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LETTER OF TRANS

TO Northern Division, NAVFAC
 10 Industrial Highway, Mail Stop 82
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DATE: 11/27/2000	JOB NO.: 29600.47.7613
ATTENTION: Mr. Lonnie Monaco	
RE: Contract No. N62472-92-D-1296	
CTO No. 0047	

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1	11/27/00		Final Explanation of Significant Difference for the Record of Decision for the Installation Restoration Program Remedial Action for Eastern Plume, Naval Air Station Brunswick, Brunswick, Maine

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REMARKS Enclosed please find a hard copy version of the final Explanation of Significant Difference document for signature by the NAS Brunswick Commanding Officer and regulators. Please return a fully executed copy for full distribution.

COPY TO _____

SIGNED *Alexander C. Easterday*
 Alexander C. Easterday, P.G.
 CTO Manager

**EXPLANATION OF SIGNIFICANT DIFFERENCE
FOR THE RECORD OF DECISION FOR THE
INSTALLATION RESTORATION PROGRAM
REMEDIAL ACTION FOR EASTERN PLUME**

**Naval Air Station Brunswick
Brunswick, Maine**

*Summary of
Explanation of Significant Difference*

The Navy will change the ground-water extraction and treatment system pump and treat equipment, currently an ultraviolet oxidation system, to air stripping equipment. The ground-water extraction and treatment system effluent discharge will change from the Brunswick Sewer District to an infiltration gallery constructed at the Former Fire Training Area (Site 11). During the summer, some of the effluent may be diverted from the infiltration gallery and used for irrigation. Institutional controls will also be added for the Eastern Plume, which were not included in the 1998 Eastern Plume Record of Decision (ROD).

Introduction

In 1987, Naval Air Station (NAS) Brunswick was placed on the National Priorities List. Currently, there are 18 areas within NAS Brunswick that have been, or are being, investigated. The cleanup of these sites is being conducted under the Navy's Installation Restoration Program and meets the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act. The Navy is the lead agency for performing cleanup with oversight by the U.S. Environmental Protection Agency (EPA) and Maine Department of Environmental Protection (MEDEP).

On 12 February 1998, a ROD was signed which presents the selected final remedial action for the Eastern Plume and documents the no further action decision for soils at Sites 4, 11, and 13 at NAS Brunswick.

Statutory Basis for Issuance of the Explanation of Significant Difference

The lead agency for a Superfund site may determine that a significant change to the selected remedy, as described in a ROD, is necessary after the ROD has been issued. A change to the ROD can be made under CERCLA Section 117(a), the National Contingency Plan 300.435(c), and EPA guidance (Office of Solid Waste and Emergency Response Directive 9355.3-02).

EPA guidance categorizes post-ROD changes as *non-significant or minor changes*, a *significant change* to a component of the remedy, or a *fundamental change* to the overall remedy. The Navy, as lead agency for NAS Brunswick, has determined that a *significant change* to a component of the remedy (treatment equipment modification and effluent discharge change) will be made. The Navy is required to publish a notice of availability and a brief description of the Explanation of Significant Difference (ESD) in a major local newspaper.

In accordance with Section 300.435(c) of the National Contingency Plan, this ESD and supporting information will be placed with the Administrative Record for NAS Brunswick. The Administrative Record is available for public review at the Curtis Memorial Library, 23 Pleasant Street, Brunswick, Maine.

Naval Air Station Brunswick Description

NAS Brunswick is located in Brunswick, Maine south of the Androscoggin River between the Towns of Brunswick and Bath, Maine, south of Route 1, and between Routes 24 and 123. It is an active facility supporting the Navy's antisubmarine warfare operations in the Atlantic Ocean and Mediterranean

Sea. The base's primary mission is to operate and maintain P-3 Orion aircraft. NAS Brunswick first became active in the 1940s during World War II, and underwent major expansion in the 1950s. NAS Brunswick is located on 3,094 acres of land.

Site Description and History

The Eastern Plume is the area consisting of ground-water contamination resulting from releases of hazardous substances. Sites 4, 11, and 13 are believed to be past contributors to ground-water contamination in the Eastern Plume (Figures 1 and 2). These sites are located within several hundred feet of each other near the intersection of Orion Street and Sandy Road. No further action for soils at these sites was prescribed in the 1998 Final ROD.

Site 4 is an acid caustic pit that was used from 1969 to 1974 and is located under Building 594. Liquid wastes were poured into the pit, which was approximately 4 ft square and 3 ft deep, however, investigations did not detect soil contamination. Volatile organic compounds were detected in the ground water, but at levels less than those that would require cleanup. If Building 594 is ever demolished, the Navy, with input from EPA, MEDEP, and the public, will assess the need for additional soil sampling at Site 4.

Site 11 is a Fire Training Area that was used regularly over a 30-year period from the late 1950s to 1990. Waste liquids such as fuels, oils, and degreasing solvents were poured into a pit and ignited as fuel for fire training exercises. Contaminated soils were removed in two separate removal actions, though it is possible that contaminated soil remains below the water table, which will continue to impact ground water. Ground water is primarily contaminated with 1,1,1-trichloroethane and trichloroethylene, which is consistent with the wastes used at the Fire Training Area.

Site 13, the Defense Reutilization and Marketing Office Area, included three underground storage tanks, which were all removed in the 1980s. One tank was for diesel fuel and the other two were for waste fuel oil and degreasing solvents. No soil contamination above the cleanup levels was found. Since the tanks have been removed, ground-water contamination levels have decreased to low levels.

The most recent ground-water samples from this area contained low levels of contamination, indicating that Site 13 is no longer acting as a source of contamination for the Eastern Plume.

Enforcement and Remedial Action History

The Navy investigated site hydrogeology, assessed the nature and extent of contamination, and performed risk assessments during the remedial investigations that started in 1988. The Remedial Investigation Report (1990) and the Supplemental Remedial Investigation Report (1991) identified Sites 4, 11, and 13 as potential sources of the Eastern Plume. Remedial action objectives and alternatives were developed and screened in the 1992 Feasibility Study. The preferred remedy of hydraulic containment and contaminant removal was formally documented in the Interim ROD for the Eastern Plume (June 1992). The interim remedial action was intended to control the plume and prevent migration of contaminated ground water toward Harpswell Cove and to reduce the amount of contamination in the Eastern Plume.

Other significant response actions taken at the Eastern Plume include:

- In 1995, remedial action began and long-term monitoring was initiated.
- In February 1998, the Final ROD was signed.
- In February 2000, the Long-Term Monitoring Plan for the Eastern Plume was finalized.
- In March 2000, the first Five-Year Review was completed for NAS Brunswick. The Five-Year review was a Type 1A review.

Summary of the Navy's Record of Decision and Remedial Action Design

The ROD for the Eastern Plume required the following elements:

- Continued operation of the ground-water extraction and treatment system to hydraulically contain the plume and reduce contamination throughout the plume.

- Discharge of the treated water to the publicly-owned treatment works (Brunswick Sewer District) or, with EPA and MEDEP concurrence, return of the treated water to the aquifer through an infiltration gallery.
- Long-term ground-water monitoring to ensure that the remedial action obtains hydraulic capture of the Eastern Plume. The goals of monitoring are to:
 - Provide a tiered approach to attain the requirements of MEDEP water quality standards
 - Monitor changes in the plume boundaries and potential migration pathways
 - Monitor changes in the ground-water contamination
 - Monitor the effectiveness of the remedial action for the protection of human health and the environment
 - Monitor the treatment plant effluent.
- Conduct five-year reviews pursuant to Section 121(c) of the CERCLA, 42 United States Code 9621(c), and Section 300.430(f)(4)(ii) of the National Contingency Plan.

Justification for this Explanation of Significant Difference

A 1999 Remedial Action Operation Optimization Case Study was completed for the Eastern Plume. The report recommended changing treatment equipment from ultraviolet oxidation to air stripping with carbon capture in order to increase removal efficiency from approximately 50 percent to more than 99 percent. This conversion will result in effluent contaminant concentrations less than Maximum Contaminant Levels or Maximum Exposure Guidelines. Discharge to an infiltration gallery and irrigation will significantly reduce the Navy's annual costs for system operation.

The first Five-Year Review was completed in March 2000, at which time the absence of institutional controls in the 1998 ROD for the Eastern Plume was

noted. Though institutional controls were effectively enforced by Navy practice, the formal addition of institutional controls to the ROD is needed to restrict ground-water use, to better ensure the protection of the selected remedy in the future, and to formalize the controls implemented by NAS Brunswick Operating Instruction 5090.1A, "Restriction on Excavation Activities." The NAS Brunswick Operating Instruction 5090.1A, "Restriction on Excavation Activities" is a Navy instruction that applies to, and regulates the excavation practices of, military, civilian, and contractor personnel who live and work on Naval Air Station Brunswick. Violations are punishable by the Uniform Code of Military Justice, civil service personnel policies, and applicable federal contracting regulations.

Description of the Explanation of Significant Difference

This ESD documents a modification to the Eastern Plume ROD that significantly changes, but does not fundamentally alter, the selected remedy. The change to the remedy for the Eastern Plume does not alter the decision to extract and treat the contaminated ground water and to discharge the effluent; only the method for treating the ground water and the dispensation of the effluent will change. Air stripping contaminants from the ground water is a more effective treatment than ultraviolet oxidation. Discharging the effluent to an infiltration gallery significantly reduces the Navy's annual costs for system operation while remaining protective of human health and the environment. The ESD also provides for adding institutional control language for the Eastern Plume ground water; institutional controls were not included in the 1998 ROD.

The ESD will not alter the long-term monitoring and five-year review components of the remedy as stated in the 1998 ROD.

The following is a summary of the elements of the ESD:

- Modify the current treatment system equipment by replacing the ultraviolet oxidation system with an air stripping system.

- Change the treatment system's effluent discharge location from the Brunswick Sewer District to an infiltration gallery located at the former Fire Training Area. During the summer, a percentage of the ground-water extraction and treatment system effluent may be diverted from the infiltration gallery and used for irrigation, located adjacent to Building 50. The connection to the Brunswick Sewer District will remain and, if needed, the effluent can be redirected back to the Brunswick Sewer District.
- Add institutional controls to prevent use of and contact with impacted ground water at the Eastern Plume without prior written approval from EPA and MEDEP. The Institutional Controls are also intended to prevent activities that would have a negative impact on the ground-water extraction and treatment system or otherwise adversely affect the selected remedy.

These institutional controls will consist of ground-water and land use restrictions that will apply to the entire Eastern Plume area (Figure 2). The institutional controls will be used to identify and screen inappropriate construction or development activities according to environmental conditions at the specific area of interest and will be implemented by documentation of the ground-water and land use restrictions in the NAS Brunswick Operating Instruction 5090.1A, "Restriction on Excavation Activities."

Within 60-90 days after signature of the ESD, the Navy will provide a draft version of the ground-water and land use restrictions to EPA and MEDEP for review and comment. The Navy shall revise the draft ground-water and land use restrictions in accordance with EPA and MEDEP comments to ensure that the restrictions adequately protect human health and the environment. When finalized, they will be incorporated into the NAS Brunswick Operating Instruction 5090.1A, "Restriction on Excavation Activities" and placed in the Administrative Record for the Eastern Plume. The NAS Brunswick Operating Instruction 5090.1A, "Restriction on Excavation Activities," will not be modified in any

way that affects the land use restriction or the Eastern Plume remedy without EPA and MEDEP approval.

Should the transfer or lease of any real property affect the Eastern Plume, the Navy will immediately notify EPA and MEDEP. The transfer or lease will include appropriate provisions (i.e., restrictive covenants or other use restrictions) to prevent the use of and contact with site ground water without prior written approval from EPA and MEDEP. If the property is transferred, or the lease agreement allows capital improvements, a technical evaluation of the effectiveness and appropriateness of the remedy will be performed by the Navy, EPA, and MEDEP before the effective date of transfer or improvement work. This evaluation will consider the long-term monitoring results to date, the proposed land use, and the fact that the Navy may no longer actively own or operate the property.

The Navy plans to complete the treatment plant equipment changes by the end of November 2000, and complete the design of the infiltration gallery by the end of December 2000. The Navy will complete construction of the infiltration gallery as soon as it is feasible to do so. After the infiltration gallery is installed, the treatment plant effluent will be discharged to the infiltration gallery and/or spray irrigation, or to the Brunswick Sewer District.

Support Agency Comments

EPA and MEDEP reviewed the ESD and provided comments that the Navy has incorporated into this document. An MEDEP letter of concurrence on the final ESD was issued in December 2000.

Affirmation of the Statutory Determinations

The proposed changes to the selected remedy described in the February 1998 ROD for Sites 4, 11, 13, and the Eastern Plume to extract and treat ground water will continue to satisfy all statutory requirements of CERCLA and the National Contingency Plan. The altered remedy remains protective of human health and the environment, complies with federal and state applicable or relevant and appropriate requirements, remains cost-effective, and will provide better protection.

Public Participation

No formal public comment period is required for documentation of an ESD to a previously issued ROD. However, in the interest of community awareness, the Navy will provide this Fact Sheet to the Brunswick community, and will include the ESD and supporting information in the Administrative Record for the sites. In accordance with CERCLA Section 117(c), the Navy published a notice of availability for review and a brief explanation of the draft final ESD in the *Brunswick Times Record* and *The Portland Press Herald*. At the Restoration Advisory Board meeting on 14 September 2000, the draft final ESD was presented to the public. A 30-day public comment period was held for the public to comment on the draft final ESD.

For More Information

If you have questions about the ESD for the Eastern Plume Operable Unit at NAS Brunswick, or if you would like further information, please contact:

Mr. Orlando J. Monaco, 1821/LM
Remedial Project Manager
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop 82
Lester, PA 19113-2090
Phone: (610) 595-0567
Fax: (610) 595-0555
Email: monacolj@exchange.efdnorth.navfac.navy.mil

Mr. Michael S. Barry, Remedial Project Manager
U.S. Environmental Protection Agency, Region I
1 Congress Street, Suite 1100 (HBT)
Boston, MA 02114-2023
Phone: (617) 918-1344
Fax: (617) 918-1291
Email: barry.michael@epa.gov

Ms. Claudia Sait, Remedial Project Manager
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017
Phone: (207) 287-7713
Fax: (207) 287-7826
Email: claudia.b.sait@state.me.us

Where you can review documents:
The ESD and supporting documentation are available for public review at the following locations:

CURTIS MEMORIAL LIBRARY

23 Pleasant Street
Brunswick, ME 04011

Summer Hours (effective 1-1-01)

Monday-Thursday, 9:30 a.m. - 8:00 p.m.

Friday, 9:30 a.m. - 6:00 p.m.

Saturday, 9:30 a.m. - 1:00 p.m.

NAS BRUNSWICK

PUBLIC WORKS ENVIRONMENTAL

Naval Air Station Brunswick

437 Huey Drive, Box 100

Brunswick, ME 04011-0000

Hours (by appointment)

Monday-Thursday, 7:30 a.m. - 4:00 p.m.

Contact: Mr. Anthony Williams

(207) 921-1719 or Fax: (207) 921-2649

References

- EA Engineering, Science, and Technology. 2000. Final Five-Year Review Report, NAS Brunswick, Maine. April.
- EA. 2000. Final Long-Term Monitoring Plan for Sites 1 and 3 and Eastern Plume, NAS Brunswick, Maine. February.
- E.C. Jordan Co. 1990. Draft Final Remedial Investigation Report. Volumes 1 through 4. August.
- E.C. Jordan Co. 1991. Supplemental Remedial Investigation Report.
- E.C. Jordan Co. 1992. Feasibility Study, NAS Brunswick. Portland, Maine. March.
- U.S. Department of the Navy. 1992. Record of Decision for an Interim Remedial Action at the Eastern Plume Operable Unit, NAS Brunswick, Maine. June.
- U.S. Department of the Navy. 1998b. Record of Decision for No Further Action at Sites 4, 11, and 13 and a Remedial Action for the Eastern Plume, NAS Brunswick, Maine. February.

Declaration

The issuance of this ESD for the Eastern Plume at NAS Brunswick, Maine is concurred to and recommended for immediate implementation:

U.S. Department of the Navy:



Keith F. Koon
Captain
Commanding Officer
Naval Air Station Brunswick, Maine

Date

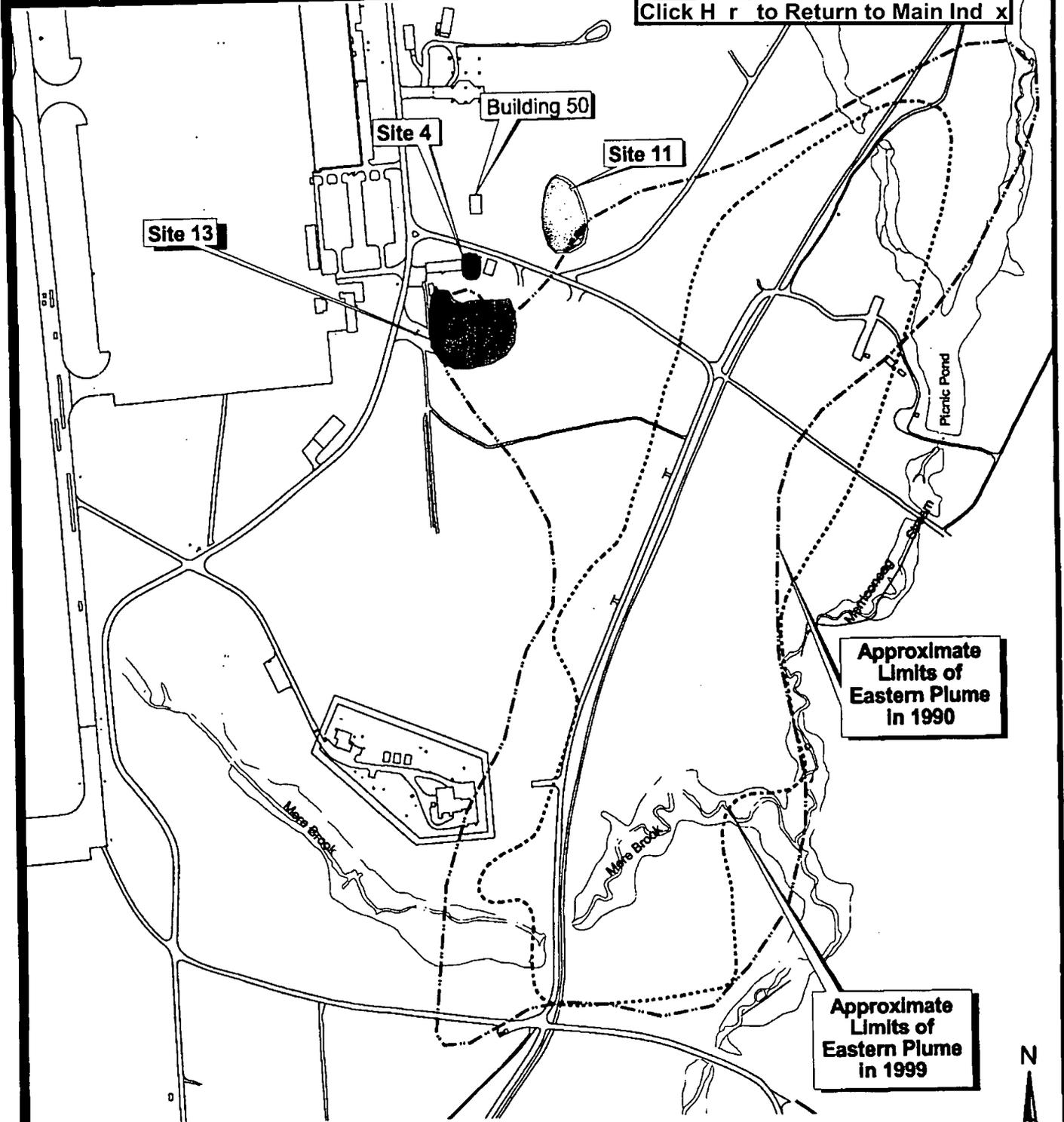
U.S. Environmental Protection Agency:



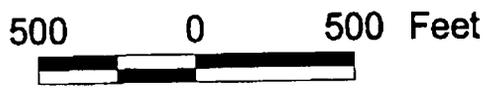
Patricia L. Meaney
Director
Office of Site Remediation and Restoration
Region I

Date

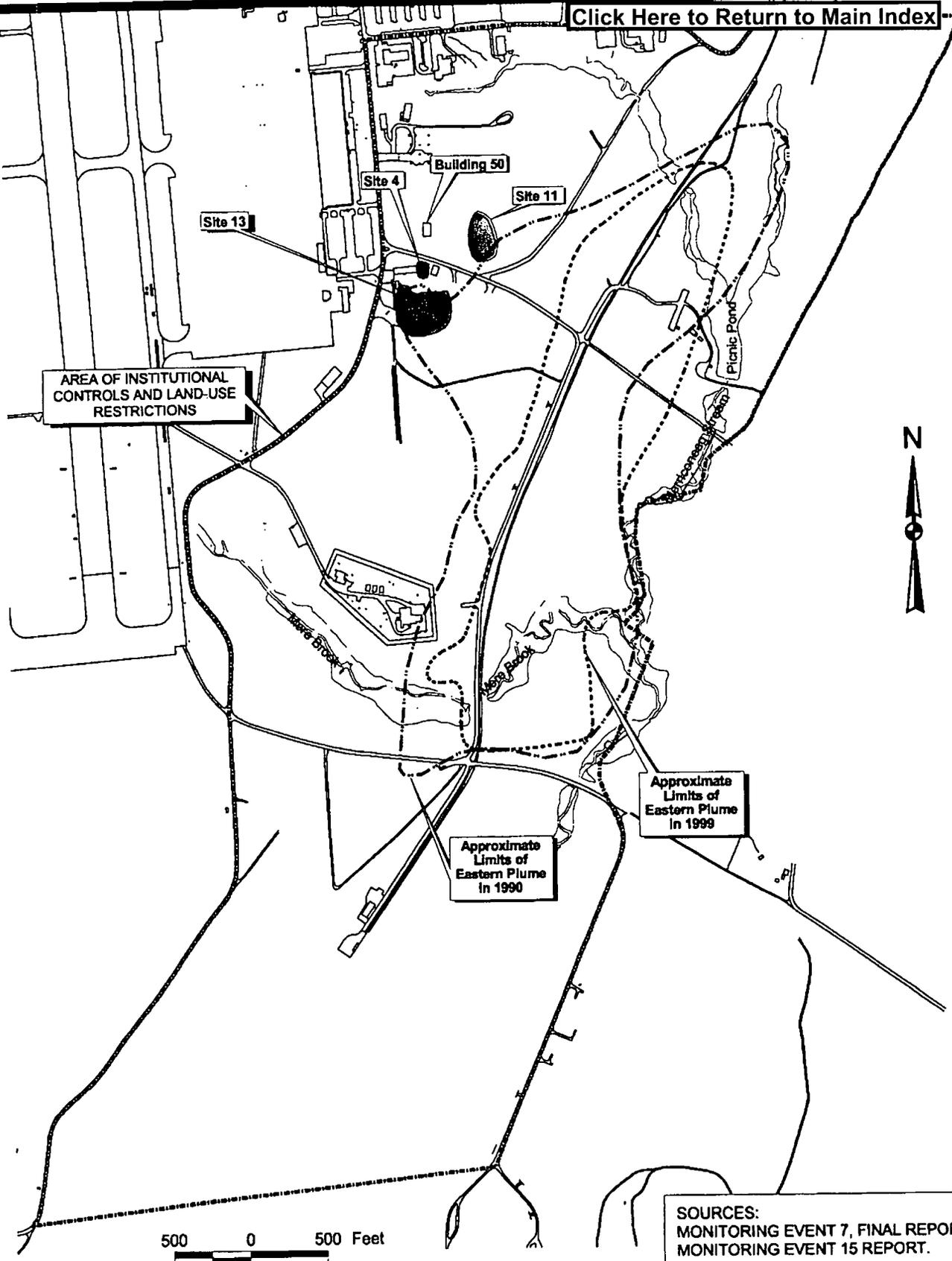
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SOURCES:
MONITORING EVENT 7, FINAL REPORT
MONITORING EVENT 15 REPORT.



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SOURCES:
 MONITORING EVENT 7, FINAL REPORT
 MONITORING EVENT 15 REPORT.



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NAVAL AIR STATION
 BRUNSWICK, MAINE

FIGURE 2
 LOCATION OF EASTERN PLUME
 INSTITUTIONAL CONTROLS

PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT No	FILE No
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