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NAS BRUNSWICK  
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FINAL RESOURCE CONSERVATION AND RECOVERY ACT PARTIAL CLOSURE REPORT  
FOR BUILDING 446 WITH TRANSMITTAL LETTER NAS BRUNSWICK ME  
7/20/2010  
NAS BRUNSWICK

**ENVIRONMENTAL DEPARTMENT  
NAVAL AIR STATION  
437 HUEY DRIVE  
BRUNSWICK, ME 04011**

July 20, 2010

Mr. Edward Vigneault  
Maine Department of Environmental Protection  
Division of Oil and Hazardous Waste Facilities Registration  
17 State House Station  
Augusta, ME 04333-0017

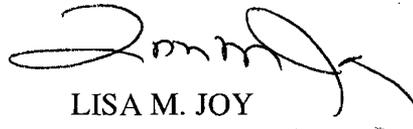
Subj: Final RCRA Partial Closure Report for Building 446

Dear Mr. Vigneault:

A copy of the Final RCRA Partial Closure Report for Building 446 at Naval Air Station Brunswick is provided as Enclosure (1).

If you have any questions, please contact Mr. Mike Fagan at 921-1717 or via e-mail at [michael.fagan1@navy.mil](mailto:michael.fagan1@navy.mil).

Sincerely,



LISA M. JOY  
Environmental Director

Enclosure: (1) Final RCRA Partial Closure Report for Building 446

Copy to:  
NAVFAC Mid-Atlantic (B. Abraham)  
NAS Brunswick (M. Fagan/D. Smith)  
EPA Region I (M. Daly)  
MRRA (V. Boundy)  
Curtis Memorial Library (L. Oliver)  
Lepage Environmental (C. Lepage)  
BRAC PMO NE (P. Burgio)

**RCRA PARTIAL CLOSURE REPORT**  
**for**  
**BUILDING 446 – ISAR EQUIPMENT MAINTENANCE TRAILER**  
**NAVAL AIR STATION BRUNSWICK, MAINE**  
**USEPA IDENTIFICATION NUMBER ME8170022018**  
**JULY 2010**

## **1. INTRODUCTION**

The purpose of this report is to present the findings and conclusions of the investigation conducted to determine if the Maine Department of Environmental Protection (MEDEP) Resource Conservation and Recovery Act (RCRA) or hazardous waste closure requirements have been completed for Building 446 at Naval Air Station Brunswick (NAS Brunswick).

## **2. PROPERTY DESCRIPTION**

Building 446, known as the Inverse Synthetic Aperture Radar (ISAR) Equipment Maintenance Trailer, is located in the northern portion of NAS Brunswick (Figure 1). The building is north of Seahawk Avenue, east of Hangar 6 and west of Pegasus Street, and consists of a 1,325 square-foot, wood-framed trailer building with vinyl siding (Figure 2). Prior to 2006, Building 446 was located between Hangar 4 and Building 86, roughly 1,000 yards to the southwest of its current location. The building's original construction date is unknown.

Most recently Building 446 was used as a maintenance and testing facility for radar equipment for the P3 Orion aircraft squadron at Hangar 6. The building interior consists of two rooms, a small entrance room and a larger open room where the radar maintenance and testing activity occurred. The building features an electric baseboard heating system. Photographs of Building 446 are provided in the attachment.

## **3. PROPERTY HISTORY AND RECORDS RESEARCH**

The Tetra Tech NUS, Inc. (Tetra Tech) project team interviewed NAS Brunswick Environmental Department personnel and performed records research at both NAS Brunswick and the MEDEP office in Augusta, Maine to collect available information concerning Building 446, including past use and operations at that location.

According to NAS Brunswick Environmental Department personnel, since its construction, the sole use of Building 446 has been as an aircraft radar equipment maintenance and testing facility. Prior to 2006, Building 446 was located between Hangar 4 and Building 86. There is no record of hazardous waste generation at Building 446.

Records reviewed include: historical aerial photographs; the NAS Brunswick Other Environmental Liabilities (OEL) Database; area-specific reports; facility plans and drawings; and hazardous waste records. Aerial photographs dated 1958, 1978, 1981, 1984, 1989, and 1993 (all produced by James W. Sewall Company) were reviewed along with Public Works Department site base maps dated 1943, 1946, 1952, 1956, 1957, 1975, 1979, 1983, 1989, and 2006 to provide historical information.

Building 446 is not shown at its current location on available historical site plans or aerial photographs (available through 2006, as stated above). Plans and aerial photographs dated between 1943 and 1997 show former Hangars 2 and 3 to the south of the current location of Building 446. Until the construction of Hangar 6 in 2005, the current location of Building 446 (and Hangar 6 to the west) was part of the concrete airfield apron that was used for parking aircraft.

According to the NAS Brunswick database, no transformers are associated with Building 446 (PWD, 2010). No underground storage tanks (USTs) or above ground storage tanks (ASTs) have

been utilized at Building 446, according to NAS Brunswick records (Environmental Department, 2009). No accidental releases relating to Building 446 were identified in the NAS Brunswick or MEDEP spill records.

#### 4. SITE VISIT AND INVESTIGATION

On April 28, 2010, a site visit was conducted by Mr. James Forrelli, P.E. and Mr. Brandon Smith, P.E. of Tetra Tech. The purpose of the visit was to verify information gathered during the records search and to collect additional information as necessary to prepare this RCRA Partial Closure Report. Tetra Tech personnel were accompanied by Mr. D. Bruce Smith, the NAS Brunswick Hazardous Waste Manager. The Building 446 location was visually inspected for signs of hazardous waste generation or storage. Photographs taken during the site visit are provided in the attachment. Site visit observations, recorded on the attached Building Inspection Form <sup>(1)</sup>, are summarized below:

- The building was vacant.
- The building appeared in fair condition at the time of the site visit. The building's roof, siding and interior floor covering require repairs.
- No evidence of hazardous waste residues was observed.
- No signs of a past release (staining, unusual odors, etc.) or structural modifications that could conceal signs of a past release were observed.
- No hazardous waste storage or accumulation areas were observed.
- No potential PCB-containing transformers were identified.

Even though no direct evidence of hazardous waste generation was observed, the radar equipment maintenance activities conducted within the building possibly included soldering work that potentially generated hazardous waste. Therefore, five wipe samples were collected on June 17, 2010 to assess the potential for lead and other metals residue from electronics soldering. The five samples (NASB-B446-WP01 through NASB-B446-WP05) were collected from the floor of the maintenance room (Figure 3).

All wipe samples were submitted for RCRA 8 metals analysis by Tetra Tech's subcontracted analytical laboratory (Analytics Environmental Laboratory, Portsmouth, New Hampshire). The resulting analytical data underwent limited data validation, consisting of field duplicate evaluation, blank contamination evaluation, and completeness evaluation.

Wipe sample analytical results for the Building 446 investigation are presented in Table 1. The lead analytical results were compared to the following MEDEP criteria for lead-contaminated settled dust, applicable for RCRA closures:

Floors: 40 micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ )  
Walls and other flat surfaces up to a height of 8 feet: 250  $\mu\text{g}/\text{ft}^2$   
Surfaces above 8 feet: visibly clean (dust-free)

As shown, lead levels in all five wipe samples are below the respective criteria. There are no Maine criteria for the other seven RCRA metals. For informational purposes, wipe sample results for six of the other seven metals were compared with available World Trade Center Settled Dust Screening Values (WTC, 2003); no WTC criteria is available for selenium. As shown in Table 1, all levels of these metals, where detected, are below the screening values.

#### 5. HAZARDOUS WASTE GENERATION AND STORAGE

Based on the records research, site visit observations, and NAS Brunswick Environmental Department personnel interviews, with the exception of universal waste, no hazardous waste generation, hazardous waste accumulation, or hazardous waste storage was conducted at Building 446.

## 6. OTHER ENVIRONMENTAL CONSIDERATIONS

No USTs or ASTs have been utilized at Building 446 according to NAS Brunswick records. No other tanks were observed in the immediate vicinity of Building 446. Building 446 was heated via an electrical heating system.

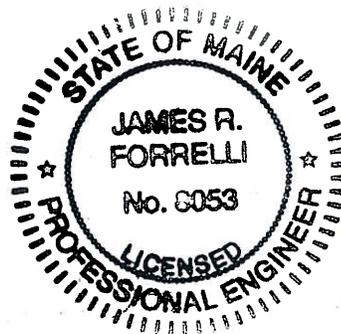
## 7. LIMITATIONS

This investigation of the hazardous waste closure requirements applies to the Building 446 footprint (as shown on Figure 2) only. It does not apply to the land surrounding or the groundwater underlying Building 446.

## 8. CERTIFICATION

Based on the findings of this investigation, there have been no activities resulting in the generation, accumulation or storage of hazardous waste at Building 446, NAS Brunswick, Maine. Therefore, the hazardous waste closure of Building 446 was completed in accordance with the provisions of MEDEP Regulations Chapter 851, Standards for Generators of Hazardous Waste, Section 11.

*James R. Forrelli*  
 James Forrelli, P.E.  
 Senior Project Engineer  
 Tetra Tech NUS, Inc.



<sup>(1)</sup> The Building Inspection Form provides preliminary information collected during the building inspection, including information from visual observations, Navy personnel interviews, and from documents reviewed during file reviews. It does reflect any additional information provided at a later date that further clarifies or corrects preliminary information collected during the building inspection and file reviews.

## REFERENCES

Environmental Department, 2009. Master/Historical Aboveground and Underground Storage Tank Inventory. NAS Brunswick, Maine. February.

James W. Sewall Company, 1958. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. October 9.

James W. Sewall Company, 1978. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. November 22.

James W. Sewall Company, 1981. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME.

James W. Sewall Company, 1984. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. April 23.

James W. Sewall Company, 1989. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. April 2.

James W. Sewall Company, 1993. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. November 8.

James W. Sewall Company, 1997. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. May.

Public Works Department (PWD),1943. "Building Site Plan Showing Location of Underground Water Distribution Lines and Hydrants," US NAS Brunswick, Maine. September 4.

PWD, 1946. "Map of US Naval Air Station, Brunswick, Maine, Showing conditions on June 30, 1946," NAS Brunswick, Maine. June 30.

PWD, 1952. "Map of US Naval Air Station, Brunswick, Maine, Showing conditions on June 30, 1952," NAS Brunswick, Maine. June 30.

PWD, 1956. General Station Map, Enclosure 2, NAS Brunswick, Maine.

PWD, 1957. "Map of US Naval Air Station, NAS Brunswick, Maine.

PWD, 1962. "Map of Streets," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine.

PWD, 1975. "General Development of Existing and Planned Operations Areas" NAS Brunswick, Maine. December 2.

PWD, 1983. "Existing Conditions Map. Public Works Department Drawing No. 2157" NAS Brunswick, Maine. May 5.

PWD, 1989. "Existing Conditions Map. Public Works Department Drawing No. 2157" NAS Brunswick, Maine. Revised April 2.

PWD, 2006. Brunswick Naval Air Station Base Map, NAS Brunswick, Maine.

PWD, 2010. Transformer Database. NAS Brunswick, Maine.

**TABLE 1**  
**WIPE SAMPLE METALS RESULTS**  
**RCRA PARTIAL CLOSURE REPORT**  
**BUILDING 446 – ISAR EQUIPMENT MAINTENANCE TRAILER**  
**NAVAL AIR STATION BRUNSWICK, MAINE**

SAMPLE ID	WTC	MEDEP floor	NASB-B446-WP01	NASB-B446-WP02	NASB-B446-WP03	NASB-B446-WP04	NASB-B446-WP05
LOCATION			floor NW	floor NE	floor SW	floor S center	floor SE
MATRIX			wipe	wipe	wipe	wipe	wipe
SAMPLE DATE			06/17/10	06/17/10	06/17/10	06/17/10	06/17/10
<b>METALS (<math>\mu\text{g}/\text{ft}^2</math>)</b>							
arsenic	36	--	4.7	4.6 U	4.6 U	5.2	4.6 U
barium	10000	--	34	20	17	40	24
cadmium	140	--	19	14	42	31	21
chromium	440	--	12	9.3 U	9.3 U	19	9.3 U
lead	NA	40	10	5.9	4.1	16	4.7
mercury	15	--	0.093 U				
selenium	--	--	9.3 U				
silver	730	--	1.9 U	1.9 U	1.9 U	6.7	2.6

## Notes:

Laboratory results reported as micrograms per wipe.

Wipe sample surface area: 100 cm<sup>2</sup> (10 cm by 10 cm)

WTC Source: Table A-3 Settled Dust Screening Values and Supporting Toxicity Criteria from World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Concern and Setting Health-Based Benchmarks, May 2003

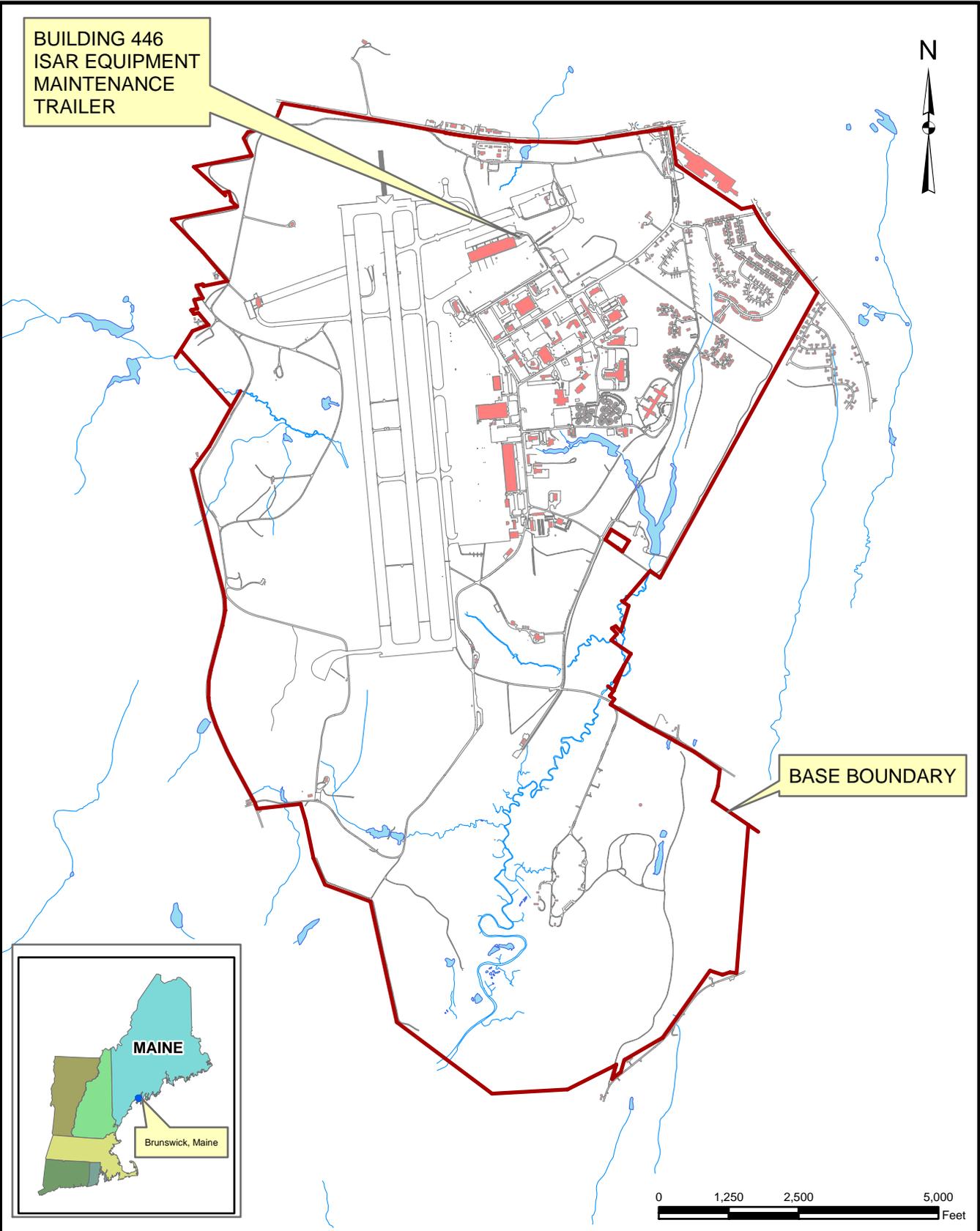
 $\mu\text{g}/\text{ft}^2$  micrograms per square foot

-- no criteria available

NA not applicable

U not detected (with associated detection limit)

BUILDING 446  
ISAR EQUIPMENT  
MAINTENANCE  
TRAILER



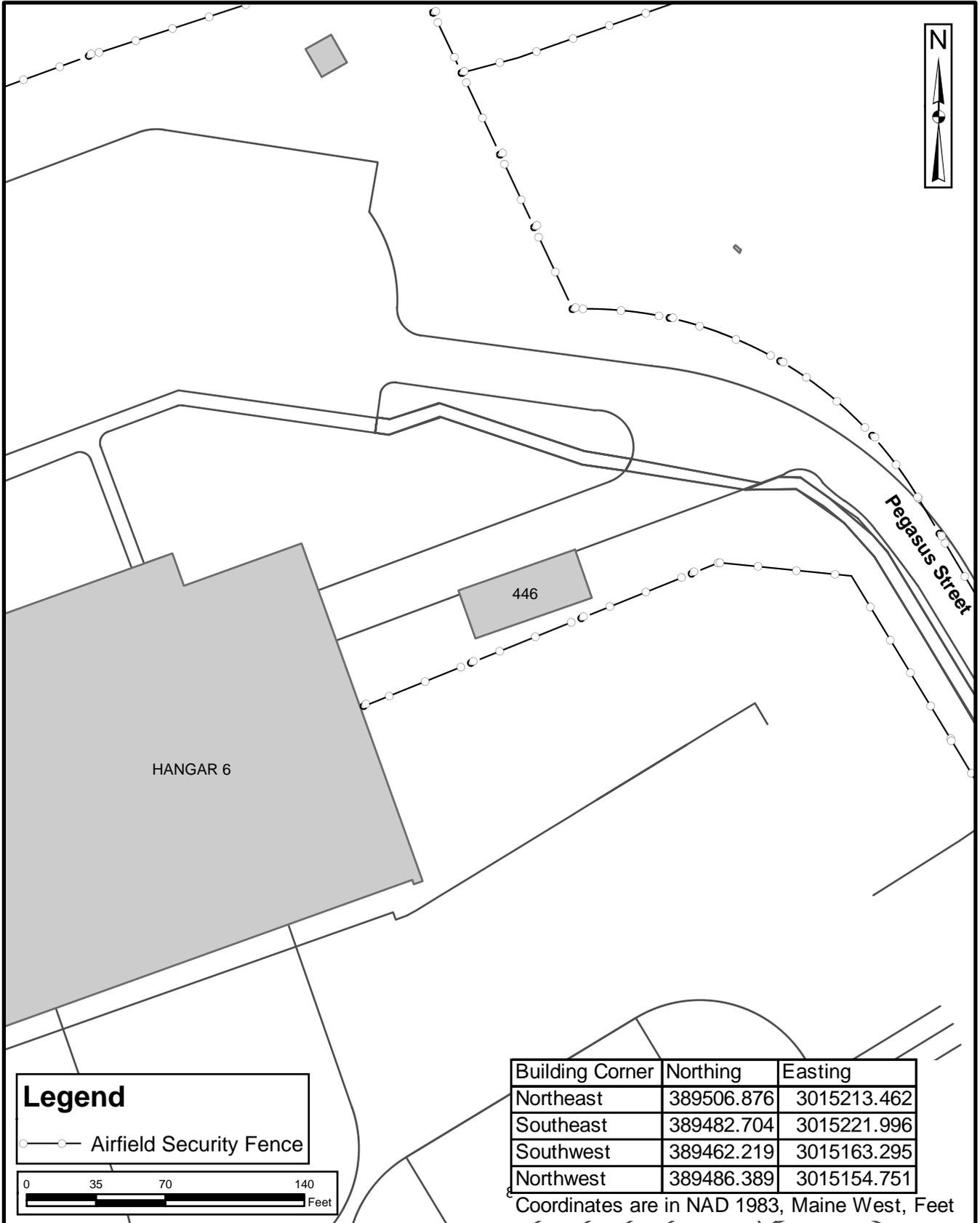
BASE BOUNDARY



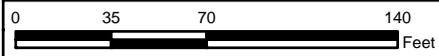
Tetra Tech NUS, Inc.

SITE LOCATION MAP  
BUILDING 446 - ISAR EQUIPMENT MAINTENANCE TRAILER  
RCRA PARTIAL CLOSURE REPORT  
NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE I:\NWSB_BLDG_446_LOCUS.MXD	
REV 0	DATE 07/09/10
FIGURE NUMBER 1	



**Legend**  
 ○—○ Airfield Security Fence



Building Corner	Northing	Easting
Northeast	389506.876	3015213.462
Southeast	389482.704	3015221.996
Southwest	389462.219	3015163.295
Northwest	389486.389	3015154.751

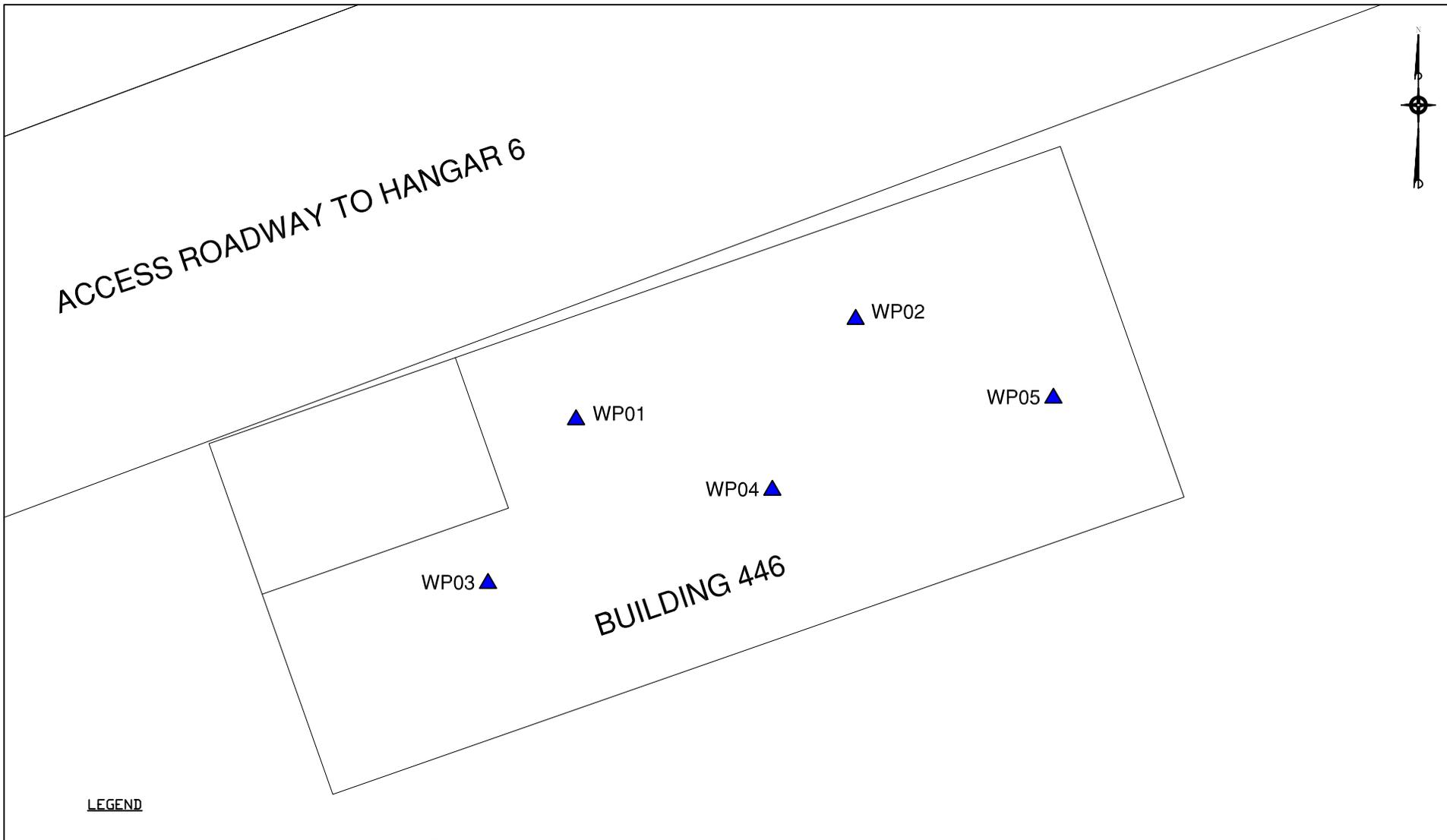
Coordinates are in NAD 1983, Maine West, Feet



Tetra Tech NUS, Inc.

SITE LOCATION MAP  
 BUILDING 446 - ISAR EQUIPMENT MAINTENANCE TRAILER  
 RCRA PARTIAL CLOSURE REPORT  
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE VCP.DR\NASB_BLDG_446_SITE_MAP.MXD	
REV 0	DATE 07/13/10
FIGURE NUMBER FIGURE NO. 2	



**LEGEND**

WP01 ▲ FLOOR WIPE SAMPLE LOCATION



TETRA TECH NUS, INC.

WIPE SAMPLE LOCATIONS  
 BUILDING 446 - ISAR EQUIPMENT MAINTENANCE TRAILER  
 RCRA PARTIAL CLOSURE REPORT  
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE \\.\NASB_BLDG_446_FP.DWG	
REV 0	DATE 07/15/10
FIGURE NUMBER 3	

**BUILDING INSPECTION FORM  
RCRA PARTIAL CLOSURE PROGRAM  
NAS BRUNSWICK  
BRUNSWICK, MAINE  
CTO WE22**

**Inspection Date:** 4/28/2010

**Personnel:** James Forrelli, P.E. / Brandon Smith, P.E.

**Weather:** Overcast 40s

**GENERAL BUILDING INFORMATION / USES**

Building Name: ISAR Equipment Maintenance Trailer  
 Function: Radar equipment maintenance and testing  
 Size: 1,325 SF  
 Year of Construction: Unknown

Building 446 is located east of Hangar 6, north of Seahawk Avenue, west of Pegasus Street and east of Taxiway A at NAS Brunswick. Its construction date is unknown. It served as a radar equipment maintenance and testing facility for its entire history. Building 446 consists of a 1,325 square foot steel-framed trailer building with metal siding.

Building 446, the Inverse Synthetic Aperture Radar (ISAR) trailer was used as a radar maintenance and testing area for the VPU-1 squadron. Building 446 was originally located between Hangar 4 and Building 86 and was moved in 2006 after construction of Hangar 6. The building interior consists of two rooms that were used as office space and radar maintenance.

No hazardous waste was generated during the operations of Building 446, according to NASB personnel.

Building 446 was heated by electric baseboard heat.

**BUILDING INSPECTION / CONDITION**

No record of hazardous waste stored at Building 446.

The building appeared in fair condition at the time of the site visit. The building's roof, siding and interior floor covering require repairs. The building was vacant.

No evidence of hazardous waste residues was observed.

No signs of a past release (staining, unusual odors, stressed vegetation, etc.) were observed. No modifications to the structure, which may conceal signs of a past release, were observed.

No hazardous waste storage areas or hazardous waste accumulation areas were observed.

**HAZARDOUS WASTE STORED / GENERATED**

No hazardous waste was stored or generated at Building 446, according to NASB personnel.

**POTENTIAL PCB-CONTAINING TRANSFORMERS**

The NASB transformer database listed no transformers associated with Building 446.

**APPLICABLE REPORTS / DOCUMENTS**

Available historical plans and aerial photos were reviewed for past property uses:  
1943 plan - Building 446 area not shown, Hangars 2 and 3 to the south.  
1946 plan - Original runway and taxiways shown. Taxiway/apron at Building 446 area. Softball field and Hangars 2 and 3 to the south.  
1952 plan - New runways and taxiways shown. No buildings shown at Building 446 location.  
1956 plan - Same as 1952 plan  
1958 aerial - Apron area with aircraft parked. No structures, Hangars 2 and 3 to the south.  
1978 aerial - Same as 1958 aerial.  
1981 aerial - Same as 1978 aerial.  
1975 plan - Labeled as Aircraft Parking Apron, north of Hangars 2 and 3.  
1983 plan - same as 1975.  
1984 aerial - Same as 1981 aerial.  
1989 plan - same as 1983 plan.  
1989 aerial - same as 1984 aerial  
1993 aerial - same as 1989 aerial  
1997 aerial - Same as 1993 aerial.  
2006 plan - Building identified at current location. Hangar 6 to the west. Hangars 2 and 3 demolished to the south.

No USTs or ASTs were present at Building 446 according to NASB records

**HAZARDOUS WASTE STORAGE RECORDS**

No hazardous waste was historically stored at Building 446, according to NAS Brunswick Hazardous Waste Manager, D. Bruce Smith.

**MISCELLANEOUS NOTES**

Tetra Tech personnel were accompanied on the inspection by D. Bruce Smith, NAS Brunswick Hazardous Waste Manager.

Even though no direct evidence of hazardous waste generation was observed, the radar equipment maintenance activities conducted within the building possibly included soldering activities that potentially generated hazardous waste.

**(SEE ATTACHED BUILDING FLOOR PLAN AND PHOTOGRAPHS)**

**INSPECTOR SIGNATURE:**



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Brandon Smith, P.E.

**PHOTOGRAPHS**



No. 1 Building 446 – NAS Brunswick  
ISAR Equipment Maintenance Trailer exterior (northwestern elevation)

April 28, 2010



No. 2 Building 446 – NAS Brunswick  
ISAR Equipment Maintenance Trailer interior

April 28, 2010