

NAS Brunswick Environmental Restoration News

SPRING
2007

UPCOMING RAB MEETINGS

The Restoration Advisory Board (RAB) consists of representatives of the community who advise the Navy, as well as State and Federal regulators, on environmental cleanup issues and strategies for Naval Air Station (NAS) Brunswick. You are invited to attend the RAB Meetings to learn more about the Navy's work at NAS Brunswick.

The RAB Meetings are held in the evenings from 7:00 PM to 9:00 PM, within the Town of Brunswick at various locations. The RAB Meeting location is published in the Brunswick Times Record in advance of each NAS Brunswick RAB meeting.

RAB Meetings for 2007

21 March 2007, Wednesday
13 June 2007, Wednesday
17 October 2007, Wednesday
12 December 2007, Wednesday

Commanding Officer's Message

Dear Community Members,

As our first environmental newsletter goes to press, I want to take this opportunity to invite any resident of the Mid-Coast Region who is interested in the environment to join us at our scheduled Restoration Advisory Board (RAB) meetings. This is your opportunity to learn about Naval Air Station (NAS) Brunswick's clean-up efforts first-hand and to ask questions on or off the record.

The Navy has spent over \$67 million over the past 18 years remediating 17 Superfund and other sites. We have identified \$16-\$20 million in additional clean-up as we begin closing the base down. Should it be determined and agreed upon that additional areas need to be remediated; the Navy will fulfill its responsibilities as required by law.

I am personally encouraged by the positive dialogue between area residents, regulators and Navy staff, and I want to especially thank my RAB Co-Chair, Mr. Tom Fusco, and the Brunswick Local Redevelopment Authority's (BLRA) representative, Carol Warren, for the forthright and candid discussions we have had to move this process along. The RAB is the right forum for this robust dialogue and I, again, encourage any member of the community who is interested to join us at the table.

See you at the next RAB!



Captain George G. Womack, US Navy
NAS Brunswick Commanding Officer

A handwritten signature in black ink, appearing to read "G. Womack".

- **Captain Womack**



Upcoming in 2007

- Installation of a new extraction well EW-5B in the Eastern Plume, Winter – Spring 2007
- Mere Brook Investigation, Navy will conduct field investigation to determine if this area is a potential exit point of the Eastern Plume – Winter – Summer 2007
- Conduct Site Inspections of MMRP Areas of Concern – Winter through Spring 2007
- Install new monitoring wells at Site 7 – Spring 2007
- Continue Remedial Action (in-situ bioremediation) at the Navy Exchange Service Station – 2007
- Complete Removal Action of the Ash Landfill/Dump Area at Site 9 – Spring through Summer 2007
- Area North of Site 2 – field investigation effort during Spring – Summer 2007

Recent and Upcoming Field Activities

Naval Air Station (NAS) Brunswick occupies 3,094 acres within the Town of Brunswick, south of the Androscoggin River and Route 1. Past Navy activities (either leaks, spills, or other activities that were acceptable practice at the time) have left behind chemicals in the soil, groundwater, and sediment at certain areas of the Naval Air Station. These areas are being investigated and/or remediated through various Navy programs such as the Installation Restoration Program or the Military Munitions Response Program (MMRP).

There are 18 areas within the Station that have been, or are being, investigated and cleaned up. Recent work has included updating Long-Term Monitoring (LTM) Plans, conducting LTM Plans, sampling events, conducting clean up by utilizing in-situ bioremediation technology at the base's Naval Exchange (NEX) Gasoline Service Station, and removing soil and former landfilled materials (ash and dump materials) from Site 9. The Navy has begun to investigate areas of concern (AOCs) under the Military Munitions Response Program (MMRP). Several of these MMRP AOCs have had Preliminary Assessments completed recently.

Administrative Record & Geographical Information System (GIS) Update

The Administrative Record is a collection of documents and other documents that provide the basis for the remedy selection under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) response action implemented at an installation restoration program (IRP) site. The "Admin Record", contains documents such as remedial investigation reports, Remedial Action Memoranda, Proposed Remedial Action Plans (PRAPs), Records of Decisions (RODs), monitoring event reports, site work plans, meeting minutes, and official correspondence. An updated Admin Record for NAS Brunswick was released at the end of February 2007 which contains records generated through the end of December 2006. The Admin Record can be accessed at the Curtis Memorial Library, located on 23 Pleasant Street, Brunswick.

Geographic Information System (GIS) is an information database system used to input, store, retrieve, analyze, and display geographically referenced data or spatial data. The Navy completed an update to the NAS Brunswick GIS in 2006. The update included the addition of analytical data from long-term monitoring program, groundwater contour maps, and revisions to various base map layers. The Navy and the project stakeholders have been using the Brunswick GIS since 1998 to assist with decision making, analyzing data, and presenting information visually to the public at Restoration Advisory Board meetings.

SITE 9 – Past, Present & Future

Site 9, also referred to as Neptune Disposal Site, is located within the central portion of the NAS Brunswick main base, and covers approximately 20 acres. Historical records indicate that a former incinerator, ash landfill/dump area, and disposal area were located at Site 9. Navy use of this site area has included the following: barracks buildings, a dining facility, and recreation and picnic areas. Today, the 9 barracks buildings constructed in 1953 are gone, and the Navy has undertaken a removal action of the ash landfill/dump area that the former barracks were built upon.



Site 9 Removal Area Excavation, October 2006

Site 9 was first investigated in June 1983. Throughout the mid to late 1980s and through 1991, additional investigations were conducted to assess and define the extent of contamination. Results from these investigations identified volatile organic compound (VOC) contamination in the soil and groundwater within Site 9. In September 1999, a Record of Decision (ROD) was finalized that selected a cleanup action of natural attenuation with long-term monitoring and institutional controls (land use restrictions) as the remedial action for Site 9. One aspect of the 1999 ROD, was that if the barracks buildings were disturbed, then the remedy had to be reassessed. In 2001, the first Site 9 barracks building (No. 216) was demolished by the Navy. In 2005, the last barracks building at Site 9 was demolished.

In 2003 and 2004, prior to the barracks building No. 216 being demolished, the Navy conducted an assessment of the extent of the ash landfill/dump area underlying barracks buildings Nos. 218 and 219. The Navy used direct-

push soil borings to determine whether excavation of the landfill would be feasible as part of the barracks demolition contract. Based on the results of this assessment, it was agreed that a separate follow-on contract would be used to excavate and dispose of soils within the ash landfill/dump area after demolition of the barracks.

In April 2006, the Navy began excavation of the ash landfill/dump area. Throughout the Spring and Summer of 2006, excavation continued. The excavation of the ash landfill/dump material just north of Avenue C indicated that that landfill/dump material may continue under the road. The Navy is generating a plan to assess the southern extent of the ash landfill/dump area that potentially extends south under Avenue C towards the Galley Building. Excavation has stopped for the winter. To date, approximately 3,300 cubic yards of soil have been excavated. The Navy plans to complete the current removal action of the ash landfill/dump area in 2007, and will evaluate any remaining actions once the southern extent of the ash landfill/dump area has been identified.

During 2007, the Navy will be generating a Removal Action Memorandum which will document the activities and tasks completed during removal of the ash landfill/dump area. Following the Action Memorandum, an Explanation of Significant Differences (ESD) for the 1999 ROD will be prepared, which will document the change to the original remedy presented in the 1999 ROD.



Site 9 - Prior to 2002

Environmental Cleanup Information & Public Participation

Environmental activities began at NAS Brunswick in 1982. State and Federal regulatory agencies provide oversight and concurrence of all work conducted. Your input is important for the environmental and cleanup program's success!

The NAS Brunswick Restoration Advisory Board (RAB) consists of representatives from the state and federal regulatory agencies and of the community who meet quarterly to advise the Navy on investigation and cleanup actions. All members of the public are welcome. ***Please contact Mr. John James, NAS Brunswick Public Affairs Director if you have questions, or would like more information.***

Information Repository

The Navy maintains an information repository for the NAS Brunswick that contains project documents and other reference materials related to the investigation and clean up program for the Base. The repository is updated periodically as new information becomes available.

Curtis Memorial Library

23 Pleasant Street
Brunswick, Maine 04011
(207) 725-5242
www.curtislibrary.com

Hours:

Monday-Thursday, 9:30 AM to 8:00 PM
Friday, 9:30 AM to 6:00 PM
Saturday, 9:30 AM to 5:00 PM
(Jun – Aug until 1:00 PM)
Sunday, 12:00 PM to 4:00 PM
(Jun – Aug - closed)

Website Links

Naval Air Station Brunswick -
<http://www.nasb.navy.mil/>

DoD Environmental Management Office -
<https://www.denix.osd.mil/denix/Public/Library/Cleanup/CleanupOfc/index.html>

Navy's BRAC Program Management Office (PMO) -
<http://www.bracpmo.navy.mil/>

DoD Base Realignment and Redevelopment Manual -
http://www.dod.mil/brac/pdf/4165-66-M_BRRM.PDF

US DoD Base Realignment and Closure 2005 Website -
<http://www.defenselink.mil/brac/index.html>

Brunswick Local Redevelopment Authority -
<http://www.brunswicklra.org/default.aspx>

Brunswick Area Citizens for a Safe Environment -
<http://www.curtislibrary.com/BACSE/>

FOR MORE INFORMATION

The Navy welcomes your input. If you have questions or concerns, or want more information please contact:

John James

Public Affairs Director
Naval Air Station Brunswick
Brunswick, Maine
Phone (207) 921-2000
Email john.james@navy.mil



NAVAL AIR STATION BRUNSWICK, MAINE - STATUS OVERVIEW OF ENVIRONMENTAL RESTORATION PROGRAMS

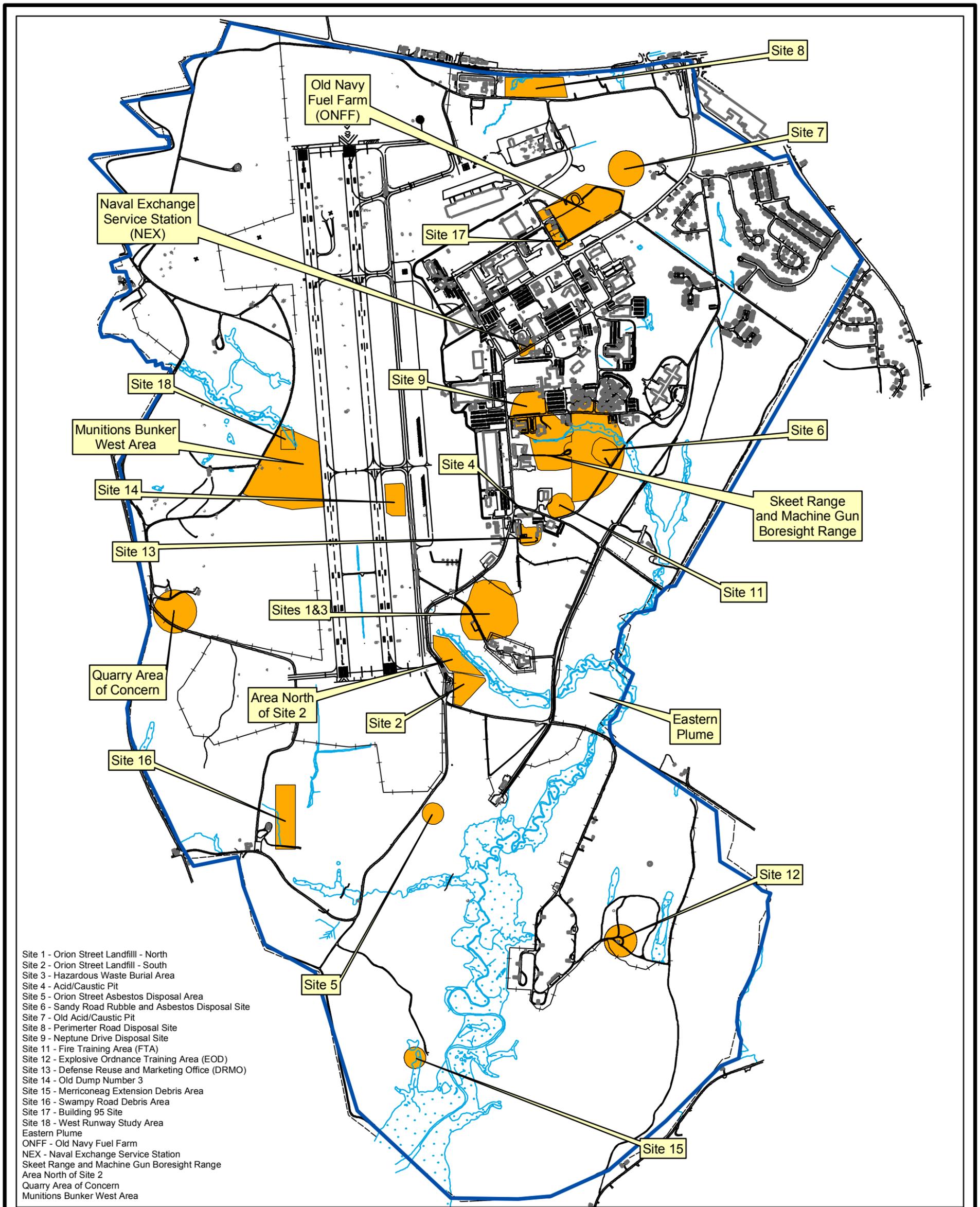
This Table provides an overview of the various Sites which have been or are currently being addressed under the Navy's Environmental Restoration Program at Naval Air Station Brunswick. This Table is meant to provide general information, such as the site description, actions taken, and proposed actions which the Navy is planning to carry out at each site. For more detailed descriptions of each site listed below, the following documents are recommended for review. These documents are available in the Naval Air Station Brunswick Administration Record which is available at the Curtis Memorial Library, 23 Pleasant Street, Brunswick, Maine.

Suggested Reading for More In-Depth Information on these Sites:

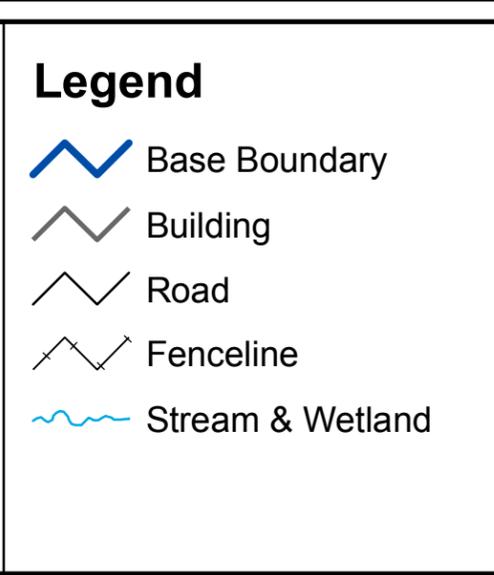
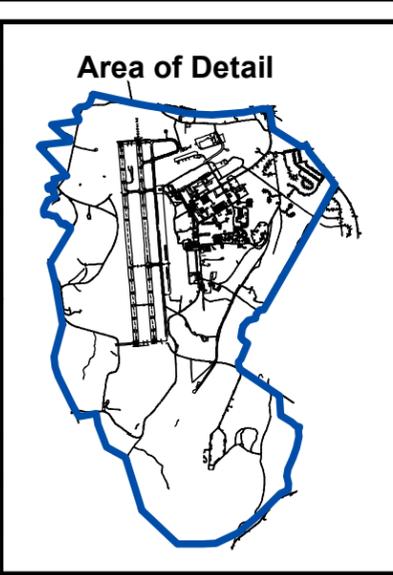
- 1.) *Final 2nd- Five Year Review – (ECC/EA. 2005)*
- 2.) *Draft Final Remedial Investigation/Feasibility Study Report.Vo.I/II. (E.C. Jordan. 1990)*
- 3.) *Draft Final Supplemental Feasibility Study Sites 5, 6, and 12 (E.C. Jordan 1991)*
- 4.) *Final Preliminary Assessment, Naval Air Station Brunswick, Military Munitions Response Program (Malcolm Pirnie 2006)*
- 5.) *Site Records of Decisions (RODs) – A public document that explains which cleanup alternatives will be used to clean up a Superfund site. The RODs for sites listed below (marked with an asterisks *) were created from information generated during the Remedial Investigation/Feasibility Study (RI/FS) phase of the EPA Superfund Process. For more information on this process refer to <http://www.epa.gov/superfund/about.htm>*

SITE No./NAME	DESCRIPTION	ACTION	PROPOSED ACTIONS
BASE ENVIRONMENTAL RESTORATION PROGRAM SITES			
SITES 1 & 3: Orion Street Landfill and Hazardous Waste Burial Area *	These two landfills were used for disposing of garbage and industrial wastes. Site 1 landfill was used from 1955 to 1975 and Site 3 was operated as a disposal area from 1960 to 1973. In 1992 a Record of Decision was finalized.	Remedy included construction of a landfill cap and slurry wall around the wastes. From 1994 through 1997, two extraction wells were installed to maintain the water level within the slurry wall below the waste mass. The Long-Term Monitoring Program monitors groundwater, surface water, leachate seeps, sediment, and landfill gas emissions. As of January 2007, 29 monitoring events were completed.	On-going evaluation of Long Term Monitoring data to gauge success of the remedy and to determine if additional monitoring or modifications to the plan are needed.
SITE 2: Orion Street Landfill South*	Site 2 was the base's primary landfill from 1945 to 1955. Wastes were reportedly incinerated before being placed in the landfill and covered with soil. The 2-acre site is adjacent to Mere Brook. Remedy for this site in the September 1998 Record of Decision is "Minimal Action" and institutional controls.	Metal debris was removed in 1999 and the landfill slope was stabilized. A Long-Term Monitoring Program has been established at Site 2 for environmental monitoring of groundwater, seep, sediments and surface water. As of January 2007, 14 monitoring events completed.	On-going evaluation of Long-Term Monitoring Program data. Navy is in the process of investigating the area immediately north of the Site 2 Landfill to determine if this area should be incorporated into the Installation Restoration Program.
SITE 4: Acid/Caustic Pit*	The pit (approximately 4 feet square and 3 feet deep) was used for the disposal of liquid wastes between 1969 and 1974. This site underlies a portion of Bldg 584. It is one of the three sources of groundwater contamination of the Eastern Plume.	The Navy completed a Remedial Investigation at Site 4 during the 1980s. Quantities of wastes disposed of are unknown. There has been no activity at Site 4 in the past several years.	As per the 1998 Record of Decision, no further action planned for soils at Site 4. Groundwater contamination addressed by the Eastern Plume groundwater remedy.
SITE 5: Orion Street Asbestos Disposal Area*	In 1979, Site 5 was reportedly used to dispose of asbestos-lined pipes from a demolished building. The pipes were placed in two trenches, in which a total of 14 pipes were found. The site covers approximately 0.25 acres and is located south of the main runway.	A Remedial Investigation in the early 1990s included geophysical survey, sampling of soils and a site inspection. As per the August 1993 Record of Decision, the asbestos-containing material was excavated from the site and placed into the Sites 1 and 3 landfill.	The results of the Remedial Investigation and a Baseline Risk Assessment conducted at the site indicated that the contaminants of concern were not detected in the environment. Based on confirmatory sampling, no further action is planned for Site 5.
SITE 6: Sandy Road Rubble & Asbestos Disposal Area*	Site 6 is a small depression that was reportedly used to dispose of construction debris, aircraft parts, and asbestos-lined pipes. The site is approximately 1 acre and is nearly flat. The site is bordered by Sandy Road to the southeast and a stream behind Bldg 516.	The results of the Remedial Investigation conducted in the 1990s at Site 6 indicated that the contaminant of concern (asbestos) was not reported in the environment. Under the 1993 Record of Decision, the site remedy included the excavation of the asbestos-containing material and construction debris. This material was disposed of at Sites 1 and 3 landfill beneath the cap.	As per the August 1993 Record of Decision, no further action is planned for Site 6.
SITE 7: Old Acid Caustic Pit*	Site 7 is the former location for acid and caustic liquid waste disposal. This area was from 1952 to 1969 for disposal of transformer oils, battery acids, caustics, solvents, and miscellaneous liquids. Additionally, the area was used for temporary storage of equipment and a Defense Reuse and Marketing Office facility.	As per the 2002 Record of Decision the Site 7 remedy requires institutional controls with groundwater monitoring. The Long Term Monitoring Program for Site 7 has been on-going since 2005. As of January 2007, 4 monitoring events have been completed.	Long-Term Monitoring data is evaluated twice a year. In 2007, the Navy will install 3 new monitoring wells to refine the groundwater monitoring well network.
SITE 8: Perimeter Road Disposal *	Site 8 was a disposal area for rubble, debris and trash from 1964 to 1974. Environmental sampling completed during the 1990 Remedial Investigation indicated that the surface and subsurface soils were contaminated with polycyclic aromatic hydrocarbons (PAHs).	The site remedy in the 1993 Record of Decision was to excavate the PAH contaminated soil and dispose of it in the Sites 1 and 3 landfill. Confirmatory soil sampling after the excavation demonstrated that the removal action was successful.	There has been no activity at Site 8 since site restoration in the fall of 1995. No further action planned for Site 8.
SITE 9: Neptune Drive Disposal Area	Site 9 was a former incinerator, ash landfill/dump area, and disposal area. The incinerator operated from 1943 to 1953. The incinerated solid waste and the ash were disposed of in the "ash landfill/dump area". Groundwater is contaminated with vinyl chloride, and other dissolved-phase chlorinated volatile organic compounds. Pesticides and metals were found in the leachate samples. The Site Remedy in the 1999 Record of Decision was monitored natural attenuation with groundwater monitoring and institutional controls.	When the Navy removed the barrack buildings overlying the ash landfill/dump area, it was also decided to remove the source area (ash material). The Navy is currently in the process of removing the demolition debris and contaminated soil from Site 9 north of Neptune Drive. The excavated contaminated material is being transported off site. There is a Long-Term Monitoring Program in place at Site 9 for groundwater. Currently 27 monitoring events have been completed.	The Navy anticipates that the removal action of the landfill/dump north of Neptune Drive will be completed in 2007. A new monitoring well is planned to be installed in the southwest corner of the Site to better define the site boundary and be added to the Long-Term Monitoring Program. An additional investigation is planned to determine if ash material is present south of Neptune Drive and, if so, the extent of contamination. Another investigation is planned south of Neptune Drive for soil, groundwater and pore-water sampling in the vicinity of Bldg. 201.

SITE No./NAME	DESCRIPTION	ACTION	PROPOSED ACTIONS
SITE 11: Fire Training Area*	The former Fire Training Area was used regularly for 30 years before 1990 for Navy operations. Waste liquids (fuels, oils, degreasing solvents) were used as fuel for the fire training exercises. One of the three source areas of groundwater contamination of the Eastern Plume.	Groundwater and soil within Site 11 were polluted with volatile organic compounds as a result of the former fire training activities. Two removal actions for soil. In 2002, an infiltration gallery was constructed over this site, which recharges treated effluent from the treatment plant back into the subsurface.	No further actions are planned for soils. Groundwater associated with Site 11 is being addressed under the Eastern Plume pump and treat remedy, and Long-Term Monitoring Program, as presented in the 1998 Record of Decision for the Eastern Plume.
SITE 12: Explosive Ordnance Disposal Area	Site 12 was used for disposal of small quantities of ordnance, pyrotechnics, privately manufactured explosive devices, and war souvenirs, prior to its deactivation in 2004.	This site is currently under the Navy's Environmental Restoration Program and is concurrently being investigated under the Navy's Military Munitions Response Program (MMRP). A Preliminary Assessment is currently being conducted at this Site.	This Site is currently under investigation.
SITE 13: Defense Reuse and Marketing Office*	Site 13 consisted of three underground storage tanks: one for diesel fuel, the other two for storing waste fuels, oils and degreasing solvent.	The fiberglass replacement tank was removed and replaced with an above-ground tank. The Navy conducted a remedial investigation and a risk assessment to evaluate the potential effects on human health and the environment at Site 13.	No further action are planned for Site 13.
SITE 14: Old Dump Number 3*	The Old Dump Number 3, used during World War II, is now surrounded by the active runways constructed in 1951.	The Navy conducted a remedial investigation. No unexplained anomalies were detected during the magnetometer survey.	No further actions are planned for Site 14.
SITE 15: Merriconeag Extension Debris Area*	The Debris Area was reported in 1990 by a NAS employee. Debris was found to consist of concrete rubble near a soil dam which created a 0.75-acre pond on a small, unnamed stream.	Asbestos pipe and scrap metal was removed. During site inspection in 1992, test pits encountered few, or no, debris items. A magnetometer survey in 1999 confirmed that no metal debris remained.	No further actions are planned for Site 15.
SITE 16: Swampy Road Debris Area*	The site was brought to the Navy's attention in 1990 by a NAS employee who observed surface debris and refuse along the banks of a stream in the golf course.	A site investigation was conducted in 1992. The Navy used a magnetometer to locate and remove surface debris and disposed of the material off site.	No further actions are planned for Site 16.
SITE 17: Former Building 95*	Building 95 and surrounding structures comprised the pesticide/herbicide storage area and distribution center for NAS Brunswick until 1985. This Site was originally regulated under the Resource Conservation and Recovery Act (RCRA) and not the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).	In 1992, a Site Evaluation indicated the presence of pesticides and herbicides in soil. Remedial actions included the removal of over 1,000 cubic feet of impacted soil within the area of concern, and the placement of a geo-textile liner to act as a marker of the excavation.	There is a Long-Term Monitoring Program for groundwater at Site 17. A Remedial Investigation is planned for this site in 2007 to determine the extent of soil and groundwater impact.
SITE 18: West Runway Study Area*	This area is a seep is near the former location of an ordnance bunker that was dismantled some time in the mid-1970s.	In 1993, a Site Evaluation revealed a small number of anomalous areas where innocuous buried debris was found.	No further action are planned for Site 18.
Eastern Plume Operable Unit*	The Eastern Plume is the groundwater contamination resulting from three sites: Site 4 (Acid/ Caustic Pit), Site 11 (Fire Training Area), and Site 13 (Defense Reuse and Marketing Office). A 1990 Remedial Investigation and a 1991 Supplement Remedial Investigation identified chlorinated volatile organic compounds and metals within the Eastern Plume.	A groundwater extraction and treatment system is operational and is treating the Eastern. In 1995, the Navy installed five extraction wells and a treatment plant for hydraulic control and treatment of the Eastern Plume groundwater. Since 2000, the treatment plant uses an air stripper and carbon polisher. Water is now discharged to an infiltration gallery. As of January 2007, a total of 29 monitoring wells have been completed.	There is a Long-Term Monitoring Program in place at the Eastern Plume for evaluation of the Plume boundaries and efficiency of the extraction network and treatment system. Activities in 2007 for the Eastern Plume include: (1) installation of an additional extraction well; (2) investigations on the extent of Plume impact on Mere Brook, (3) the development of a groundwater computer model and (4) groundwater investigation at infiltration gallery area.
PETROLEUM, OIL AND LUBRICANT SITES			
UST 001: Old Navy Fuel Farm	The Old Navy Fuel Farm was previously used as a petroleum bulk storage facility for the base. The site had 9 underground storage tanks for gasoline and jet fuel.	Two distinct groundwater plumes containing petroleum hydrocarbons were identified. In 2000, 15,000 tons of impacted soil was removed.	A Long-Term Monitoring Program is in place at this Site to continually evaluate the groundwater conditions.
UST 002: Navy Exchange Service Station	The Navy Exchange Service Station had underground storage tanks and associated piping that leaked.	Active remediation has consisted of air sparging soil vapor extraction, and a chemical oxidation event. Currently, the bioremediation program treats the dissolved and sorbed phases of petroleum contamination in the subsurface near Building 27 using enhanced biological activity (microbes).	Currently a bioremediation program to treat the petroleum contamination in the source area is being conducted. There is an on-going Long-Term Monitoring Program for groundwater to monitoring and evaluate the existing hydrocarbon plume.
MILITARY MUNITIONS RESPONSE PROGRAM (MMRP)			
MMRP Main Base -	Four MMRP areas of concern (AOCs) - (1) Former Munitions Bunkers; (2) Machine Gun Boresight; (3) Skeet Range (4) Quarry – and one Site – EOD pit known as Site 12.	A Preliminary Assessment was conducted at AOCs 1, 2 and 3 in 2006. A Preliminary Assessment Addendum on AOC 4 and Site 12 was completed in 2007. Additionally, a Site Investigation work plan for all 4 AOCs and Site 12 was submitted for review in February 2007.	The Navy is currently in the process of conducting the initial evaluations at these AOCs and Site 12 to determine which require further assessment and/or actions.
MMRP –Topsham Annex	The Skeet Range AOC at Topsham.	A Preliminary Assessment was conducted in 2006 to evaluate this AOC.	The Navy is currently in the process of conducting the initial evaluations at this AOC to determine whether further assessment and/or actions are necessary.



Contract No.	N62472-02-D-0810			
Description	NASB Brunswick, ME			
Coordinate system	NAD 1983, UTM, Zone 19N in meters			
Note				
Sources	Naval base boundary provided by the Navy.			
Date	11-JAN-2007	Rev.	Date	App. By
DB	C. Guido			
CB	A. Easterday			
AB				



**Basewide Map
 Environmental
 Restoration Areas
 Naval Air Station
 Brunswick, Maine**

ECC Marlborough, MA
 C:\NAVY_GIS\T007_Brunswick\GISdata\
 MapDocument\Newsletter_BasewideMap.mxd

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 Feet