

# Department of the Navy

## Proposed Plan for OU-6

### No Further Action for Site 4

Naval Air Warfare Center  
Warminster, Pennsylvania

FEBRUARY 2000

#### NAVY ANNOUNCES PROPOSED PLAN

The Department of the Navy has completed a Remedial Investigation (RI) for Operable Unit 6 (OU-6), addressing soil, sediment and surface water associated with Site 4 at the Naval Air Warfare Center (NAWC or "Site") in Warminster, Pennsylvania. This RI has been completed as part of the Navy's Installation Restoration Program (IRP) and the Superfund Remedial Program.

The purpose of this RI was to evaluate the nature and extent of any contamination associated with Site 4 at NAWC. This Proposed Plan summarizes the findings of the RI report and proposes that no further action is necessary to address soil, sediment and surface water associated with Site 4. This Proposed Plan also provides a rationale for this proposal. In addition, the Proposed Plan explains how the public can participate in the decision-making process and provides addresses and telephone numbers for the appropriate Navy contacts.

NOTE: A glossary of relevant technical and regulatory terms is provided at the end of this Proposed Plan. These terms are indicated in **boldface** within the Proposed Plan.

This document is issued by the Navy, the lead agency for IRP and Superfund activities at the Site, and by EPA, the support agency for Superfund actions. The Navy and EPA will issue a final decision regarding the disposition of Site 4 after the public comment period has ended and the comments submitted during this time have been reviewed and considered.

The Navy is issuing this Proposed Plan as part of its public participation responsibilities under Sections 113 (k), 117(a), and 121(f) of the

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly referred to as the Superfund Law), as amended by the Superfund Amendments and Reauthorization Act.** This document summarizes information that can be found in greater detail in the **Remedial Investigation (RI) report for OU-6 and other Site documents contained in the administrative record file for this Site.** The Navy invites the public to review these and to comment on the Proposed Plan during the comment period. The administrative record file, which supports this Proposed Plan, is available for review at the Caretaker Site Office trailer, 860 Flamingo Alley, Warminster, Pennsylvania 18974 (215) 441-2043 Hours: Monday Friday, 9 a.m. - 4 p.m. or at the Bucks County Library 150 South Pine Street Doylestown, Pennsylvania 18901 (215) 348-9081 Hours: Monday - Thursday, 9 a.m. - 9 p.m. Friday, 9 a.m. - 6 p.m. Saturday, 9 a.m. - 5 p.m.

A final decision regarding the disposition of Site 4 will be documented in a Record of Decision (ROD) which will be issued after all public comments are considered. The ROD will be placed in the administrative record file for review by the public.

This is the sixth Proposed Plan issued by the Navy for the Site. The first Proposed Plan was issued on April 26, 1993, and addressed Operable Unit 1 (OU-1), which included contaminated groundwater in overburden and shallow bedrock attributable to Area A and Area B at NAWC. Subsequent to the issuance of the Proposed Plan for OU-1, the Navy and EPA conducted a Superfund Removal Action, providing water treatment system and public water connections to residences in the vicinity of NAWC. This Removal Action was designated as Operable Unit 2 (OU-2). Due to the time-critical

nature of this Removal Action, a Proposed Plan was not issued for OU-2. The second Proposed Plan was issued on August 19, 1994, and addressed Operable Unit 3 (OU-3), which included contaminated groundwater attributable to Area C at NAWC. Site 4 is located within Area C. Since the issuance of the Proposed Plan and subsequent Records of Decisions for OU-1 and OU-3, a groundwater treatment plant has been constructed within Area A and the cleanup of contaminated groundwater attributable to both Area A and Area C has begun. The third Proposed Plan was issued on June 5, 1997, and addressed contaminated groundwater attributable to Area D at NAWC, or Operable Unit 4 (OU-4). A Record of Decision for OU-4 was issued and cleanup of contaminated groundwater attributable to Area D has also been initiated. The fourth Proposed Plan was issued on August 20, 1999, and addressed soil, sediment and surface water associated with Site 8, or Operable Unit 5 (OU-5). A Record of Decision for OU-5 was issued on September 29, 1999. The fifth Proposed Plan was issued on February 16, 2000 and addresses soil associated with Sites 6 and 7 (OU-7).

**SITE BACKGROUND**

NAWC is a 824-acre facility located in Warminster Township, Northampton Township and Ivyland Borough, Bucks County, Pennsylvania (see Figure 1 for Site Location Map). As a result of the Base Realignment and Closure Act (BRAC), NAWC ceased operations on 30 September 1996. The majority of NAWC, including Site 4, is being transferred to the private sector.

The facility lies in a populated suburban area surrounded by private homes, various commercial and industrial activities, and a golf course. On-site areas include various buildings and other complexes connected by paved roads, the runway and ramp area, mowed fields, and a small wooded area.

Commissioned in 1944, the facility's main function was research, development, testing, and evaluation for naval aircraft systems. NAWC also conducted studies in anti-submarine warfare systems and software development. Historically, wastes were generated during aircraft maintenance and repair, pest control, fire-fighting training, machine and plating shop operations, spray painting and various materials research and testing activities in laboratories.

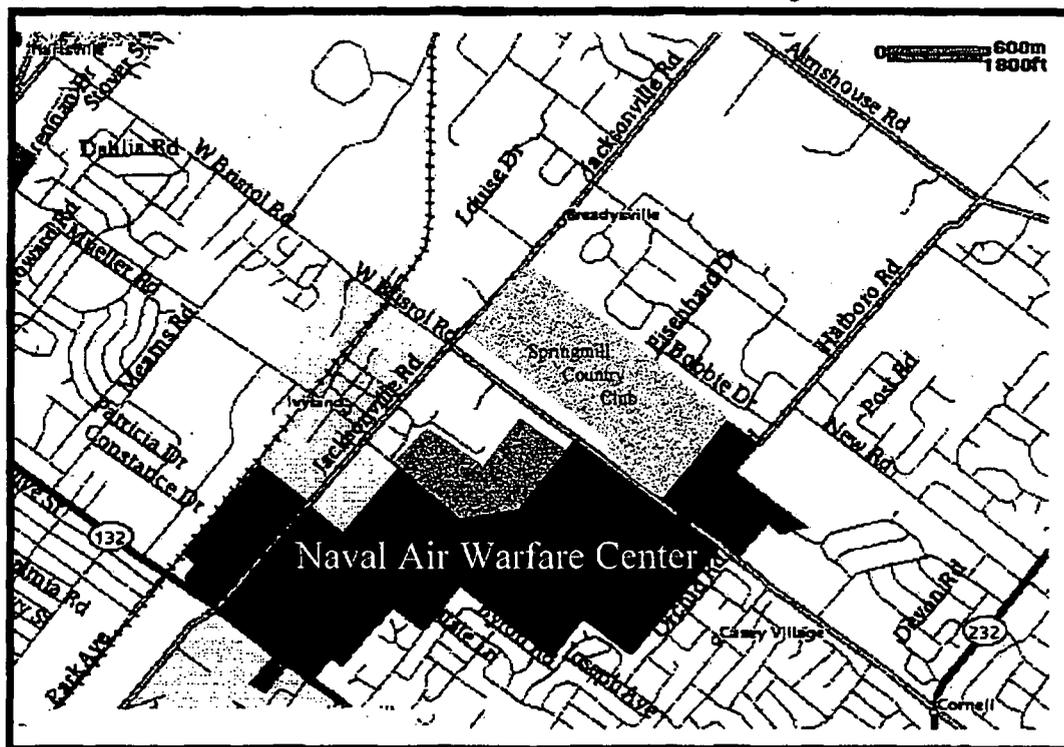


Figure 1. The former NAWC, Warminster, PA

These wastes included paints, solvents, sludges from industrial wastewater treatment, and waste oils that were disposed in several pits, trenches, and landfills throughout the facility property. NAWC was listed on the Superfund **National Priorities List** in 1989. This list includes sites where uncontrolled hazardous substance releases present the most significant potential threats to human health and the environment. Areas reported by the Navy to have been potentially used for disposal of hazardous substances include eight locations covering more than 7 acres. These locations include the following:

- Three waste disposal areas (sites 1, 3, and 6)
- Two sludge disposal pit areas (sites 2 and 7)
- Two landfills (sites 4 and 5)
- One Fire Training Area (site 8)

Site 4 (North Runway Landfill) is the largest of the NAWC Warminster waste disposal locations. It is located less than 100 feet from the edge of

the facility boundary (see figure 2). The site reportedly was operated from 1966 to 1970. Several trenches on the site reportedly were used to dispose of non-industrial solid waste, paints, waste oils, waste metals, construction debris, solvents and sewage sludge from the sewage treatment plant. Some surface water drainage from this area enters the unnamed tributary of the little Neshaminy Creek, off base to the north of Kirk Road, near Munro Park. Several off-base residences are located within 200 feet of Site 4 (See Figure 3 for a map of site 4).

In 1994, the United States Environmental Protection Agency (EPA) performed an analysis of historical aerial photographs for NAWC Warminster. The photo-interpretation study verified the presence of at least two trenches at Site 4 (TR9 and TR10). The study also indicated that Site 4 might have been active as late as 1973. Subsequent investigations have determined there were eight trenches at Site 4 and that each trench was about 12 feet wide, 9 feet deep, and between 150 to 490 feet in length.

Potential and known hazardous substance

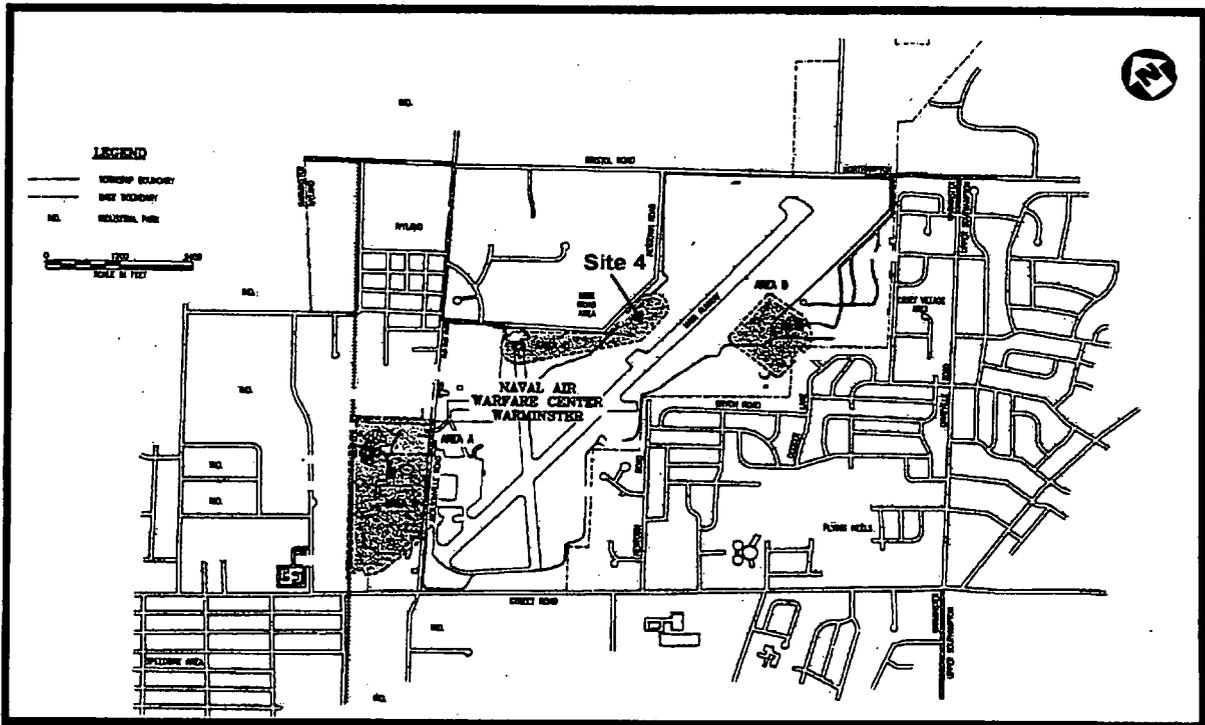


Figure 2. NAWC Site Location Map

releases from Site 4 have been investigated under CERCLA by a RI, which has been conducted in three phases. Phase I RI work at Site 4 was initiated in late 1988 and was completed on September 11, 1990, with the release of the Phase I (or Stage 1) RI report. Phase I included mapping **volatile organic compounds (VOCs)** in soil gas and detecting buried materials through electromagnetic surveys, installing and sampling monitoring wells and collection of surface water and sediment samples. Phase II RI work at Site 4 began at the end of 1991 and included installing additional monitoring wells, sampling and analyzing groundwater, and evaluating aquifer characteristics by performing hydraulic tests. Both the Phase I and Phase II RI investigated the nature and extent of groundwater contamination within the vicinity of Sites 4 and 8 (Area C). See Figure 2 for an area layout of the former NAWC.

In 1993, the Navy began work on a Phase III RI which included further investigation of the nature and extent of contaminated groundwater in Area C, as well as potentially contaminated soils and

buried wastes at Site 4. One objective of the RI for Site 4 was to determine if Site 4 was contributing to Area C groundwater contamination.

Based on the Phase III RI, the Navy determined that the conditions at Site 4 warranted a removal action. The RI results included the finding that elevated levels of polychlorinated biphenyls (PCBs) were present in subsurface soils at the site. Although the current industrial land use at the site restricts access by the general public, the planned reuse calls for open space and recreational land use in the vicinity of the site. The Navy began excavating trenches at Site 4 in August 1996. More than 22,000 tons of soil and debris were excavated and transported to an off-base landfill. Waste/soil characterization sampling and analysis were performed before, during and after excavation work. Excavation continued until bedrock was encountered or until all contaminated soil was removed. All excavation work was completed in December 1996.

The excavated areas at Site 4 were backfilled

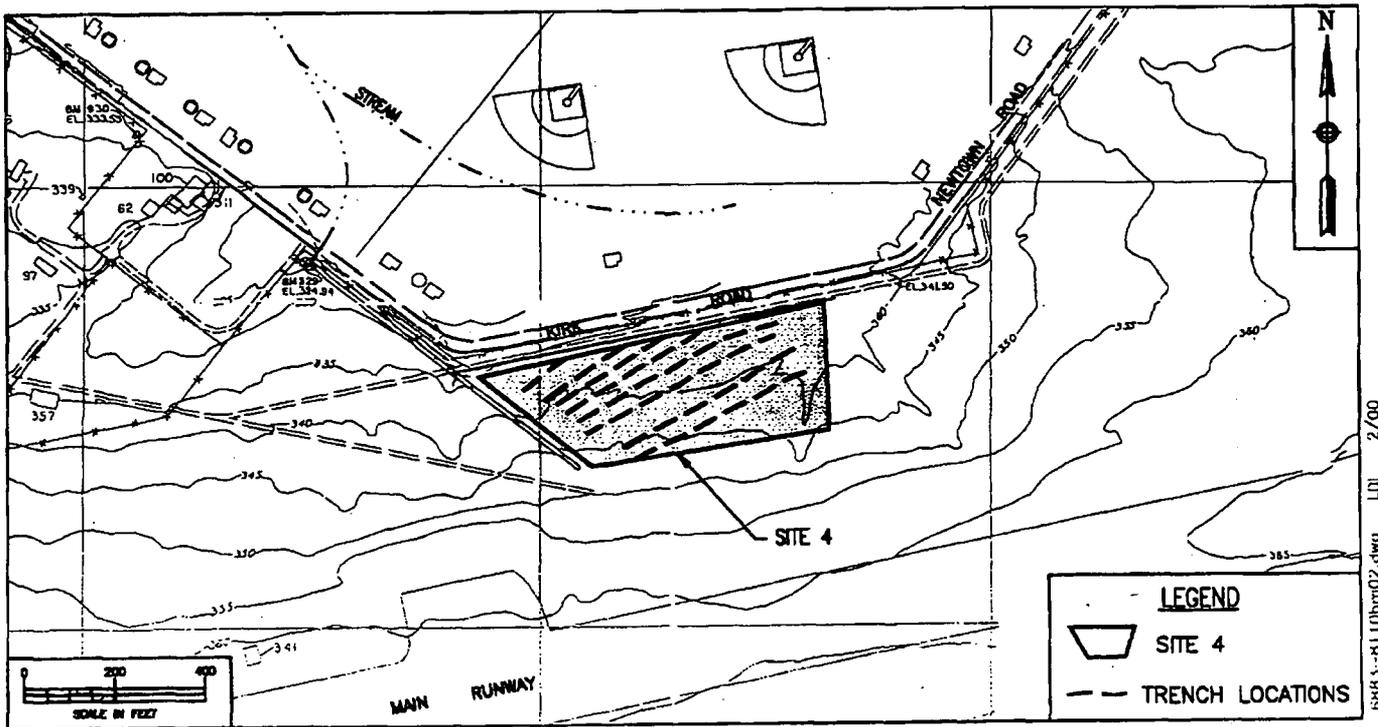


Figure 3. Location Map for Site 4

with clean fill material, covered with 4 inches of topsoil, graded, and seeded. A vegetative cover was established over the disturbed areas.

While the RI also characterized the conditions at Site 4 prior to the removal action, the primary objective of the RI was to characterize conditions after the removal action. The findings of the RI in this regard are as follows:

- No visible wastes remain onsite.
- The remaining contaminant concentrations in soils are below soil clean-up levels established prior to the action.
- Site 4 does not appear to be a past or current source of Area C groundwater contamination.
- Any contaminant releases from Site 4 to downstream surface water and sediment have not produced observable impacts on the subject stream.

### SUMMARY OF SITE RISKS

As part of the RI, a risk assessment was conducted with available data to estimate the potential risks to human health posed by soils, sediment and surface water associated with Site 4 after the removal action. To assess these risks, hypothetical exposure scenarios under residential and recreational use were calculated.

Potential human health risks are categorized as **carcinogenic or noncarcinogenic**. A hypothetical carcinogenic risk increase from exposure should not exceed a risk range from  $1 \times 10^{-6}$  (an increase of one case of cancer for one million people exposed) to  $1 \times 10^{-4}$  (one additional case per 10,000 people exposed). Noncarcinogenic risks are estimated utilizing Hazard Indices (HI), where an HI exceeding one is considered an unacceptable health risk.

Following the removal action, the risk assessment in the RI found the HI for exposure to soils to be well below one (1.0) for child and adult receptors under both residential and recreational land use, indicating no adverse non-cancer effects are expected from exposure to soil at Site 4. The incremental carcinogenic risk for the residential child was  $1.05 \times 10^{-5}$ . The

incremental cancer risk for a recreational user was  $5.3 \times 10^{-7}$ . Both of these carcinogenic risks are within or below the acceptable risk range of  $10^{-4}$  to  $10^{-6}$ .

Estimated cancer and noncancer risks for human receptors under a recreational scenario were found to be acceptable for downstream surface water and sediments. The ecological risk assessment did not indicate that the stream downstream of Site 4 is threatened by contamination related to the base. No apparent stress on aquatic species was observed during the RI work.

Finally, an evaluation of Site 4 soil data indicates that Site 4 does not present a threat to groundwater quality.

### SUMMARY OF THE PROPOSED REMEDY

The results of the risk assessment indicate that, based on available information, Site 4 soils, sediment, and surface water do not present an unacceptable risk to human health and the environment. In this case, the Navy, with the support of EPA, proposes No Further Action. There are no costs associated with this proposed remedy. Based on available information, the Navy and EPA believe that No Further Action is necessary to be protective of human health and the environment.

### THE COMMUNITY ROLE IN THE SELECTION PROCESS

The Navy solicits written comments from the community on the proposed alternative for OU-6 identified in this Proposed Plan. The Navy has set a public comment period from February 16, 2000 through March 17, 2000 to encourage public participation in the remedy selection process for OU-6. A public meeting has been scheduled for Wednesday evening, March 1<sup>st</sup>, at 7:00 p.m. in the North American Technology Center 2<sup>nd</sup> floor conference room, located at 626 Jacksonville Road.

Comments from the public meeting and proposed plan will be summarized and responses will be provided in the Responsiveness Summary section of the ROD.

The ROD is the document that will present the selected remedy. To obtain further information, contact Mr. Tom Ames, BRAC Environmental Coordinator, at 215-441-1112, or send written comments to:

Mr. Tom Ames  
Caretaker Site Office  
P.O. Box 2609  
Warminster, PA 18974-0061

Please note that all comments must be submitted and postmarked on or before March 17, 2000.

## GLOSSARY

**Administrative Record** – Section 113K of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) requires the establishment of an administrative record which forms the basis for the selection of a response action. The administrative record should include the final documents which are a part of the Department of the Navy's (DON's) decision making process.

**Carcinogenic** – Cancer producing.

**Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)** – A federal law passed in 1980 and modified by the Superfund Amendments and Reauthorization Act (SARA) of 1986. The Acts created a special tax that goes into a Trust Fund, commonly known as Superfund, to investigate and clean up abandoned or uncontrolled hazardous waste sites. Under this program, EPA either can pay for a clean up when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work; or can take legal action to force the parties responsible for site contamination to clean up the sit or pay back the federal government for the cost of the cleanup.

**National Priorities List (NPL)** – EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action, under Superfund. A site must be on NPL to receive money from the Trust Fund for remedial action. The list is based primarily on the score a site receives from the Hazard Ranking System. EPA is required to update the NPL at least once a year.

**Remedial Investigation (RI)** – An in-depth study designed to gather the data necessary to determine the nature and extent of contamination at a Superfund site; establish criteria for cleaning up the site; identify preliminary alternatives for remedial actions; support the technical and cost analyses of the alternatives. The remedial investigation is usually done with the feasibility study. Together they are usually referred to as the RI / FS.

**Volatile Organic Compound (VOC)** – Any organic compound which participates in atmospheric photochemical reactions except for those designated by the EPA Administrator as having negligible photochemical reactivity.

### MAILING LIST

If you did not receive this Proposed Plan in the mail and wish to be placed on the mailing list for future information pertaining to this site, please fill out, detach, and mail this form to

Mr. Thomas C. Ames  
BRAC Environmental Coordinator  
Caretaker Site Office  
P.O. Box 2609  
Warminster, Pennsylvania 18974-0061

Name \_\_\_\_\_

Affiliation \_\_\_\_\_

**NAVAL AIR WARFARE CENTER - WARMINSTER, PA**

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