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FINAL RESOURCE CONSERVATION AND RECOVERY ACT PARTIAL CLOSURE REPORT
FOR PICNIC POND AREA LAND AREA 11B WITH TRANSMITTAL LETTER NAS
BRUNSWICK ME
2/11/2011
NAS BRUNSWICK

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

February 11, 2011

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 Picnic Pond Area (Land Area 11B)

Dear Mr. Vigneault:

A copy of the Final RCRA Partial Closure Report for Picnic Pond Area (Land Area 11B) 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.

Sincerely,



For LISA M. JOY
Environmental Director

Enclosure: (1) Final RCRA Partial Closure Report for Picnic Pond Area (Land Area 11B)

Copy to:
NAVFAC Mid-Atlantic (B. Abraham)
NAS Brunswick (M. Fagan/D. Smith)
EPA Region I (M. Daly)
MRRA (V. Boundy)
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RCRA PARTIAL CLOSURE REPORT
for
PICNIC POND AREA
NAVAL AIR STATION BRUNSWICK, MAINE
USEPA IDENTIFICATION NUMBER ME8170022018
FEBRUARY 2011

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) RCRA or hazardous waste closure requirements have been completed for the Picnic Pond Area at Naval Air Station Brunswick (NAS Brunswick).

2. PROPERTY DESCRIPTION

The Picnic Pond Area measures approximately 106.5 acres in area and is located in the easternmost portion of NAS Brunswick, along the approximate mid-point of the base eastern boundary (Figure 1). The area is bordered to the north and northwest by the Building 516 (Niteflite) parcel and the Merriconeag Stream Area. To the northeast and southeast, the Picnic Pond Area coincides with the fenced, eastern boundary of the NAS Brunswick base, with Town of Brunswick land beyond. To the northeast, the base boundary coincides with the northern flank of the north-south oriented Buttermilk Mountain. To the southeast, the base boundary approximately coincides with Merriconeag Stream. To the south, the area is bordered by Coombs Road and New Gurnet Road and the Weapons/Magazine Area. Adjacent to the area to the southeast is the Weapons Administration Area. Adjacent to the western boundary is the Building 584 (General Warehouse) parcel and the Building 50 (Groundwater Treatment) parcel. To the northwest, the area is bounded by Sandy Road and located further to the west is the Building 55 (Base Security) parcel (Figure 2).

The Picnic Pond Area consists of mostly tree-covered, undeveloped land. The area also includes the following buildings or facilities (Figure 2), which have been addressed under separate RCRA Partial Closure Reports and are therefore excluded from this RCRA closure investigation:

- Building 60 (Inert Ordinance Storage) and Building 71 (Ammo Magazine) (Tetra Tech, 2011a);
- Building 65 (Picnic Area Shelter) and Building 613 (Toilet) (Tetra Tech, 2010a);
- Building 480 (Weapons Area Guard House) (Tetra Tech, 2010b);
- Building 481 (Coombs Road Guard Shack) (Tetra Tech, 2010c).

A cemetery (New Meadows Cemetery) and a baseball field are located in the central portion of the Picnic Pond Area. Perimeter Road, an access road to IRP Sites 1 and 3 (Orion Street Landfill-North and Hazardous Waste Burial Area, respectively) is located in the southwestern portion of the area, along with an access road to the eastern side of the Weapons Area Compound in the Weapons/Magazine Area, located to the west of the Picnic Pond Area. Merriconeag Road is located in the western portion of the area, originates in the Merriconeag Stream Area, to the north, and runs northeast/a/southwest through the Picnic Pond Area. It is unpaved from the northern boundary of the Picnic Pond Area to its intersection with Purinton Road and Hey Drive and paved south of the intersection (Figure 2). An unpaved, unnamed access road also originates in the Merriconeag Stream Area and is located along the eastern boundary of the base. This road provides access to the eastern side of the eastern lobe of Picnic Pond, a man-made pond located in the northern portion of the Picnic Pond Area.

Several water bodies are located within the Picnic Pond Area, including Merriconeag Stream, Mere Brook, Picnic Pond, and an unnamed stream on the western side of Picnic Pond, a Y-shaped pond located in the central portion of the Picnic Pond Area (Figure 2). Merriconeag

Stream originates in the Merriconeag Stream Area, located to the north, and flows north to south across the Picnic Pond Area, through the eastern lobe of Picnic Pond. The unnamed stream is located in the northwestern portion of the land area and flows into the western lobe of Picnic Pond. Mere Brook is located in the southwestern corner of the Picnic Pond Area and originates in the Weapons/Magazine Area, located to the west. Mere Brook flows across the southwestern portion of the Picnic Pond Area, joining with the southern part of Merriconeag Stream in the area south of Picnic Pond (Figure 2).

The topography of the north-central portion of the Picnic Pond Area is relatively flat, with elevations near 40 feet above mean sea level (msl). The land surface generally slopes from west to east and from north to south across the Picnic Pond Area, with the lowest elevation (approximately 10 feet msl) near Mere Brook, in the southern portion of the area. To the east and west of Picnic Pond, the land surface slopes toward the pond, down to approximately 30 feet msl. The topographic high point of the Picnic Pond Area, approximately 50 to 60 feet msl, is west of Merriconeag Road, in the central portion of the area (Figure 2).

This RCRA closure investigation also excludes the Eastern Plume site which is physically located within the Picnic Pond Area but is under investigation by the Installation Restoration Program (IRP). The Eastern Plume is a dissolved-phase groundwater contamination plume which originates from multiple IRP sites, and is comprised predominantly of chlorinated volatile organic compounds (VOCs).

This RCRA closure investigation excludes the abandoned-in-place aviation fuel pipeline (Casco Bay Pipeline) which is located along the central portion of the Picnic Pond Area (Figure 2). The pipeline closure has been addressed under a separate program. Available information regarding the pipeline is presented for informational purposes only.

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 the Picnic Pond Area, including past use and operations at that location.

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 1953, 1958, 1978, 1981, 1984, 1989, 1993 and 1997 (Sewall, 1953, 1958, 1978, 1981, 1984, 1989, 1993 and 1997) were reviewed. Additional aerial photographs for the parcel dated 1940, 1959, 1965, 1966, 1972, 1978, and 1980 were also reviewed (U.S. EPA, 1987). Public Works Department (PWD) site base maps dated 1943, 1946, 1952, 1956, 1957, 1975, 1978, 1979, 1989, and 2006 (PWD, 1943, 1946, 1952, 1956, 1957, 1975, 1978, 1979, 1989, and 2006) and site building lists for 1950, 1965, 1976, 2003, and 2008 (PWD, 1950, 1965, 1976, 2003, and 2008) were also reviewed.

Observations based upon the historical records review are summarized below.

- In the historical aerial photograph dated 1940, the northern portion of the Picnic Pond Area is largely undeveloped and wooded. Merriconeag Stream, Mere Brook, and the unnamed stream to the west are each visible in their approximate current course. A roadway is visible running north to south through the Picnic Pond Area and approximately coinciding with Merriconeag Road. The southern portion of the area appears to be sparsely developed, with possible residential and agricultural use.
- On the historical site plans dated 1952 and earlier, the eastern boundary of NAS Brunswick approximately coincides with the northern and western boundaries of the Picnic Pond Area. With the exception of a thin strip of land along the western boundary,

- the majority of the Picnic Pond Area is shown as being off-base during this time period. In historical site plans dated 1946 and 1952, a Central Maine Power (CMP) supply line is shown in the southwestern portion of the Picnic Pond Area. Old Gurnet Road is shown in its approximate current location.
- Between 1952 and 1956, the eastern boundary of NAS Brunswick was relocated approximately 800 to 1200 feet to the east to its approximate current location. This boundary also approximately coincides with the topographic high at the north-south oriented Buttermilk Mountain; however, it is unclear exactly where the base boundary is located in the southeastern portion of the area in 1956.
 - Beginning with historical site plans dated 1956, Sandy Road and Old Route 24 (currently Purinton Road) are shown in their approximate current locations. An unmarked, rectangular area in the approximate location of the current New Meadows Cemetery is also shown in the 1956 plan. Beginning with historical site plans dated 1957, this area is marked "cemetery" and an athletic field is shown directly adjacent, to the east. The 1957 plan also indicates a picnic area directly north of the cemetery.
 - Beginning with historical aerial photographs dated 1953 and in the site plan dated 1957, a ponded water feature is visible in the approximate current location of Picnic Pond. In historical site plans and aerial photos dated prior to 1953, ponded water is not visible. According to historical information, the dam which creates Picnic Pond was built sometime prior to 1957.
 - Beginning with the 1957 historical site plan, the currently abandoned-in-place Casco Bay Pipeline is shown. The pipeline is oriented northeast-southwest and is located through the center of the Picnic Pond Area (Figure 2). The 1957 plan is also the earliest to show a railroad track, located east of and adjacent to the approximate current location of Merriconeag Road.
 - On the 1978 historical site plan, Buildings 60 and 71 are shown in their current location. Buildings 213 and 237 are shown within the Picnic Pond Area on the 1978 and 1983 historical site plans. These buildings are not included in historical site buildings lists approximately corresponding to this time period.
 - No significant changes to the Picnic Pond Area were observed on historical site plans or aerial photographs dated after 1983.

An approximately 4,000-foot segment of abandoned-in-place aviation fuel pipeline, the Casco Bay Pipeline, is located north-south through the Picnic Pond Area (Figure 2). This pipeline system consists of two separate pipes that were used to transfer jet propulsion fuel (primarily JP-5) from the Defense Fuel Support Point (DFSP)-Casco Bay facility to the Old Navy Fuel Farm during the period from about 1952 until 1991. The pipelines are constructed of two separate carbon-steel pipes with welded joints, and are set approximately 3 feet apart. The pipes are covered in an exterior tar coating impregnated with asbestos. In 1991, the pipeline was taken out of service, drained, cleaned, and pressurized with nitrogen, until 1995, when the NASB Old Navy Fuel Farm was dismantled (GZA, 1997).

Under the Community Environmental Response Facilitation Act (CERFA) process, the Picnic Pond Area, identified in the report as Areas B-5 (north) and B-6 (south), was determined to be an area with the potential for classification as Category 2 or 3 CERFA property. Category 2 is an area of known release and/or disposal, defined as real property on which hazardous substances and/or petroleum products or their derivatives are known to have been released or disposed, including property where all response action necessary to protect human health and the environment, with respect to hazardous substances or petroleum products/derivatives, has been taken. A Category 3 CERFA property is an area of potential release and/or disposal. This is defined as a real property on which there is potential for hazardous substances and/or petroleum products or their derivatives to have been released or disposed, and some level of further assessment or evaluation is required. These classifications of the Picnic Pond Area were based on the proximity of the area to IRP Sites and the potential for undocumented releases from historical operations (Tetra Tech, 2006).

Portions of the Picnic Pond Area are mapped within designated NAS Brunswick Archery Hunting areas (PWD, 2008c). A thin strip (approximately 400 feet wide) of nearly continuous land west of Merriconeag Road and a majority of the area located north of the eastern lobe of Picnic Pond, including the entire eastern lobe of Picnic Pond are designated hunting areas.

Several archaeologically sensitive areas and identified Native American sites are located within the Picnic Pond Area (NAVFAC, 2010).

No oil/water separators (OWS), aboveground storage tanks (ASTs), or underground storage tanks (USTs) are associated with the Picnic Pond Area, according to NAS Brunswick records (PWD, 2008b; Environmental Department, 2009).

The area is not served by the base-wide sanitary sewer system; there is one septic tank system serving Building 613 (Toilet) located within the Picnic Pond Area (Navy, 2006). Since this building was used as a restroom facility and there is no record of hazardous waste generated and there is no record of releases at this location (Tetra Tech, 2010a) it is unlikely that this septic tank system is a source of contamination.

Picnic Pond is located in the northern portion of the Picnic Pond Area and is a shallow, 3.7-acre pond with an average depth of approximately 5 feet and a maximum depth of approximately 12 feet (USFWS, 1999). The eastern lobe of Picnic Pond receives discharge from Merriconeag Stream, which originates on the Merriconeag Stream Area, to the north. According to NAS Brunswick drainage maps, the segment of Merriconeag Stream running through the Merriconeag Stream Area to the north and eventually into the Picnic Pond Area receives stormwater drainage from the Lupine Circle housing area and from a portion of the Building 750 parcel. Merriconeag Stream also receives discharge from the northeastern base housing area, the western Old Navy Fuel Farm (ONFF) area, the Fitch Avenue and First Street intersection area, and the Woodland Village housing areas. Documented releases of oil and JP-5 aviation fuel to the ONFF oil/water separators and a stormwater ditch tributary may have impacted Merriconeag Stream (Tetra Tech, 2011b). Merriconeag Stream flows naturally north to south and discharges into the eastern lobe of Picnic Pond, exiting the pond to the south and continuing as Merriconeag Stream (Navy 2010).

The western lobe of Picnic Pond receives discharge from the upper and lower impoundments located to the west in the Building 55 (Base Security) parcel, and from the unnamed stream in the northwestern portion of the Picnic Pond Area. There are four retention ponds in this part of the stormwater system, including Picnic Pond. The upper impoundment pond (also known as Pond A) and the lower impoundment pond (Pond B) were separated by dikes in 1997 and drain directly to the unnamed stream (Pond C), south of the Niteflite Outfall, and into Picnic Pond from the northwest. The dikes and dams creating the ponds in this drainage area were built: to retain stormwater and minimize impacts downstream from large rain events; to treat stormwater for solids and other aviation-related contaminants; and to contain spills (Woodard and Curran, 2002). The catchment area for the Picnic Pond system is estimated to be approximately 592 acres in the northeastern part of the base and does not include the runways (Woodard and Curran, 2002). Reportedly on several occasions in the past, spills from the NASB flight line introduced jet fuel into the unnamed stream that drains into Picnic Pond. IRP Site 9 (Neptune Drive Disposal Site) and Site 6 (Sandy Road Rubble and Asbestos Disposal Site) are located beside the unnamed stream. Consequently, it is possible that aviation fuel or hazardous waste residues in the unnamed stream could also have been deposited into Picnic Pond (USFWS, 1999).

Mere Brook, flows from the Weapons Administration Area, located to the west, into the southwestern corner of the Picnic Pond Area, and flows northeastward until its confluence with Merriconeag Stream. Mere Brook receives drainage from the runways and runoff and leachate from IRP Sites 1 and 3 (Orion Street Landfill-North and the Hazardous Waste Burial Area, respectively) and Site 2 (Orion Street Landfill – South). Groundwater from the landfills discharges to the brook and flows out along the banks as leachate seeps. After passing through culverts beneath New Gurnet Road, Mere Brook becomes tidally influenced. From this point, Mere Brook

becomes a wide, tidal stream that discharges into the head of Harpswell Cove in the south-central portion of NAS Brunswick. Concentrations of PAHs, iron, and zinc in Mere Brook surface water and sediment suggest that other sources (e.g., the runways) in addition to the Sites 1 and 3 leachate seeps are affecting Mere Brook (Tetra Tech, 2010d).

A review of the MEDEP spill database and the NAS Brunswick spill records for December 1999 through July 2005 identified no reported spills within the Picnic Pond Area (MEDEP, 2010; Environmental Department, 2005). NAS Brunswick Spill Logbook No. 1 for July 1988 through November 1999 identified two incidents relating to Picnic Pond (Environmental Department 1999). On October 26, 1988, a sheen was identified on Picnic Pond adjacent to the fuel line in the parking lot. Samples were collected and no further information was provided. On March 21, 1994, during operations to unclog a storm drain at the OWS at ONFF, some oil was released to a storm water ditch leading to Picnic Pond (Environmental Department, 2005). The logbook entry indicated that a series of booms were to be applied to the drainage ditch.

The NAS Brunswick Transformer Database lists one pole-mounted, non-PCB, electrical transformer for the Picnic Pond Area, located near Picnic Pond (PWD, 2009). Information for the transformer is listed below.

Transformer (Location)	Manufacturer	Serial No. ⁽¹⁾	Manufacture Date	Notes
10 kVa, 11 gallons (Picnic Grounds)	Westinghouse	65AD4535	1965	non-PCB <1ppm

The first two digits of the serial number denotes the year of manufacture (EES, 1998)
ppm parts per million

Based on the serial number, the transformer was manufactured at the Westinghouse, Athens, Georgia plant, which never produced PCB-containing transformers (EES, 1998).

According to the Draft Final Remedial Investigation (RI) Report for NAS Brunswick, the Picnic Pond land area is located within the Mere Brook Drainage Basin (E.C. Jordan, 1990). Surface water runoff and shallow groundwater flow within most of this area is generally east-southeast toward Merriconeag Stream, according to hydrogeologic information obtained relating to the IRP Eastern Plume site investigation (H&S Environmental, 2010) and the background study (Tetra Tech, 2011c). Surface water flow is to the south/southwest from Picnic Pond to Merriconeag Stream and eventually into Mere Brook. East of Picnic Pond and Merriconeag Stream, flow is toward the stream, to the west.

Soil and groundwater data from thirteen monitoring wells and four soil boring locations within the Picnic Pond Area have been collected as part of the Background Study for NAS Brunswick (Tetra Tech, 2011c). The soil and groundwater sampling locations within the Picnic Pond Area are shown on Figure 3 and are summarized below.

Location	Sample ID ⁽¹⁾	Notes
Northern section of the Picnic Pond Area, northwest of Picnic Pond	BG-SB-39	soil borings within the Picnic Pond Area
	BG-MW-36, BG-MW-37, BG-MW-38, BG-MW-39 and existing well MW-303	existing well and newly installed background wells within the Picnic Pond Area
Northern section of Picnic Pond Area, east of Merriconeag Stream and Picnic Pond	BG-SB-23, BG-SB-24, BG-SB-25	soil borings within the Picnic Pond Area
	BG-MW-23, BG-MW-24, BG-MW-25	background wells within the Picnic Pond Area
Southwestern section of Picnic Pond Area, north of Mere Brook	MW-310, MW-335	existing well within the Picnic Pond Area

(1) Well ID prefix "NASB-" not shown.

The background sample collection areas in the Picnic Pond Area are undeveloped, forested land and were selected for inclusion in the background study because no known or suspected releases or disposal of petroleum or hazardous substances have been identified (Tetra Tech, 2009).

As stated above, the background study soil data include four soil boring sample locations within the Picnic Pond Area (Tetra Tech, 2009). Surface (0 to 1 foot below ground surface [bgs]) and subsurface (1 to 10 feet bgs) soil samples were collected from the four soil sample locations, three of which were from “the transition unit” and one of which was from “the upper sand unit” (BG-SB-39). In both surface and subsurface soils, arsenic, cobalt and iron were the only metals detected above the most stringent Maine Remedial Action Guideline (RAGs). However, the levels of these metals are likely to be within the range of background for NAS Brunswick.

Groundwater data collected in the fall of 2009 and the spring of 2010 as part of the background groundwater investigation indicate that groundwater is encountered between approximately 3 and 15 feet bgs at the wells located within the Picnic Pond Area. Groundwater samples were collected from thirteen wells located in the Picnic Pond Area as part of the background study. Analytical results were compared with Maine Maximum Exposure Guidelines (MEGs) for drinking water and with the federal maximum contaminant levels (MCLs) (MEDEP, 2010; U.S. EPA, 2010). In groundwater samples collected from the eastern portion of the Picnic Pond Area, no total or dissolved metals were detected above the Maine MEGs. In samples from the western side of the Picnic Pond Area, three metals exceeded applicable groundwater criteria at between one and three well locations: total and dissolved arsenic (three locations), total iron (one location), and total manganese (two locations). Total sodium concentrations exceeded applicable criteria at five locations.

A groundwater contaminant plume, known as the Eastern Plume, consists mainly of dissolved-phase, chlorinated volatile organic compounds (VOCs) which have been attributed to past activities at IRP sites located west of the plume and outside of the Picnic Pond Area, including IRP Site 4 – Acid Caustic Pit, Site 11 – Fire Training Area, and Site 13 – DRMO (Figure 2). The Eastern Plume itself underlies the central portion of the Picnic Pond Area and is approximately bounded to the west by Merriconeag Road and the western lobe of Picnic Pond, to the south by New Gurnet Road, and to the east by the eastern arm of Picnic Pond and Merriconeag Stream in the southeast. A small portion of the plume extends approximately 400 feet west of Merriconeag Road, immediately north of Mere Brook. A groundwater extraction system has been operating since June 1995 to provide groundwater treatment and migration control. An ongoing Long Term Monitoring Program (LTMP) was also implemented in 1995. According to the Third Five-Year Review Report published in September 2010 (Tetra Tech, 2010d), no deficiencies were identified during review of the Eastern Plume remedy, and no issues related to current site operations, conditions, or activities prevent the remedy from being protective. Surface water and sediment sample collection and analysis are also ongoing as part of the LTMP (H&S, 2010). Additionally, surface water and sediment samples were collected as part of an assessment focusing on Picnic Pond (Tetra Tech, 2009). Impacts to Merriconeag Stream, Mere Brook, and Picnic Pond have been identified relating to the Eastern Plume.

4. SITE VISIT AND INVESTIGATION

Site visits were conducted on November 11, 2010 by Brandon Smith, P.E., and Brian Geringer of Tetra Tech. The purpose of this visit was to verify information gathered during the records search and to collect additional information as necessary to prepare this closure report.

The Picnic Pond Area was visually inspected for signs of hazardous waste generation or storage. Site visit observations are summarized below:

- At the time of the inspection, no active use of the existing buildings (Building 60, 65, 71,

480, 481, and 613) or the Picnic Pond Area was observed.

- There are no other existing improvements at the Picnic Pond Area, with the exception of Merriconeag Road, Purinton Road, New Gurnet Road, the unnamed, unpaved access roads (discussed previously), and the railroad tracks, located in the western portion of the area.
- Most of the area is wooded and undeveloped.
- No evidence of current or past hazardous waste generation was observed.
- No evidence of hazardous waste residues was observed.
- No signs of a past release (staining, unusual odors, etc.) were observed.
- No hazardous waste storage areas or hazardous waste accumulation areas were observed.
- A pole-mounted-style transformer was observed in the vicinity of Picnic Pond, northeast of New Meadows Cemetery.

5. HAZARDOUS WASTE GENERATION AND STORAGE

Based on the records research, site visit observations, and NAS Brunswick Environmental Department personnel interviews, no hazardous waste generation, hazardous waste accumulation, or hazardous waste storage was conducted at the Picnic Pond Area.

6. OTHER ENVIRONMENTAL CONSIDERATIONS

No ASTs, USTs, or OWS have been utilized at the Picnic Pond Area, according to NAS Brunswick records, and none were observed during the site visit.

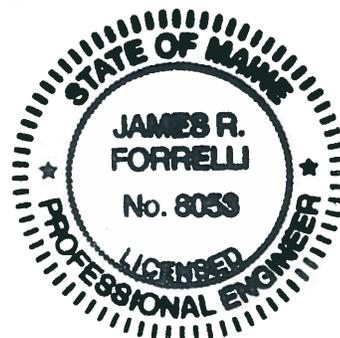
7. LIMITATIONS

This investigation of the hazardous waste closure requirements applies to the Picnic Pond Area (as shown on Figure 2) only, with exclusion as noted in Section 2.

8. CERTIFICATION

Based on the findings of this investigation, as discussed in Sections 3 and 4, there have been no activities resulting in the generation, accumulation, or storage of hazardous waste at the Picnic Pond Area. However, surface water and sediment contamination is present as a result of the Eastern Plume groundwater contamination and historical stormwater flow to Picnic Pond. Therefore, with the exception of surface water, sediment, and groundwater contamination associated with Picnic Pond, Mere Brook and associated tributaries and Eastern Plume, respectively, as summarized in this Partial Closure report, the hazardous waste closure of the Picnic Pond Area 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.



REFERENCES

E.C. Jordan, 1990. Draft Final Remedial Investigation Report, Naval Air Station, Brunswick, Maine. August.

EES (Elizabethton Electric System), 1998. QuickSheet Data Table, PCB Information. Prepared by Elizabethton Electric System, June 1998. <http://www.eesonline.org/programs/pcbdata.html>.

Environmental Department, 1999. Environmental Incident Log, Book No. 1, July 1988-November 1999. Naval Air Station Brunswick, Maine.

Environmental Department, 2005. Environmental Incident Log, Book No. 2, December 1999-July 2005. Naval Air Station Brunswick, Maine.

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

H&S Environmental, 2010. Draft Picnic Pond Monitoring Event 35 Report, September 2009.

Maine CDC Maine Center for Disease Control and Prevention (Maine CDC), Department of Human Services, 2010. Maine CDC Maximum Exposure Guidelines (MEGs) for Drinking Water. Effective date October 21, 2010.

Maine Geographical Information System (Maine GIS), 2001. April.

MEDEP (Maine Department of Environmental Protection), 2010. MEDEP Spills Database. Maine Department of Environmental Protection, Augusta, Maine.

NAVFAC, 2010. MODIFICATION 01, Comprehensive Archaeological Identification Survey at NAS Brunswick, Brunswick, Maine. June 30, 2010.

Navy (Department of the Navy, Base Realignment and Closure Program Management Office), 2006. "Final (Revision 2) Environmental Condition of Property Report for the Naval Air Station, Brunswick, Maine," NAS Brunswick, Maine. May 30.

Navy, 2010. Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Brunswick, Maine. November.

PWD (Public Works Department), 1943. "US Naval Air Station, Brunswick, Maine, Building Site Plan Showing Locations of Underground Water Distribution Lines and Hydrants," 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, 1965. "Index of Structures, Department of the Navy Bureau of Yards & Docks Department" US Naval Air Station Brunswick, Maine. Updated May 13.

PWD, 1975. "General Development, Existing and Planned, Operations Area," US Naval Air

Station, Brunswick, Maine, NAS Brunswick, Maine. Updated December 2.

PWD, 1976. "Index of Structures, Naval Facilities Engineering Command, Northeast Division Drawing No. 747 256" Naval Air Station Brunswick, Maine. Updated September 21.

PWD, 1978. "Repair Storage Magazines, Area Location & Index of Drawings, Drawing No. 2030672" US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. Updated August 22.

PWD, 1979. "Department of the Navy Bureau of Yards & Docks, Naval Air Station, Brunswick, Maine, Existing Conditions Map, Operations Area, Y&D Dwg. No. 925130" US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. Updated June 12.

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

PWD, 2003. "NAS Brunswick, Facility List," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. March 9.

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

PWD, 2008a. "Draft NAS Brunswick, Facility List," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. March.

PWD, 2008b. Revised Oil/Water Separator List, Table J-C4(a). NAS Brunswick, Maine. January 1.

PWD, 2008c. "NAS Brunswick Archery Hunting Areas," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. March. 2008.

PWD, 2009. Master Transformer Database. NAS Brunswick, Maine. June 24.

Sewall (James W. Sewall Company), 1940. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. September 28.

Sewall (James W. Sewall Company), 1953. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. June 29.

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

Sewall, 1959. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. October 9.

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

Sewall, 1981. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. October 17.

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

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

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

November 8.

Sewall, 1997. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. May 27.

Tetra Tech (Tetra Tech NUS, Inc.), 2006. Draft Community Environmental Response Facilitation Act (CERFA) Identification of Uncontaminated Property at the Naval Air Station Brunswick, Maine. Tetra Tech NUS, Inc., King of Prussia, Pennsylvania. May.

Tetra Tech, 2009. Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), Background Study, Naval Air Station Brunswick, Maine. Prepared for: Naval Facilities Engineering Command. Mid-Atlantic Division. July.

Tetra Tech, 2010a. Final RCRA Partial Closure Report for Building 65 – Picnic Shelter and Building 613 – Picnic Area Toilet, Naval Air Station Brunswick, Maine. Tetra Tech NUS, Inc, King of Prussia, Pennsylvania. December.

Tetra Tech, 2010b. Final RCRA Partial Closure Report for Building 480 – Weapons Area Sentry House, Naval Air Station Brunswick, Maine. Tetra Tech NUS, Inc, King of Prussia, Pennsylvania. December.

Tetra Tech, 2010c. Final RCRA Partial Closure Report for Building 33 – Front Gate Security Building, Building 265 – Forrestal Drive Housing Guard Shack and Building 481 – Coombs Road Guard Shack, Naval Air Station Brunswick, Maine. Tetra Tech NUS, Inc, King of Prussia, Pennsylvania. March.

Tetra Tech, 2010d. Third Five-Year Review Report for Naval Air Station Brunswick, Brunswick, Maine. Submitted to Naval Facilities Engineering Command Mid-Atlantic, Norfolk, Virginia. March.

Tetra Tech, 2011a. Final RCRA Partial Closure Report for Building 60 – Inert Ordinance Storage and Building 71 – Ammo Magazine, Naval Air Station Brunswick, Maine. Tetra Tech NUS, Inc, King of Prussia, Pennsylvania. January.

Tetra Tech, 2011b. Final RCRA Partial Closure Report for Merriconeag Stream Area, Naval Air Station Brunswick, Maine. Tetra Tech NUS, Inc, King of Prussia, Pennsylvania. January.

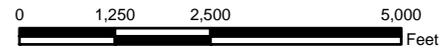
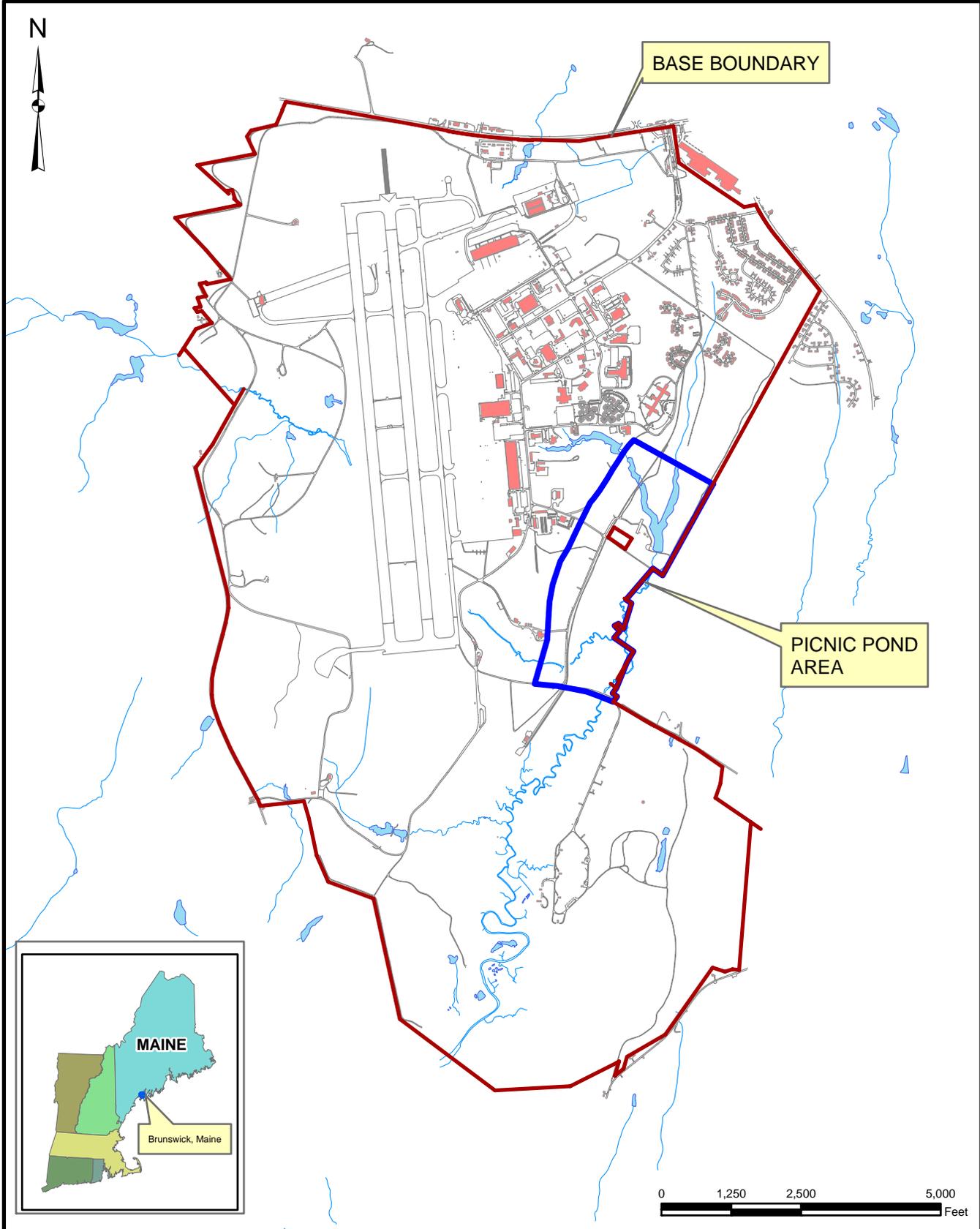
Tetra Tech, 2011c. Background Study for Naval Air Station Brunswick, Naval Air Station Brunswick, Brunswick, Maine. Prepared for Naval Facilities Engineering Command, Mid-Atlantic. January.

USFWS, 1999. Environmental Contaminants in Golden Shiners from Picnic Pond, US Naval Air Station, Brunswick, Maine. January.

U.S. EPA (United States Environmental Protection Agency), 1987. Volume 1 and 2, Site Analysis Brunswick Naval Air Station, Brunswick, Maine. April.

U.S. EPA, 2010. Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites. <http://www.epa.gov/region9/superfund/prg/>. May.

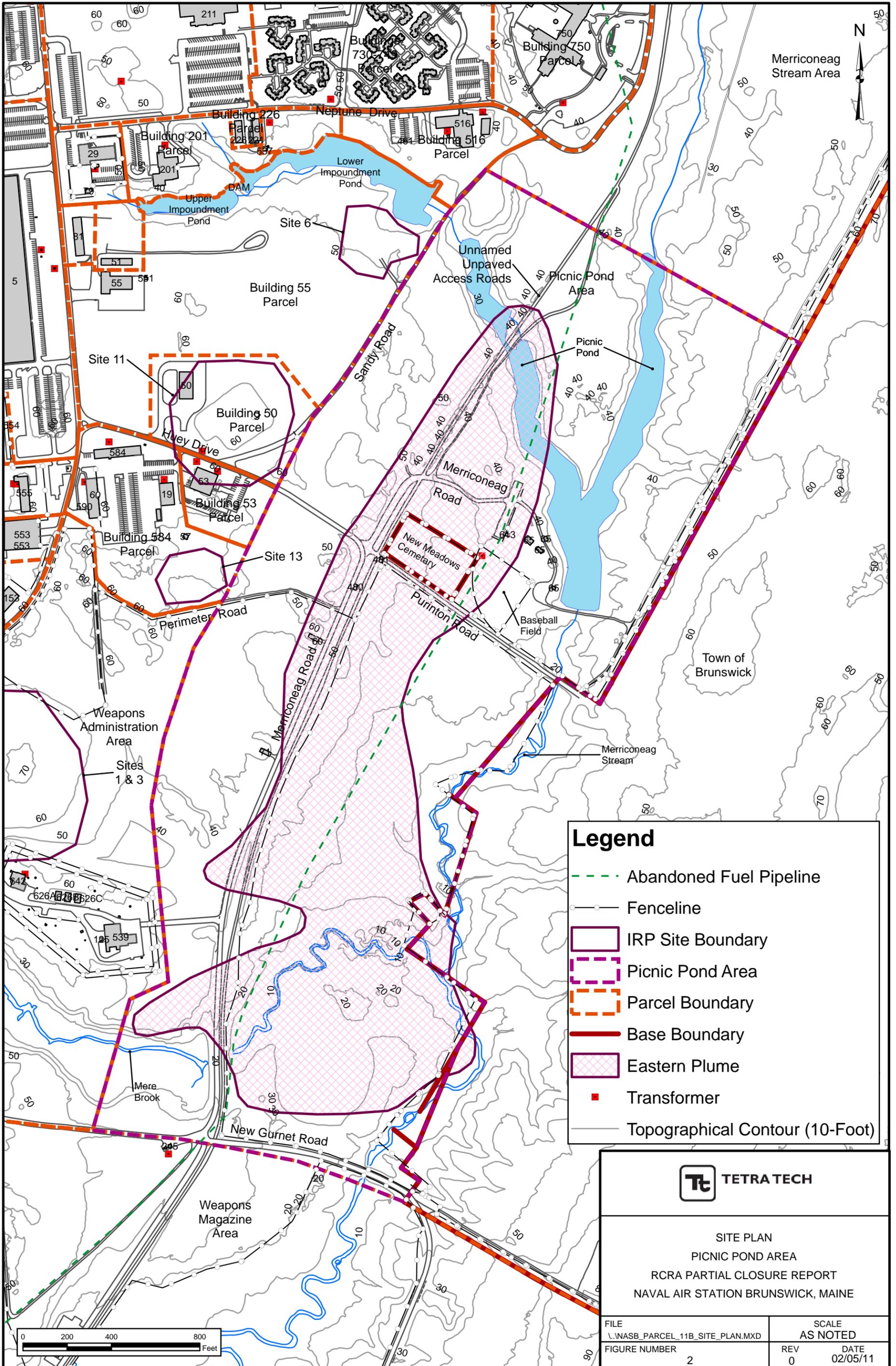
Woodard & Curran, 2002. Hydrologic Study of Picnic Pond, Naval Air Station Brunswick, Maine. July.



Tetra Tech NUS, Inc.

SITE LOCATION MAP
 PICNIC POND AREA
 RCRA PARTIAL CLOSURE REPORT
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE A:\ASB_PARCEL_11B_LOCUS.MXD	
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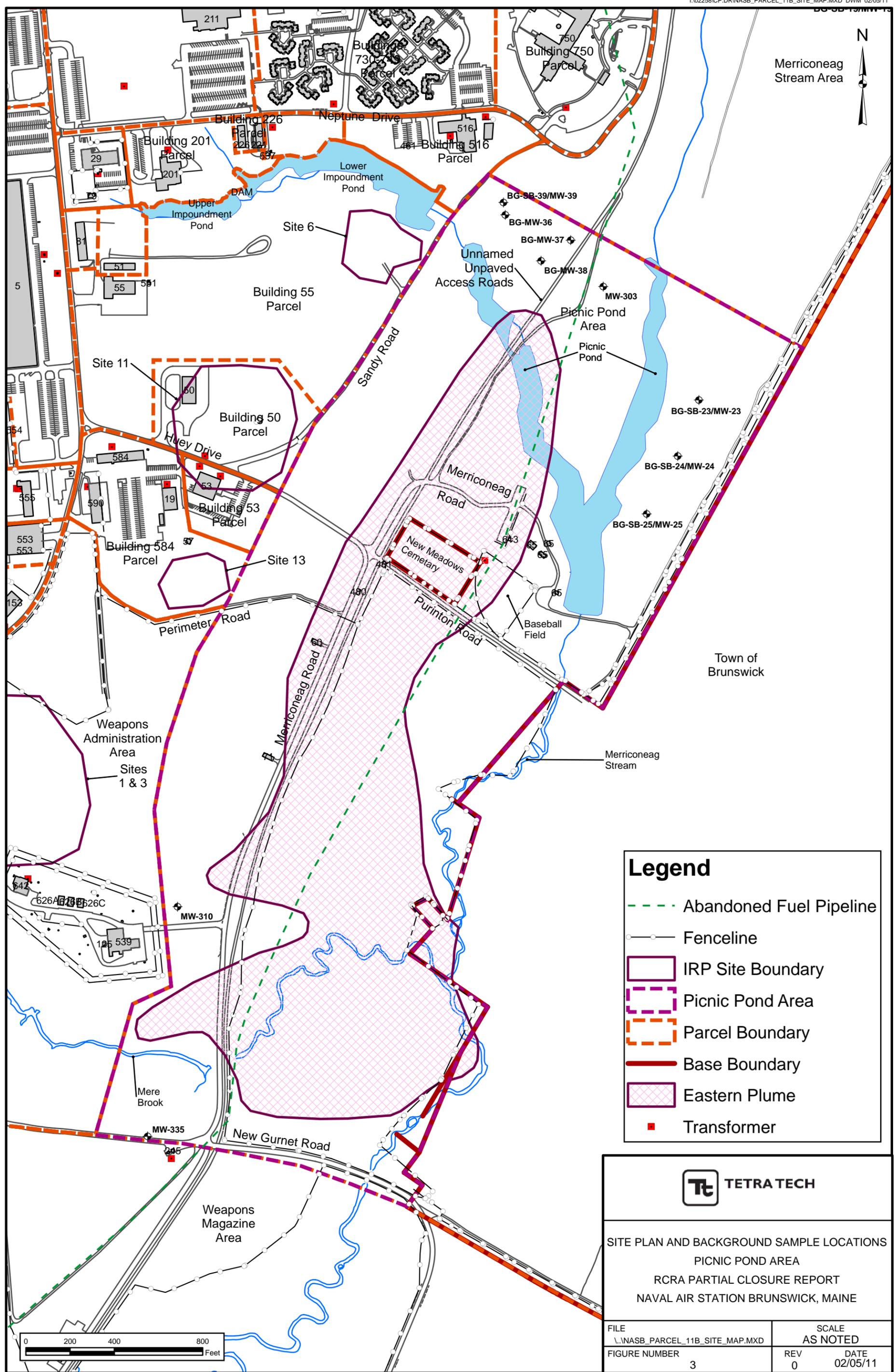
Legend

- - - Abandoned Fuel Pipeline
- · - · - Fenceline
- IRP Site Boundary
- Picnic Pond Area
- Parcel Boundary
- Base Boundary
- Eastern Plume
- Transformer
- Topographical Contour (10-Foot)



SITE PLAN
 PICNIC POND AREA
 RCRA PARTIAL CLOSURE REPORT
 NAVAL AIR STATION BRUNSWICK, MAINE

FILE I:\NASB_PARCEL_11B_SITE_PLAN.MXD	SCALE AS NOTED
FIGURE NUMBER 2	REV 0
	DATE 02/05/11



Legend

- Abandoned Fuel Pipeline
- Fenceline
- IRP Site Boundary
- Picnic Pond Area
- Parcel Boundary
- Base Boundary
- Eastern Plume
- Transformer

TETRA TECH

SITE PLAN AND BACKGROUND SAMPLE LOCATIONS
 PICNIC POND AREA
 RCRA PARTIAL CLOSURE REPORT
 NAVAL AIR STATION BRUNSWICK, MAINE

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