bank Disposal Area, Northeast. The AM has been signed by the installation Commanding Officer in accordance with reference (a).

2. The point of contact at Naval Submarine Base New London is Darlene Ward at (860) 694-4256.

A handwritten signature in black ink, appearing to read "Andrew J. Stackpole".

ANDREW J. STACKPOLE
By direction of the
Commanding Officer

Copy to:
Ms. Kymberlee Keckler, USEPA Region I
Mr. Mark Lewis, CT DEP

marked - 23

ACTION MEMORANDUM
OVER BANK DISPOSAL AREA, NORTHEAST

NAVAL SUBMARINE BASE NEW LONDON
GROTON, CT

I. PURPOSE

The purpose of this Action Memorandum is to document the decision made for proposed action described herein for the Over Bank Disposal Area, Northeast (OBDANE) site at the Naval Submarine Base, New London, (NSB-NLON) located in Groton, Connecticut. The Department of Navy is identified as the lead agency for this non-time critical removal action at NSB-NLON.

II. SITE CONDITIONS AND BACKGROUND

A. SITE DESCRIPTION

1. Removal Site Evaluation

The OBDANE is located in a heavily wooded area on the edge of a ravine northwest of the Area A Landfill, west of the Area A Weapons Center and south of the Torpedo Shops (See Figure 1). At one time, miscellaneous wastes were apparently dumped over the bedrock edge. The site is circular and approximately 80 feet in diameter. A dirt road provides limited access to the wooded site. A nearly 20-foot high bedrock face is located at the eastern edge of the site. The rest of the site slopes to the southwest.

The Initial Assessment Study (IAS) stated that the vegetation at the site indicated that no dumping had occurred within ten years prior to the 1982 investigation. Atlantic personnel inspected the site on September 30, 1988, and verified the IAS report of the presence of several empty fiber drums. No visual staining or stressed vegetation were observed at this time. No development of this area is currently planned.

2. Physical Location

The OBDANE is located in a heavily wooded area on the edge of a ravine northwest of the Area A Landfill, west of the Area A Weapons Center and south of the Torpedo Shops (See Figure 1).

3. Site Characteristics

The OBDANE is located near the base of the bedrock high that slopes southwest from the Area A Weapons Center. Upslope of the site, there are bedrock exposures. The ground elevation of the site ranges from approximately 80 to 50 msl. Downslope of the site, the ground flattens toward the Area A Downstream Watercourses, which have a general ground elevation of 40 feet msl.

Surface runoff from the OBDANE site flows to the southwest into a stream (Stream 3) which originates in Area A Downstream Watercourses. The stream then flows along Triton Road and ultimately discharges into the Thames River at the southern edge of the DRMO site.

The geology of the OBDANE consists of sand and silt alluvium overlying metamorphic bedrock. During the phase II RI, one test boring (14TB1) was drilled within the boundary of the site. The overburden consists of silty sand with gneiss fragments. Outside the OBDANE boundary, the overburden at boring 14TB2A and well 14MW1S consists of sand with traces of mica. These deposits are either present-day stream deposits or stratified drift of former glacial streams. Bedrock (the Mamacoke) was encountered at depths of 14 and 12 feet at boring 14TB2A and well 14MW1S, respectively. Well and boring locations can be found in Figure 2.

Groundwater is present within both the overburden and bedrock underlying the OBDANE. Depth to groundwater at well 14MW1S was less than 5 feet. The saturated thickness of the overburden materials is approximately 6 to 10 feet at OBDANE along stream 3. Groundwater was not encountered at the higher elevation of boring 14TB1. Groundwater in the overburden flows west from the Area A Weapons Center across the OBDANE toward the Area A Downstream Watercourses and the Thames River. Figure 3 displays the overburden groundwater contours across the OBDANE.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The only significant contamination of surface soils and sediments in the OBDANE is associated with arsenic and lead. Debris such as fiber drums, and other containers are lying on or embedded in those surface soils and sediments.

5. National Priority List (NPL) Status

In 1975, the Department of Defense developed a program to investigate and clean up problem areas involving hazardous waste at federal facilities. That program, known as the Installation Restoration Program (IRP), is being conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The NSB-NLON was placed on the National Priorities List (NPL) of federal Superfund sites on August 30, 1990 by the U.S. Environmental Protection Agency (EPA).

6. Maps, Pictures, and Other Graphic Representations

Maps of the site are included as Appendix A of this Action Memorandum.

B. OTHER ACTIONS ADDRESSING THE SITE

1. Previous Actions

A Phase I and Phase II Remedial Investigation Reports for the OBDANE have been prepared.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. THREATS TO PUBLIC HEALTH OR WELFARE

The Site is located in a secure area and is not accessible to the general public. Leaking tanks, drums, or other containers could cause contaminants to migrate to accessible areas.

B. THREATS TO THE ENVIRONMENT

The benefit of this removal action will be to eliminate any potential adverse impacts on human and ecological receptors from leakage and migration of contaminants from containers and other materials at the site.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of pollutants and contaminants from the Site, if not addressed by implementing the response action selected for this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTION AND ESTIMATED COSTS

A. PROPOSED ACTIONS

1. Proposed Action Description

Prior to performance of any site work, erosion and sedimentation control measures will be installed down slope to protect the wetlands and stream. A bermed and lined staging area and decontamination pad will be constructed. The OBDANE will be cleared as required to allow removal of debris.

Debris on the ground surface, or protruding through the ground surface, will be removed and containers with contents will be over-packed. Debris will be decontaminated and then moved to the staging area, where containers and contents will be sampled and analyzed to determine proper disposal methods at a designated disposal facility or disposed in the Area A Landfill.

2. Contribution to Remedial Performance

The OBDANE response action will be implemented in accordance with all administrative procedures in the National Contingence Plan (NCP) for non-time critical removal actions. Although the removal action may not be the final action under CERCLA, it is anticipated that this response action will be consistent with the final remedial action of the site.

3. Description of Alternative Technologies

Alternative technologies have been considered. Removal and off-site disposal is the most effective and least expensive action.

4. Engineering Evaluation/Cost Analysis (EE/CA)

An Engineering Evaluation/Cost Analysis has been prepared (Appendix B) and contains a discussion of alternatives considered before proposing this removal action.

5. Applicable or Relevant and Appropriate Requirements (ARARs)

The Connecticut Department of Environmental Protection (CTDEP) pollutant mobility criteria for soil, the CTDEP DEC for soil and the FFDC action tolerance level are used as soil remediation goals for soils at this site. The target remedial level for total DDTR is risk-based. Disposal of debris and contents will be in accordance with RCRA requirements.

6. Project Schedule

This removal action will be performed in conjunction with the Area A Downstream Watercourses field work between October and December 1999.

B. ESTIMATED COSTS

The cost of the removal action is approximately \$200,000. A detailed cost estimate is provided in the EE/CA.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Although the debris itself is stable, a delay in action would increase the potential for spills of any contained contents and migration of these substances via surface water runoff and groundwater infiltration, as well as result in an increase in project cost.

VII. OUTSTANDING POLICY ISSUES

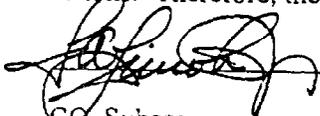
There are no outstanding policy issues that have not been discussed.

VIII. ENFORCEMENT

The Department of Navy is the lead agency for this removal action and is responsible for funding. Enforcement strategies do not apply as all funds are provided by the Navy.

IX. RECOMMENDATION

This decision document represents the selected removal action for the OBDANE at Naval Submarine Base, New London, Groton, Connecticut, developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by SARA, and is consistent with the National Contingency Plan (NCP). Conditions at the OBDA meet the NCP Section 300.415(b)(2) criteria for removal actions. Therefore, the removal action is recommended.


CO, Subase

16 SEPTEMBER 1999

DATE

**COMMANDING OFFICER
SUBBASE
PO BOX 00
GROTON CT 06349-5000**

APPENDIX A

MAPS

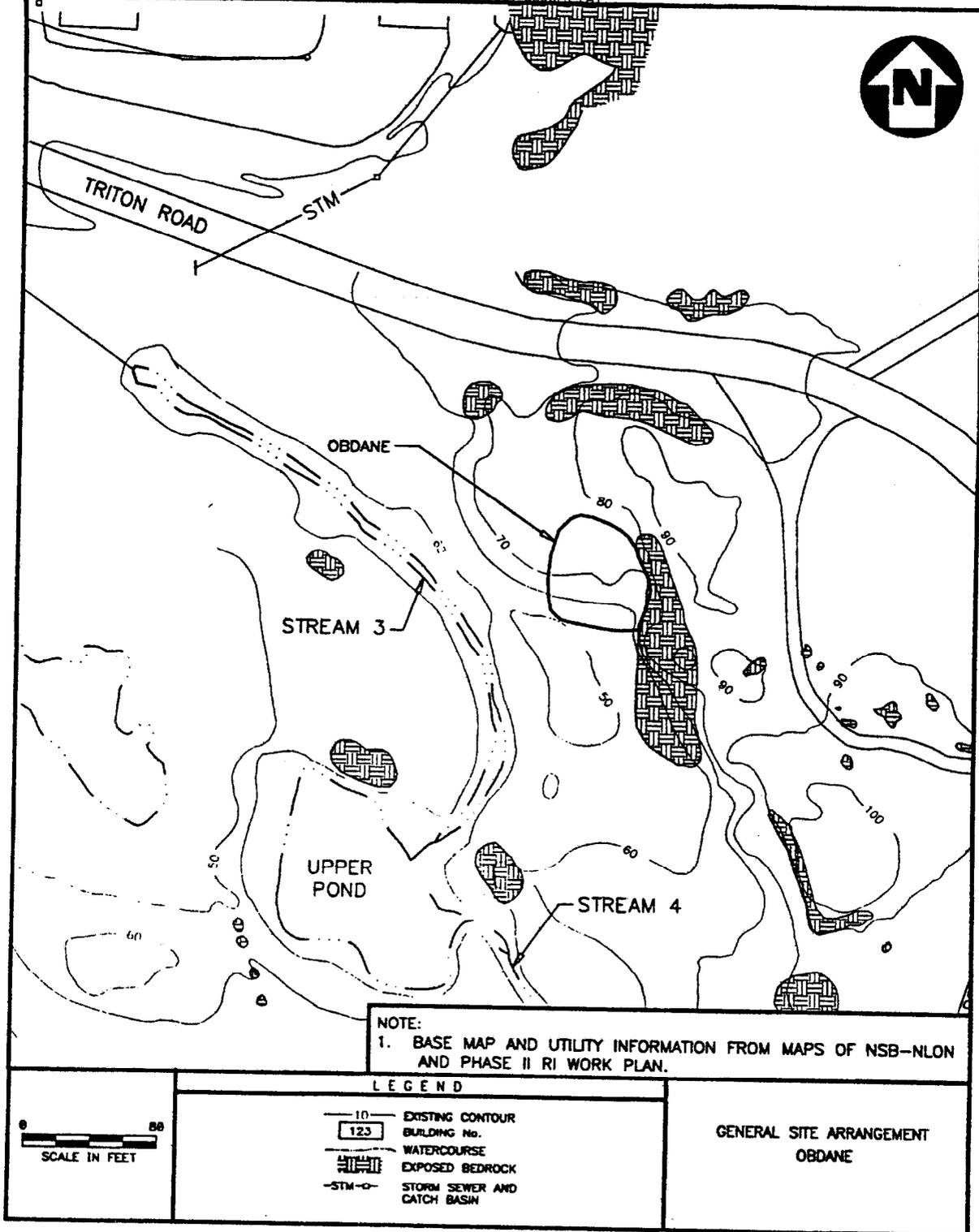


Figure 1. OBDANE – General Site Arrangement

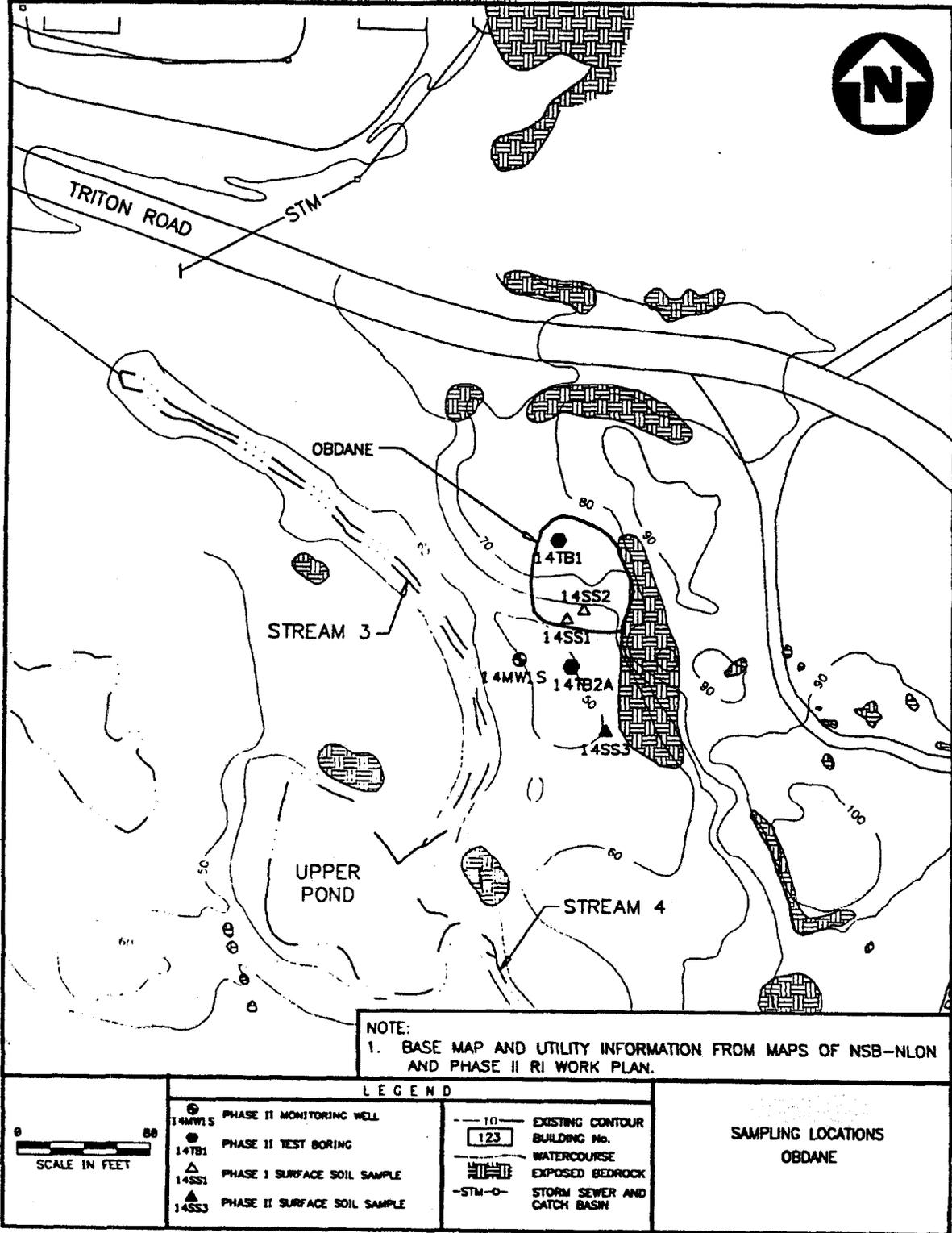


Figure 2. OBDANE - Sampling Locations

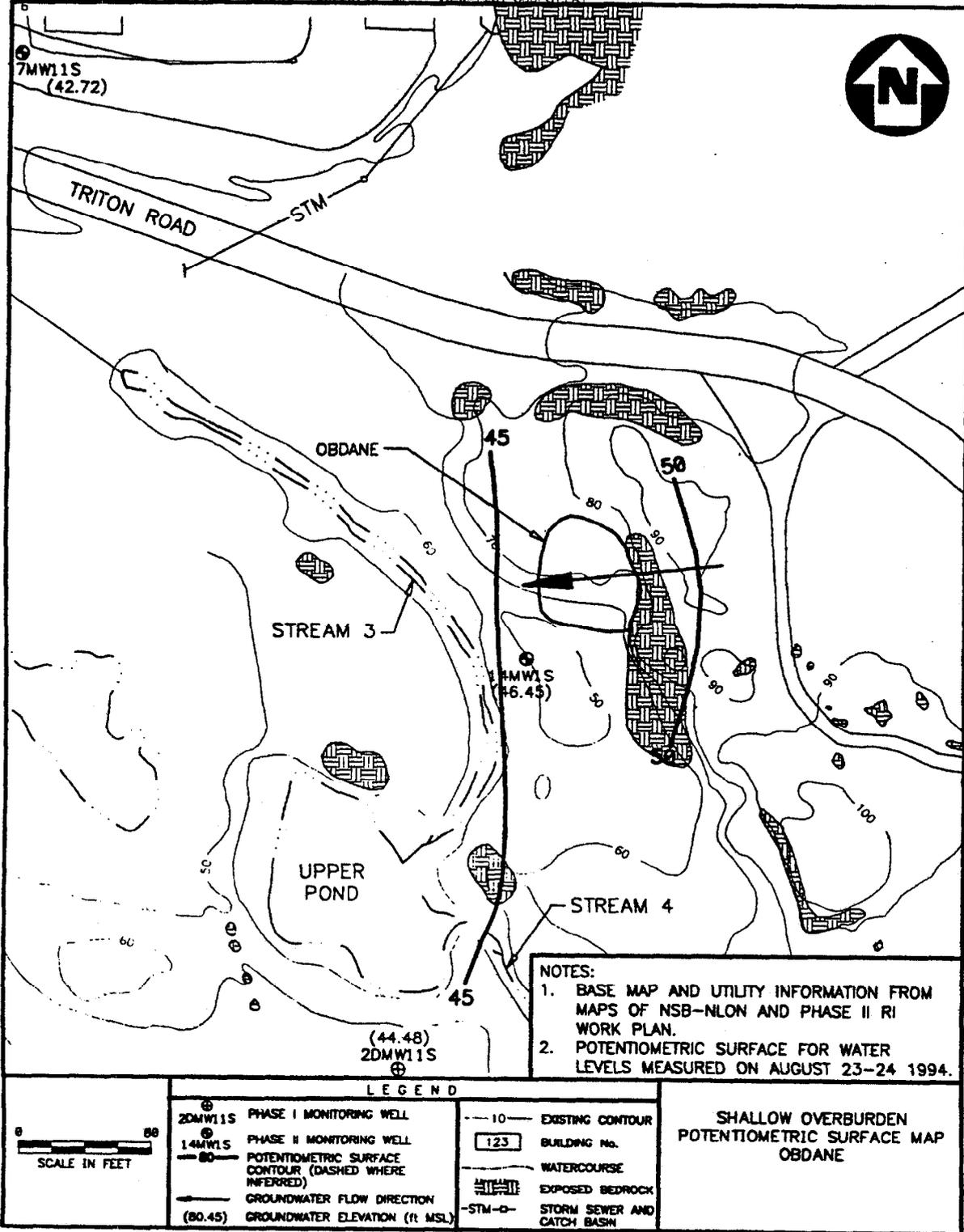


Figure 3. OBDA NE – Shallow Overburden Potentiometric Surface Map

APPENDIX B

ENGINEERING EVALUATION/COST ANALYSIS

ENGINEERING EVALUATION/COST ANALYSIS
SITE 14 – OVER BANK DISPOSAL AREA, NORTHEAST
NAVAL SUBMARINE BASE, NEW LONDON
GROTON, CT

SEPTEMBER 1999

1. EXECUTIVE SUMMARY

This Engineering Evaluation/Cost Analysis (EE/CA) presents a comparative analysis and selection of remedial options proposed at the Over Bank Disposal Area Northeast site at the Naval Submarine Base New London. The EE/CA develops, evaluates and selects alternatives that will provide an effective interim remedy which is consistent with anticipated final remediation goals.

The Over Bank Disposal Area Northeast (OBDANE) is located in a heavily wooded area on the edge of a ravine northwest of the Area A Landfill where drums and other miscellaneous debris have been disposed. Debris was dumped over the bank and came to rest on the slope and in a wetland area.

The objective of the removal action is to remove the debris and any contaminated substances from the site. The removal action will serve to eliminate the potential for container leakage and resulting contaminant migration via surface water run-off and groundwater infiltration.

The Site is located in a secured area, surrounded by a chain link fence. There is no short-term or long-term plan to convert this area to any other use; the current military-unique land use in the area is expected to prevail.

2. SITE CHARACTERIZATION AND BACKGROUND

2.1 SITE DESCRIPTION AND BACKGROUND

The OBDANE is located in a heavily wooded area on the edge of a ravine northwest of the Area A Landfill, west of the Area A Weapons Center and south of the Torpedo Shops (See Figure 1). At one time, miscellaneous wastes were apparently dumped over the bedrock edge. The site is circular and approximately 80 feet in diameter. A dirt road provides limited access to the wooded site. A nearly 20-foot high bedrock face is located at the eastern edge of the site. The rest of the site slopes to the southwest.

2.2 PREVIOUS REMOVAL ACTIONS

There have been no previous removal actions at the Site. The type of debris and number of containers is consistent with the original Initial Assessment Study documentation from 1988.

2.3 SOURCE, NATURE, AND EXTENT OF CONTAMINATION

The debris at OBDANE consists of several fiber drums. It is believed that these drums are empty, however any contents discovered will be characterized and disposed of properly as part of this removal action.

Currently a remediation of the pesticide contamination of Area A Downstream Watercourses is in progress. The debris located in the OBDANE is believed to be unrelated to the pesticide application. No pesticide containers have been found to indicate improper pesticide disposal at the OBDANE. This removal action is designed to eliminate the possible risk of container leakage.

2.4 ANALYTICAL DATA

Since the accessibility to most of the containers is limited by debris obstruction, the contents of the containers, if any, have not been characterized. The most up to date information regarding the pesticide contamination can be found in the Phase II Remedial Investigation (RI), NLSB (TTNus March 1997).

2.5 SITE RISK ASSESSMENT

Based on the limited investigation already conducted, levels of arsenic in the surface soil exceed the state remediation standard under an industrial reuse scenario, therefore posing a risk to potential receptors. The RI recommended further investigation and characterization to better quantify the extent of contamination.

3. IDENTIFICATION OF REMOVAL ACTION OBJECTIVES

3.1 STATUTORY LIMITS ON REMOVAL ACTIONS

Removal actions are generally limited by statute to a maximum cost of two million dollars and a maximum duration of 12 months, except as provided for under two types of exemptions available (emergency and consistency). The 12 month time limit and two million dollar statutory limit are governed by applicable portions of CERCLA Section 104(b)(1). As described in this report, the proposed removal action is to incur costs less than two million dollars and occur within a time period shorter than 12 months.

3.2 DETERMINATION OF REMOVAL SCOPE

The scope of work for the Site will include the removal, transportation, and disposal of debris and contents. Based on the small area of the disposal site and the limited depth, a total volume of debris to be removed is approximately 500 cubic yards.

3.3 DETERMINATION OF REMOVAL SCHEDULE

As stated earlier, the remediation of Area A Downstream Watercourses is currently underway. With the contractor on site, this removal action should be accomplished between October and December 1999.

4. IDENTIFICATION OF REMOVAL ACTION ALTERNATIVES

4.1 ALTERNATIVE 1 – NO ACTION

No action is not a technology, but it is an option. The option entails taking no measures. No action does not include future monitoring or future migration assessment. This option is generally considered a baseline for comparison to other remedial actions.

INITIAL SCREENING

The initial investigation has produced soil samples with levels of arsenic above the State of Connecticut's acceptable industrial levels. Although the contents of the fiber tanks are assumed to be empty, the contents and extent of contamination in the OBDANE is unknown. No action is not an acceptable alternative because leaving debris poses an unknown risk to human and ecological receptors, and may be a potential source of contamination for areas outside the OBDANE.

4.2 ALTERNATIVE 2 – INSTITUTIONAL CONTROLS AND CONTAINMENT

Institutional controls and containment is a grouping of options that would minimize or eliminate the containment exposure to receptors, and in some cases the environment. These options include land use restrictions and capping with various materials.

Land use restriction is the official limiting access to the Site, either by Naval instruction or local code. The OBDANE is within a Naval Installation that presently has limited public access. Additionally, this site is within a secure area.

Capping is the construction of a cap over the Site using any of the available capping materials such as asphalt, concrete, clay, bentonite, or synthetic membranes to provide a low permeability cover.

INITIAL SCREENING – LAND USE RESTRICTION

Although land use restrictions would reduce the potential for risks associated with exposure, it would neither protect the environment, nor would it reduce the potential spread of contamination. Even under limited access, contaminants may be transported via erosion / deposition and infiltration processes.

INITIAL SCREENING - CAPPING

The geographic setting, a steep slope and wetlands, of this site does not lend itself to capping within reasonable cost constraints; the inability of using this technology alone to meet the remediation goal removes it from further consideration.

4.3 ALTERNATIVE 3 – REMOVAL AND DISPOSAL OF DEBRIS

Implementation of this alternative assures the removal of a potential contaminant source and is a common, cost effective remedial alternative. The debris will be removed, transported, and disposed of off-site at a permitted disposal facility. This removal will, by necessity, involve entering the OBDANE area and surrounding wetlands to remove the debris. This activity would be similar to that for collecting samples and performing studies, except that the large debris will be removed. This removal action does not entail removal or displacement of water or sediments within the wetlands.

INITIAL SCREENING

This option will provide for an effective remedy to remove a potential source of contamination. The total potential volume of debris to be removed, transported, and disposed is approximately 500 cubic yards.

5. COMPARATIVE ANALYSIS OF REMOVAL ACTION ALTERNATIVES

Based on the initial screening of alternatives, the most effective alternative is described in paragraph 4.3. Attachment 1 is the cost estimate for the total effort. This is the only alternative which effectively removes the source.

6. RECOMMENDED REMOVAL ACTION ALTERNATIVE

Alternative 3 – Removal and Disposal of Debris, described in paragraph 4.3, is the recommended alternative. The recommended alternative provides excellent protection to human health and the environment by removing the sources of contamination which pose a potential risk to receptors.

ATTACHMENT 1
Removal Action Cost Estimate

Clean Up of Over Bank Disposal Area Northeast
Remedial Action Contract
Naval Submarine Base, New London
September 1999

Remediation Field Labor (includes transportation labor)	\$35,100
Remediation Equipment Rental / Delivery Charges (to site)	\$33,075
Landfill Disposal Charges	\$50,400
Laboratory Analysis	\$25,520
Report Preparation	\$30,450
Fee	\$17,454
TOTAL	\$191,999