

- FINAL -

ENVIRONMENTAL CONDITION OF PROPERTY REPORT

for the

**NAVAL STATION NEWPORT
Newport, RI**

**Former Naval Hospital Complex
Former Navy Lodge**

**Portions of Defense Highway, Stringham Road, and Midway/Greene Lane Segments
Tank Farm 1
Tank Farm 2**



Department of the Navy BRAC Program Management Office

Department of the Navy
Base Realignment and Closure
Program Management Office
1455 Frazee Road, Suite 900
San Diego, California 92108-4310



November 2009



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ABBREVIATIONS, ACRONYMS, AND SYMBOLS

%g	percent acceleration due to gravity	MEC	Munitions and Explosives of Concern
ACM	Asbestos Containing Material	MSDS	Material Safety Data Sheet
AHERA	Asbestos Hazard Emergency Response Act	NAVSTA	Naval Station
AST	aboveground storage tank	NETC	Naval Education and Training Center
BRAC	Base Realignment and Closure	NGVD	National Geodetic Vertical Datum
CAA	Clean Air Act	NMFS	National Marine Fisheries Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	NPDES	National Pollutant Discharge Elimination System
CERFA	Community Environmental Response Facilitation Act	NPL	National Priorities List
CFR	Code of Federal Regulations	NRHP	National Register of Historic Places
CRMC	Rhode Island Coastal Resources Management Council	NUWC	Naval Underwater Warfare Center
CWA	Clean Water Act	OWR	Office of Water Resources
DoD	Department of Defense	PCB	polychlorinated biphenyls
DRMO	Defense Reutilization and Marketing Office	pCi/L	picocuries per liter
ECP	Environmental Condition of Property	PMO	Program Management Office
EFH	Essential Fish Habitat	RICRMP	Rhode Island Coastal Resources Management Program
FEMA	Federal Emergency Management Agency	RIDEM	Rhode Island Department of Environmental Management
FFDCA	Federal Food, Drug, and Cosmetic Act	RIDES	Rhode Island Discharge Elimination System
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act	SDWA	Safe Drinking Water Act
HARP	Historic and Architectural Resources Protection	SWPPP	Stormwater Pollution Prevention Plan
ICRMP	Integrated Cultural Resources Management Plan	TSCA	Toxic Substances Control Act
INRMP	Integrated Natural Resources Management Plan	TSDF	Treatment, Storage, and Disposal Facility
LBP	Lead-Based Paint	U.S.	United States
		U.S.C.	United States Code
		USEPA	U.S. Environmental Protection Agency



Department of the Navy BRAC Program Management Office



USGS U.S. Geological Survey
UST underground storage tank



EXECUTIVE SUMMARY

This Environmental Condition of Property (ECP) report for Former Naval Hospital Complex, Naval Station Newport, Rhode Island, summarizes the historical, cultural, and environmental conditions of the property as part of Base Realignment and Closure (BRAC) documentation associated with transfer of the Former Naval Hospital Complex. Information was reviewed with installation points of contact to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

A brief summary of ECP findings is provided below by subject area.

- **Classifications of Environmental Conditions.** This ECP Report is not intended to identify uncontaminated property in compliance with the Community Environmental Response Facilitation Act (CERFA) and Department of Defense (DoD) policy.
- **Installation Restoration Program Sites.** The entire Naval Station Newport was listed on the National Priorities List (NPL) in 1989 (United States Environmental Protection Agency ID RI6170085470); however, according to facility personnel the Former Naval Hospital Complex is not an area of concern.
- **Underground Storage Tanks.** No underground storage tanks (USTs) are located at the Former Naval Hospital Complex; the buildings were heated via steam generated in Building A-6, located to the north of the Former Naval Hospital Complex, located on Navy property.
- **Aboveground Storage Tanks.** Two aboveground storage tanks (ASTs) are located within the Former Naval Hospital Complex at Building 993. Both ASTs were closed on September 18, 1998. No other ASTs are located within the Former Naval Hospital Complex.
- **Munitions and Explosives of Concern.** No known munitions and explosives of concern (MEC) have been stored in any of the buildings of the Former Naval Hospital Complex property or at Pier 71, and no MEC is known to be present on the site.
- **Hazardous Waste.** According to facility personnel, the facility generated, on average, between 800 and 1,500 pounds of hazardous waste per year until the facility closed in the mid 1990s. A 90-day hazardous waste storage area was located in Building 1 during its use as a hospital. The waste was accumulated and disposed of by a licensed contractor. The storage area was decommissioned in May 2003. Building 1 generated metal-laden (mostly silver) waste until late 1998 or early 1999, during development of the medical x-rays. The silver was removed and the remaining waste was collected by NAVSTA Newport hazardous waste personnel prior to being shipped to the Defense Reutilization and Marketing Office (DRMO) in Groton, Connecticut, for disposal.
- **Polychlorinated Biphenyls.** Eight transformers are located within the Former Naval Hospital Complex. Six of the transformers located within the Former Naval Hospital Complex area possess "PCB Free" stickers, while the remaining two transformers are suspected to be PCB-free (as all PCB-containing transformers at NAVSTA Newport have been removed or replaced).
- **Radiological Materials.** Facility personnel indicated that Building 1 did have tritium exit signs at one time but personnel are unsure if the signs are still present. There are no known radiological materials at any of the other buildings or Pier 71.



- **Pesticides.** Pesticides are applied by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and for grounds maintenance (EFA Northeast 2002). Currently, pesticides are stored at the NAVSTA Newport Pest Control Shop, Building 1298, which is not within the Former Naval Hospital Complex area. According to the facility personnel, no pesticides are known to have been stored at any of the Former Naval Hospital Complex buildings or Pier 71.
- **Asbestos.** Asbestos surveys have been conducted at Buildings 1, 45 and Quarters A and B. Identified asbestos-containing materials (ACM) has been removed and replaced within Building 45. ACM identified at Building 1 and Quarters A and B have not been removed and replaced. Buildings 62 and 993 are suspected to contain ACM, while Pier 71 does not.
- **Lead-Based Paint.** Lead-based paint (LBP) surveys were conducted at Building 1 and Quarters A and B between 1995 and 1996. LBP was identified in all three buildings. Surveys have not been conducted within any of the other buildings; however, based on their age they are suspected to contain LBP.
- **Radon.** No records of radon sampling for Buildings 45, 62, 993, or Pier 71 were available. Radon surveys were conducted at Building 1 and Quarters A and B. The results showed Quarters A and B to be below USEPA radon action levels, while radon was detected above the USEPA radon action levels at Building 1.
- **Air Quality.** There are no known air emission sources at the Former Naval Hospital Complex. Heat was supplied to the buildings by steam generated at Building A-6 (not located within the Former Naval Hospital Complex).
- **Drinking Water.** Drinking water for NAVSTA Newport is provided by the City of Newport. NAVSTA Newport distributes the water throughout the station and has 14 chlorination stations which operate under the Rhode Island public water system identification number 1000016. The on-site chlorination is only performed on an emergency basis.
- **Groundwater.** Currently, there are no known groundwater wells at the Former Naval Hospital Complex; therefore, there is no site specific information on the groundwater.
- **Stormwater.** The Former Naval Hospital Complex falls under the station's general stormwater discharge permit. Buildings 1 and 993 were listed as possessing outside storage prior to 2003; however, none of the buildings at the Former Naval Hospital Complex or Pier 71 are identified as a potential source of pollutants. The stormwater runoff from the Former Naval Hospital Complex discharges to Narragansett Bay. All floor drains and shower rooms in Building 1 likely discharge into the stormwater sewer.
- **Surface Water.** No freshwater surface water bodies are located within the boundaries of the Former Naval Hospital Complex; however, the Complex includes 6.8 acres of submerged property (Narragansett Bay) that are classified as "SB1: waters are marine waters designated for primary and secondary contact recreational activities; fish and wildlife habitat; and good aesthetic value."
- **Wastewater.** Wastewater from NAVSTA Newport including the Former Naval Hospital discharges to the Newport Water Pollution Control Plant located in nearby Newport, RI. No leach fields are known to have existed at the Former Naval Hospital. Floor drains and shower rooms in Building 1 likely to discharge into the stormwater system (and Narragansett Bay).



- **Floodplains.** Based on Federal Emergency Management Agency (FEMA) data, portions of the Former Naval Hospital Complex lie within the designated 100-year flood zone.
- **Wetlands and Aquatic Habitats (Special Aquatic Sites).** According to facility personnel, there are no known wetlands on the land portion of the Former Naval Hospital Complex but according to the 2001 Integrated Natural Resources Management Plan (INRMP), eelgrass and widgeon grass have been observed in the shallow areas of the bay west of the Former Naval Hospital Complex.
- **Coastal Zone Areas.** Under the Rhode Island Coastal Resources Management Program, the Former Naval Hospital complex falls within the first two tiers of Rhode Island's coastal zone boundary inland extent. In addition the Rhode Island Coastal Resources Management Council (CRMC) has jurisdiction over the 6.8 submerged acres of the Former Navy Hospital complex.
- **Coral Reefs.** The Former Naval Hospital Complex site does not have any coral reef habitat; therefore, coral reef protection issues are not applicable.
- **Fisheries.** Essential Fish Habitat (EFH) within the vicinity of the Former Naval Hospital Complex includes the recently designated eelgrass beds that are a key EFH for summer flounder. It is not currently known if these eelgrass beds are within the Former Naval Hospital Complex's 6.8 submerged acres.
- **Marine Mammals.** Harbor seals and harbor porpoises may be seen in Narragansett Bay, and two harbor seals have been observed during the winter months in Coddington Cove, north of the Former Naval Hospital Complex. No other marine mammals are known to occur within the Former Naval Hospital Complex area.
- **Threatened, Endangered, and Other Sensitive Species.** There are no known federal or state threatened, endangered, or other sensitive species identified at the Former Naval Hospital Complex. Federally listed endangered or threatened species may be present in the waters off the Former Naval Hospital Complex, in Narragansett Bay.
- **Geological Hazards.** Only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883. No other earthquakes have been recorded within the State of Rhode Island.
- **Historic Resources.** A 1995 cultural resources survey of the NAVSTA Newport was conducted and concluded that several of the Former Naval Hospital Complex buildings are included within the Naval Hospital Historic District.
- **Archaeological Resources.** A cultural resources survey was conducted in 1996 through 1998, indicating that there are no sensitive areas within the Former Naval Hospital Complex area. Furthermore, the Historic and Archaeological Resources Protection Plan concludes that there is no documentary evidence of historic shipwrecks or other potentially significant submerged resources in the vicinity of the Former Naval Hospital Complex.
- **Native American Graves Protection and Repatriation Act.** The Native American Graves Protection and Repatriation Act is not applicable since no known Native American graves have been identified on the installation
- **Solid Wastes.** Solid waste at NAVSTA Newport was disposed of at an on-site landfill (not in the vicinity of the Hospital site) up until the 1980's, at which time solid waste was no longer disposed of on-site but was picked up by station personnel and disposed of at a



transfer station in Newport. Since 1995 or 1996, a contractor collects and disposes of all solid waste at NAVSTA Newport.

- **Universal Waste.** According to the facility personnel, all universal waste generated at NAVSTA Newport, including the Former Naval Hospital complex, is collected and recycled by the Navy.
- **Medical Waste.** Currently, there is no medical waste generated, stored, or disposed of at the Former Naval Hospital Complex. Prior to the closing of the hospital in 1993, Building 1 was the only building within the Former Naval Hospital Complex that generated medical waste. An incinerator was utilized for the disposal of medical waste, and was located adjacent to Building A-33 (outside of the Former Naval Hospital Complex site). The incinerator was removed in 1998.
- **Hazardous Materials.** Known hazardous materials stored in the chemical storage room of the Former Naval Hospital Complex's Building 1 included 5-gallon containers and flammable materials stored in cabinets. Building 62 contained a utility closet where household chemicals were stored in small bottles (less than 0.5 gallons). No documentation of environmental concerns related to hazardous materials were available for Building 45, Building 993, Quarters A and B, or Pier 71; however, it is suspected that household cleaning supplies were stored in Building 45 and Quarters A and B during its occupancy.



1.0 Purpose

The Navy Base Realignment and Closure (BRAC) Program Management Office (PMO) prepared this Environmental Condition of Property (ECP) report for the Naval Station Newport, Former Naval Hospital Complex, Newport, Rhode Island.

This report used existing information to summarize the historical, cultural, and environmental conditions of Former Hospital property. Information was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

The purposes of the ECP report are to:

- Provide the BRAC PMO with the information it may use to make disposal decisions regarding the property;
- Provide the public with information relative to the environmental condition of the property;
- Assist the local government in planning for the reuse of BRAC property;
- Assist Federal agencies during the Federal property screening process;
- Provide information for prospective buyers;
- Assist new owners in meeting their obligations under the United States (U.S.) Environmental Protection Agency's (USEPA's) "All Appropriate Inquiry" regulations, at such time as they become final; and
- Assist in determining appropriate responsibilities, asset valuation, liabilities, and liabilities with other parties to a transaction.



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2.0 Background

Naval Station Newport Background

The Former Naval Hospital Complex is located at the southern tip of the Naval Station (NAVSTA) Newport, in Newport, Newport County, Rhode Island. The origin of the U.S. Navy's presence within Rhode Island began during the Revolutionary War, where the first Commander-in-Chief of the Continental Navy, Esek Hopkins, would use Narragansett Bay as shelter between combat engagements (Global Security 2006). In 1869, the U.S. Navy's Admiral Dixon Port assisted in the establishment of an experimental torpedo station on Goat Island, approximately less than one mile south of the current NAVSTA Newport. During World War II, the torpedo station reached its peak of importance, manufacturing 80 percent of the torpedoes used by the U.S. Navy during the war. The torpedo station was permanently closed in 1951, and Goat Island was transferred to the City of Newport. In place of the experimental torpedo station, a new research facility was created, the Naval Underwater Ordnance Station. In 1970 the Naval Underwater Ordnance Station merged with the naval activities at New London, Connecticut, established to what is now the Naval Underwater Warfare Center (NUWC) (Global Security 2006).

By 1973, a Shore Establishment Realignment study merged five previously independent commands and created the Naval Education and Training Center (NETC). These five former shore commands include the Naval Base Staff, Naval Station, Naval Officer Training Center, Public Works Center, and the Supply Center Annex. Additionally, NETC is also home of the U.S. Navy's most prestigious educational institution, the Naval War College, established in 1884 and is the oldest such institution in continuous existence anywhere in the world (Global Security 2006, NWC 2009). In October of 1998, Naval Station Newport (NAVSTA) was established as the primary host command, taking over base operating support responsibilities from NETC.

Currently, NAVSTA Newport is home to more than 42 naval and defense commands and activities such as training officers, officer candidates, senior enlisted personnel and midshipman candidates, as well as conducting advanced undersea warfare and development systems. Approximately 5,000 employees work at NAVSTA Newport, with an additional 9,300 students (CNIC 2009, Global Security 2006).

Former Naval Hospital Complex Background

The Former Naval Hospital Complex is located in the southern portion of NAVSTA Newport, southeast of Coasters Harbor Island on approximately 9.5 acres of land and 6.8 acres submerged in Narragansett Bay. The Former Naval Hospital is a portion of the larger Naval Hospital complex that provides outpatient services for the naval shore activities and fleet units of the operating forces, dependents of armed service personnel, and authorized beneficiaries (Malcolm Pirnie 2005). In 1889, the Navy opened its first hospital on the west side of Coasters Harbor Island. Construction began on the existing medical complex that includes the Former Naval Hospital Complex, in 1913, on the parcel lying directly east and opposite of Coasters Harbor Island. The period of construction extended through World War I, with subsequent expansions occurring during World War II (Navy 2007).



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The Former Naval Hospital consists of the main hospital building, Building 1; a Drug and Alcohol Rehabilitation Center, Building 45; a Chapel, Building 62; an Emergency Generator, Building 993; two Officer housing units, Quarters A and Quarters B; and a Berthing Pier, Pier 71. Building 1 was built in 1913, Building 45 in 1942, Building 62 in 1947, Quarters A and B in 1948, while Building 993 and Pier 71 were constructed some time between 1913 and the late 1940's (Navy 2007, Malcolm Pirnie 2005). With the construction of the New England Naval Medical Center, adjacent to the north, Building 1 was converted to administrative use in 1993. By 2007, all the buildings within the Former Naval Hospital were abandoned (Navy 2007).



3.0 Property Description

The Former Naval Hospital Complex is located at the southern end of Naval Station Newport, Newport, RI. The property consists of approximately 9.5 acres of land and 6.8 acres of submerged land. The Former Naval Hospital Complex is located on the western shore of Aquidneck Island, on Narragansett Bay, just southeast of Coasters Harbor Island. The complex is bordered by active Naval Hospital Newport buildings to the north, by residential and commercial areas to the east on Third Street and to the south on Cypress Street, and by Narragansett Bay to the west (**Figure 3-1**).

Building 1 is located in the center of the Former Naval Hospital Complex. It is bordered by Building A-6 to the northeast, Buildings 7 and 993 to the east, Building 45 and Quarters A and B to the south, Building 62 and Pier 71 to the southwest, and Narragansett Bay to the west. Several paved parking areas surround Building 1 (Malcolm Pirnie 2005) (**Figure 3-2**).

For the purposes of this ECP Report, the Former Naval Hospital Complex consists of the following seven buildings and one pier (Preston 2009):

<u>Building</u>	<u>Name</u>
Building 1	Former Hospital Building (including Buildings A72 and 1189)
Building 7	Housekeeping
Building 45	Drug and Alcohol Rehabilitation
Building 62	Chapel
Building 63	Detached Garages
Building 993	Emergency Generator
Quarters A and B	Housing Unit
Pier 71	Berthing Pier

The property associated with the Former Hospital Complex to be retained by the Navy includes Building A-6 (Boiler House) and associated property located north of Building 7 (**Figure 3-2**). These buildings and property are not included in this ECP Report.



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4.0 Environmental Condition Overview – Existing Environmental Information

As part of ECP report activities, extensive record reviews were conducted, and an on-site visit and personnel interviews were held to document current and historic conditions at NAVSTA Newport, Newport, Rhode Island. The on-site visits were conducted on July 28 and 29, 2009.

The BRAC PMO Northeast office, as well as site personnel located at NAVSTA Newport provided relevant information for this ECP report. Additionally, available reports of previous environmental investigations at NAVSTA Newport were obtained and reviewed. **Appendix A** presents a list of the documents that were reviewed as part of this effort. The information presented in this report was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

Interviews were conducted with NAVSTA Newport personnel during a site visit and in subsequent telephone conversations and e-mail communications. References are presented in **Appendix A**. **Appendix B** presents a list of the people contacted during preparation of this ECP report.

4.1 Classification of Environmental Conditions

The Community Environmental Response Facilitation Act (CERFA) of 1992 (amending the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] to add Section 120(h)(4) of CERCLA, 42 United States Code (U.S.C.) Section 9620(h)(4)) requires the identification and documentation of uncontaminated real property controlled by the Department of Defense (DoD) components where DoD plans to make excess property available for reuse pursuant to a base closure law. Uncontaminated property is defined as any "real property on which no hazardous substances and no petroleum products or their derivatives were known to have been released, or disposed of." This includes aviation fuel and motor oil. This ECP report is not intended to identify uncontaminated property in compliance with CERFA and DoD policy. The U.S. Navy will comply with its statutory requirement to identify uncontaminated property through additional evaluations and documentation.

4.2 Installation Restoration Program Sites

NAVSTA Newport, including the Former Naval Hospital Complex, was listed on the National Priorities List (NPL) in 1989 (USEPA ID# RI6170085470) (NFEC 2003). According to NAVSTA Newport Environmental Department facility personnel (Mueller 2009a), since the Former Naval Hospital Complex is part of NAVSTA Newport, it is included on the NPL but the site is not an area of concern. The Former Naval Hospital does not have CERCLA-related contamination. There are a total of 13 areas of concern within NAVSTA Newport; the closest area of concern to the Former Naval Hospital Complex is on Coasters Harbor Island, approximately 0.5 miles to the north (NFEC 2003).



4.3 Storage Tanks

4.3.1 Underground Storage Tanks

No underground storage tanks (USTs) are located at the Former Naval Hospital Complex; the buildings were heated via steam generated at Building A-6, located to the north of the Former Naval Hospital Complex (Malcolm Pirnie 2005).

4.3.2 Aboveground Storage Tanks

Two aboveground storage tanks (ASTs) are located within the Former Naval Hospital Complex at Building 993 (**Figure 4-1**). AST # 301 is a 2000 gallon diesel tank located outside the north side of Building 993. AST # 308 is a 275 gallon diesel tank located inside Building 993. Both ASTs were installed on April 15, 1995 and closed on September 18, 1998. Each is constructed of a single wall of painted steel with primarily steel piping. A monitoring and leak detection system and overfill protection equipment were also installed at each AST. Only AST #301 has a secondary containment system (Malcolm Pirnie 2005). **Table 4-1** presents the ASTs on-site, along with the location, reported volume, and contents of each. No other ASTs are known to have been used in the past at the Former Naval Hospital Complex (Malcolm Pirnie 2005).

4.4 Munitions and Explosives of Concern

No known munitions and explosives of concern (MEC) have been stored in any of the buildings of the Former Naval Hospital Complex area or at Pier 71 (Malcolm Pirnie 2005).

4.5 Hazardous Waste

In accordance with CERCLA 120(h)(1), Title 40 Code of Federal Regulation (CFR) Part 373 and the DoD policy of June 17, 1994, notice is required when a hazardous substance has been stored for one year or more in quantities greater than 1,000 kilograms or the substance's CERCLA reportable quantity, whichever is greater, or when hazardous substances that are also listed under 40 CFR 261.30 as acutely hazardous wastes, and that are stored for one year or more, have been stored in quantities greater than or equal to the substance's reportable quantity. Medical wastes and universal wastes are not regulated under CERCLA.

The waste generated at the Former Naval Hospital Complex was primarily the result of AST usage, fuel and waste oil handling operations, and individual hazardous waste storage and accumulation areas. Hazardous waste was collected by NAVSTA Newport personnel and transported to the NAVSTA Newport Public Works Department Central Hazardous Waste Accumulation Area for temporary storage, and later transferred to a hazardous waste treatment, storage, and disposal facility (TSDF) located off-base (Malcolm Pirnie 2005). According to facility personnel, the facility generated between 800 and 1,500 pounds of hazardous waste per year (Rielly 2009a). The wastes were collected and disposed of by a licensed contractor (Rielly 2009c).

According to the 2003 *Final Industrial Stormwater Pollution Prevention Plan* (SWPPP), a 90-day hazardous waste storage area was located in Building 1 during its use as a hospital (**Figure 4-2**). The storage area was decommissioned in May 2003 (GZA 2003). Additionally, hazardous



waste from the Naval Ambulatory Care Center (Building 23) was stored in the 90-day hazardous waste storage area between 1998 and 2003. During this time, the hazardous waste storage area was primarily a metal locker used to store flammable reagents (GZA 2003).

In addition, Building 1 generated metal-laden (mostly silver) waste until late 1998 or early 1999, used to develop x-rays for medical usage. Liquid waste generated from this process was treated with ion exchangers to remove silver. The silver was removed and recovered in the precious metals program via the Defense Reutilization and Marketing Office (DRMO) in Groton, Connecticut (Rielly 2009b). The remaining waste was collected by NAVSTA Newport hazardous waste personnel prior to being shipped to the DRMO for disposal (Malcolm Pirnie 2005). There was no other information related to hazardous waste at any of the other buildings of the Former Naval Hospital Complex or Pier 71.

4.6 Polychlorinated Biphenyls

The Toxic Substances Control Act (TSCA) (Public Law [Pub. L.] 94-469 enacted in 1976 and effective January 1, 1977) authorizes the USEPA to secure information on all new and existing chemical substances and to control any of these substances that could cause an unreasonable risk to public health or the environment. Under earlier laws, the USEPA had authority to control toxic substances only after damage had occurred. The earlier laws did not require the screening of toxic substances before they entered the marketplace. TSCA closed the gap in the earlier laws by requiring that the health and environmental effects of all new chemicals be reviewed before they are manufactured for commercial purposes. Polychlorinated biphenyls (PCBs) are regulated under Title I (Control of Toxic Substances), which includes provisions for testing chemical substances and mixtures, manufacturing and processing notices, regulating hazardous chemicals substances and mixtures, managing imminent hazards, and reporting and retaining information.

According to the 2005 *Final Environmental Baseline Survey for Transfer Naval Hospital Newport, Newport, Rhode Island* and facility personnel, there are eight transformers located within the Former Naval Hospital. Six of the transformers, located within the Former Naval Hospital Complex area, possess “PCB Free” stickers, while the remaining two transformers are suspected to be PCB-free since all PCB-containing transformers at NAVSTA Newport were removed or replaced (Malcolm Pirnie 2005).

In addition, a ninth transformer, formerly located between Buildings 45 and 993, was removed in approximately 1996 as it was no longer needed (Malcolm Pirnie 2005). Any PCB-contaminated items were stored in Building A-105, located along Stringham Road, prior to disposal by a contracted disposal facility (ENSR 1992).

Figure 4-3 provides the locations of the current transformers found within the Former Naval Hospital Complex area, while **Table 4-2** presents the manufacturers and serial numbers of each transformer.

Due to the age of the buildings, facility personnel (Moore 2009) indicated that the window caulking and glazing in Former Hospital Complex buildings is suspected to contain PCB but no testing has been done.



4.7 Radiological Materials

According to the 2005 *Final Environmental Baseline Survey for Transfer Naval Hospital Newport, Newport, Rhode Island* and facility personnel, there are no known radiological materials at any of the buildings or Pier 71. Prior to the closing of the Former Naval Hospital Complex in 1993, x-ray equipment may have been operated in Building 1; refer to **Section 4.5** (Moore 2009a).

4.8 Pesticides

The USEPA regulates the use of pesticides under the authority of two federal statutes: the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA). The FIFRA provides the basis for regulation, sale, distribution and use of pesticides in the U.S., whereas the FFDCA authorizes the USEPA to set maximum residue levels, or tolerances, for pesticides used in or on foods or animal feed.

According to the 2002 *Naval Station Newport Pest Management Plan*, pesticides are applied by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and during grounds maintenance activities (EFA Northeast 2002). Currently, pesticides are stored at the NAVSTA Newport Pest Control Shop, Building 1298, which is not within the Former Naval Hospital Complex area (EFA Northeast 2002, Malcolm Pirnie 2005). According to the facility personnel, no pesticides are known to have been stored at any of the Former Naval Hospital Complex buildings or Pier 71 (Davis 2009).

4.9 Asbestos

Asbestos abatement is regulated under TSCA Title II, Asbestos Hazard Emergency Response, which was added by the Asbestos Hazard Emergency Response Act (AHERA) (Pub. L. 99-519), enacted by Congress on October 22, 1986. It authorizes the USEPA to amend its TSCA regulations to impose more requirements on asbestos abatement in schools. AHERA provides for the promulgation of federal regulations requiring inspection for asbestos and appropriate response actions in schools and mandates periodic reinspection. In addition, it requires the USEPA Administrator to determine "the extent of the danger to human health posed by asbestos in public and commercial buildings and the means to respond to any such danger."

According to the 2005 *Final Environmental Baseline Survey for Transfer Naval Hospital Newport, Newport, Rhode Island*, all buildings of the Former Naval Hospital Complex are likely to contain asbestos with the exception of areas within Building 45 where identified asbestos-containing materials (ACM) have been removed and replaced within the past 20 years (Malcolm Pirnie 2005). Asbestos surveys were conducted in several of the buildings within the Former Naval Hospital Complex area, including Buildings 1, 45 and Quarters A and B (**Figure 4-4**). Building 1 was surveyed in 1991 with several areas identified as containing ACM. It is unknown if any of the ACM identified has been removed, and therefore it is suspected that the ACM described in the survey remains in Building 1 (Malcolm Pirnie 2005). The results from the laboratory analysis verified the presence of asbestos in the following areas of Building 1:

- Basement: Room B114;
- Basement: Galley, many locations near food preparation areas;



- Basement: Galley, wall plaster matrix;
- Basement: inside and outside the Dietician Office;
- Second Floor: room adjacent to front desk, ceiling tiles;
- Third Floor: between Rooms 3005 and 3007;
- Ward C: hall near Room 2014;
- Ward C: Solarium End Room;
- Ward E: between Rooms 1408 and 1410;
- Ward F: Linen Locker Room;
- Stairwell: connecting first floor and basement;
- Nursing Services;
- Hall near Command Master Chief;
- Office space outside Fax Room across from copy machine;
- Floor tiles.

In 1988, an asbestos survey was conducted in Building 45, where 40 of the 51 sample locations contained ACM. As mentioned above, these known materials have since been removed and replaced; however, the ceiling and floor tiles as well as pipe insulation currently found within Building 45 are suspected to contain asbestos (Malcolm Pirnie 2005).

Quarters A and B were both sampled for ACM in 1997. Two types of floor tiles were identified in Quarters A, while ACM was detected in insulation underneath the kitchen sink and in floor tiles at Quarters B. According to laboratory analysis, 12-inch brown speckled floor tile and 9-inch grey floor tile with gray streaks were identified as ACM in Quarters A, while white condensate barrier on the underside of the kitchen sink and 12-inch brown speckled floor tiles were identified as ACM in Quarters B (Malcolm Pirnie 2005). Ceiling tiles at Quarters B are also suspected to contain AMC (Malcolm Pirnie 2005).

Buildings 62, 993, or Pier 71 did not have any records indicating that an asbestos survey had been conducted. According to the 2005 *Final Environmental Baseline Survey for Transfer Naval Hospital Newport, Newport, Rhode Island*, both Buildings 62 and 993 are suspected to contain ACM within the building. Additionally, the public water distribution system at NAVSTA Newport contains asbestos cement piping and was tested for asbestos in 2002. Asbestos was not detected in the NAVSTA Newport drinking water (Malcolm Pirnie 2005).

4.10 Lead-Based Paint

Due to the age of the buildings at the Former Naval Hospital Complex it is suspected they contain lead-based paint (LBP). It is unlikely that Pier 71 has ever been sampled for LBP since it is an outdoor structure (Malcolm Pirnie 2005).

LBP surveys were conducted for Building 1 and Quarters A and B between 1995 and 1996 (Malcolm Pirnie 2005). Various locations within Building 1 were tested for LBP in 1995-1996, with several locations exceeding the 0.06 percent (%) lead by dry weight standard required by the Navy Occupational Safety and Health Program Manual (OPNAVINST 5100.23F, Chapter 21). According to the letter report, 10 samples were collected for laboratory analysis. The results from the laboratory analysis verified that eight of the 11 sample locations contained LBP above the 0.06% standard (Malcolm Pirnie 2005). Additional samples were collected between 1992 and 1995 on the paint from the hospital building (Moore 2009c). A total of nine samples



were analyzed from these samples of which, eight had lead concentrations at or above the 0.06 percent standard. A paint sample was collected from Building 45 in 1994 and the result indicated that the paint was not lead-based. Eight samples were collected from Building 62 in 1996 and 2000 which were analyzed for lead. The results indicated that seven of the eight contained lead above the 0.06 percent standard (Moore 2009c). The results of the surveys are summarized in **Table 4-3** and **Figure 4-5**.

A LBP survey was conducted in Quarters A on November 3, 1995. A total of 175 interior locations and 26 exterior locations were tested for LBP. Locations included walls, ceilings, window frames and sills, door frames and jambs, radiators, closet doors, shelves, and exterior painted surfaces (Malcolm Pirnie 2005). Of the 201 sample locations, 135 locations were characterized as “lead safe” with 66 locations deemed “lead hazardous” (Malcolm Pirnie 2005). Refer to **Table 4-3** and **Figure 4-5** for the results of the survey. Lead concentrations below 0.06% in residential and 0.3% in commercial paint are considered “lead safe”; concentrations above these percentages are considered “lead hazardous”

Quarters B was also surveyed for LBP on November 3, 1995. A total of 170 interior locations and 13 exterior locations were tested for LBP. Locations included walls, ceilings, window frames and sills, door frames and jambs, radiators, closet doors, shelves, and exterior painted surfaces (Malcolm Pirnie 2005). Of the 163 sample locations, 78 locations were characterized as “lead safe” with 82 locations deemed “lead hazardous” (Malcolm Pirnie 2005). The results of the survey are summarized in **Table 4-3** and **Figure 4-5**. In addition, the survey of both Quarters A and B indicate that the exterior wall and window paint was in poor condition during the survey and tested positive for lead (Malcolm Pirnie 2005).

4.11 Radon

Indoor radon concentrations are regulated under TSCA Title III (Indoor Radon Abatement), which was added on October 28, 1988 (Pub. L. 100-551). The purpose of this legislation is to assist states in responding to the threat to human health posed by exposure to radon. The USEPA is required to publish an updated citizen’s guide to radon health risk and to perform studies of the radon levels in schools and radon contamination in federal buildings.

According to the USEPA, Newport County has an average indoor screening level between 2 and 4 picocuries per liter (pCi/L); meaning there is a moderate potential for indoor radon within the area (USEPA 2009). No records of radon sampling at Buildings 45, 62, 993, or Pier 71 were available (Malcolm Pirnie 2005). In 1996, a radon survey was conducted in a group of housing units, including Quarters A and B, with the maximum radon concentration of 2.6 pCi/L, which is below the USEPA radon action level of 4 pCi/L. Radon testing was also conducted in Building 1 during 1991, 1992, February 1994, and July 1995 (Malcolm Pirnie 2005). These radon surveys resulted in several detections above the USEPA action level (**Figure 4-6**). These detections included radon detectors to the right and left of the Exam Room, at levels of 7.9 and 8.6 pCi/L, and at detectors in the Military Sick Call Rooms with levels measuring 6.9, 6.8, and 7.3 pCi/L. Radon mitigation has not been performed at Building 1 (Malcolm Pirnie 2005).

4.12 Air Quality

Air emissions at the NAVSTA Newport are regulated under the Clean Air Act (CAA).



There are no known air emissions sources at the Former Naval Hospital Complex. Heat was supplied to the buildings by steam generated at Building A-6 (which is not located within the Former Naval Hospital Complex area) (Malcolm Pirnie 2005).

4.13 Water Quality

4.13.1 Drinking Water

The Safe Drinking Water Act (SDWA) of 1974, amended in 1986 and 1996, was passed to protect public health by regulating the nation's public drinking water supply and its sources including rivers, lakes, reservoirs, springs, and groundwater. Drinking water for the installation is provided by the City of Newport. Prior to the water entering the installation it is treated at two separate water treatment plants owned by the City of Newport: Lawton Valley Water Treatment plant and Station #1 Water Treatment plant (Navy 2009, Woodard & Curran 2004). According to the 2004 *Water System Vulnerability Assessment*, the two treatment plants provide approximately 1,011,000 gallons per day to the installation, operating under the Rhode Island public water system identification number 1000016 (Dorocz 2009, Woodard & Curran 2004). Testing at the two treatment plants is conducted daily, weekly, monthly, quarterly, and yearly (Navy 2009). Additionally, chlorination stations are located throughout the installation, in order to feed sodium hypochlorite solution to raise the chlorine residual and meet water quality standards for coliform. This is done as a result of the low chlorine residual after leaving the City of Newport (Woodard & Curran 2004). The 2004 *Water System Vulnerability Assessment* stated that NAVSTA Newport experienced four coliform violations between January of 1996 and December 1998; no recent violations are known to have occurred (Woodard & Curran 2004).

4.13.2 Groundwater

Currently, there are no known groundwater wells at the Former Naval Hospital Complex; therefore, there is no site specific information on the groundwater (Malcolm Pirnie 2005).

Groundwater within NAVSTA Newport is relatively shallow due to the proximity to sea level. Any wells that are developed may have salt intrusion. Deeper artesian wells capture water that is trapped between bedrock and is replenished where the aquifer is near or at surface level. Groundwater in the vicinity of the Former Naval Hospital Complex is classified by the Rhode Island Department of Environmental Management (RIDEM) as "GB: groundwater not suitable for drinking water use without treatment due to known or presumed degradation" (RIDEM 2004, Malcolm Pirnie 2005).

4.13.3 Stormwater

The Water Pollution Control Act Amendments of 1972, commonly known as the Clean Water Act (CWA), uses a variety of regulatory and non-regulatory tools to reduce pollutant discharges into waterways and to manage polluted runoff. Under the CWA, a National Pollutant Discharge Elimination System (NPDES) permit is required for facilities discharging stormwater associated with industrial activities.

According to the 2003 *Final Industrial Stormwater Pollution Prevention Plan (SWPPP) Naval Station Newport, Newport, Rhode Island*, NAVSTA Newport is considered to be engaged in "industrial activity" by the Rhode Island Department of Environmental Management (RIDEM),



Office of Water Resources (OWR). These activities include: landfills/open dumps receiving industrial waste; recycling of materials; transportation facilities; and light industry (GZA 2003). These operations meet the eligibility requirements for a Rhode Island Pollutant Discharge Elimination System (RIDES) General permit. The former Naval Hospital Complex falls under the station's general permit. In addition, the floor drains and shower rooms in Building 1 are suspected to discharge into the stormwater system (Malcolm Pirnie 2005). Quarters A and B contain sump pumps in the basements. The pumps are suspected to discharge to the ground surface outside of the buildings (Malcolm Pirnie 2005). Although Buildings 1 and 993 were listed as possessing outside storage prior to 2003, none of the buildings at the Former Naval Hospital Complex or Pier 71 are identified within the current SWPPP as a potential source of pollutants (GZA 2003). The stormwater distribution system for the Former Naval Hospital Complex is shown in **Figure 4-7**.

4.13.4 Surface Water

The 6.8 acres of submerged land is located on Narragansett Bay on the western side of the Former Hospital Complex property (refer to **Figure 3-1**). Narragansett Bay is a saltwater estuary, covering approximately 147 square miles in Rhode Island and parts of Massachusetts (NBEP 2009). All surface waters within the State of Rhode Island are classified by RIDEM based on considerations of public health, recreation, propagation and protection of fish, shellfish and wildlife, and economic and social benefit. The Former Naval Hospital's 6.8 submerged acres are classified as Class SB1: marine waters designated for primary and secondary contact recreational activities; fish and wildlife habitat; and good aesthetic value (Louis Berger 2001).

There are no freshwater surface water bodies within the boundaries of the Former Naval Hospital Complex.

4.13.5 Wastewater

According to the 2005 *Final Environmental Baseline Survey for Transfer Naval Hospital Newport, Newport, Rhode Island*, wastewater from NAVSTA Newport discharges to the Newport Water Pollution Control Plant, a secondary treatment facility using traditional activated sludge and chlorination. No leach fields are known to have existed at the Former Naval Hospital Complex (Malcolm Pirnie 2005). The wastewater distribution system is shown in **Figure 4-8**.

4.14 Natural Resources

4.14.1 Floodplains

Based on Federal Emergency Management Agency (FEMA) data, portions of the Former Naval Hospital Complex lie within a designated 100-year flood area. According to the 2001 *Integrated Natural Resources Management Plan* (INRMP), NAVSTA Newport contains over ten miles of waterfront on the western shore of Aquidneck Island, where low-lying natural resources at the installation are especially vulnerable to flood damage from waves with velocity (NFEC 2001). The INRMP states that flooding may be expected to inundate areas up to elevation 13 National Geodetic Vertical Datum (NGVD), eastward beyond the NAVSTA Newport property line to publically-owned Connell Highway, although some areas would remain unflooded along Third Street north of Gate 10. This area of inundation would include portions of the Former Naval Hospital Complex during a 100-year flood (**Figure 4-9**).



4.14.2 Wetlands and Aquatic Habitats (Special Aquatic Sites)

According to facility personnel, there are no known wetlands at the Former Naval Hospital Complex (Kam 2009, Malcolm Pirnie 2005). However, according to the 2001 INRMP, eelgrass (*Zostera marina*) and widgeon grass (*Ruppia maritima*) have been observed in areas offshore, including the shallow areas west of the Former Naval Hospital Complex. Eelgrass provides an important habitat for many species of fish within the Narragansett Bay, as a source of food and protection. This special aquatic habitat is a valuable habitat that has recently gained a restoration initiative supported by the State of Rhode Island, federal agencies and nonprofit groups (Louis Berger 2001). Refer to **Figure 4-10** for the location of the wetlands.

4.14.3 Coastal Zone Areas

The Federal Coastal Zone Management Act (CZMA) (16 USC 1451-1464) encourages states to take a leading role in the management of their coastal regions. With state participation in the federal coastal zone management program, Section 307 of the CZMA requires that various federal activities which are reasonably likely to affect any land or water use, or natural resource of the coastal zone, be consistent with a state's approved coastal zone management program (CRMC 2009). In 1978, the State of Rhode Island adopted the Rhode Island Coastal Resources Management Program (RICRMP) into the federal coastal management program established by the CZMA. The agency responsible for overseeing implementation of the RICRMP generally, and federal consistency in particular, is the Rhode Island Coastal Resources Management Council (CRMC) (CRMC 2009).

The extent of Rhode Island's coastal zone boundary is to the three mile offshore limit. The CRMC's jurisdiction includes all tidal waters within state jurisdiction, while the inland extent of Rhode Island's coastal zone boundary is a tiered system which is dependent on the type and location of an activity. Policies and standards governing activities within these three tiers are contained in the RICMP and the CRMC's Special Area Management Plans (CRMC 2009).

The first tier of Rhode Island's coastal zone generally extends 200 feet inland of a coastal feature. Within this area the CRMC has authority over any development activity, including maintenance. The second tier extends inland to include Rhode Island's 21 coastal communities. Within this second tier, all federal (as well as state) activities must be consistent with the RICMP. The final tier of the CRMC jurisdiction encompasses the entire state for certain activities which the state has predetermined may affect coastal resources or uses regardless of location within the state. These activities include: energy generation, transfer processing, or storage; chemical processing; minerals extraction; sewage treatment and disposal; and solid waste disposal (CRMC 2009).

The Former Naval Hospital Complex falls within the first two tiers of the Rhode Island's coastal zone boundary inland extent, in addition to the CRMC's jurisdiction over the 6.8 submerged acres.

4.14.4 Coral Reefs

The Former Naval Hospital Complex property does not have any coral reef habitat; therefore, coral reef protection issues are not applicable (Kam 2009).



4.14.5 Fisheries

The Magnuson-Stevens Fishery Conservation and Management Act requires all federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions or proposed actions, permitted, funded or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). EFH is defined as, “those waters and substrate necessary for fish for spawning, breeding feeding or growth to maturity.” “Waters” include aquatic areas and their associated physical, chemical and biological properties. According to the 2001 INRMP, the only EFH within the NAVSTA Newport vicinity are the recently designated eelgrass beds that are a key EFH for summer flounder (*Paralichthys dentatus*) (Louis Berger 2001). As stated in **Section 4.14.2**, there are known eelgrass beds within the shallow areas to the west of the Former Naval Hospital Complex. It is not currently known if these eelgrass beds are within the Former Naval Hospital’s 6.8 submerged acres.

4.14.6 Marine Mammal

Harbor seals (*Phoca vitulina*) and harbor porpoises (*Phocoena phocoena*) may be seen in Narragansett Bay offshore of NAVSTA Newport. According to the 2001 INRMP, a pair of harbor seals has been observed during the winter months in Coddington Cove, north of the Former Naval Hospital Complex (Louis Berger 2001). No other marine mammals are known to occur within the Former Naval Hospital complex area.

4.14.7 Threatened, Endangered, and Other Sensitive Species

There are no known federal or state threatened, endangered, or other sensitive species identified at the Former Naval Hospital Complex (Kam 2009, Louis Berger 2001). However, according to the 2001 INRMP, several federally listed endangered or threatened species may be present in the waters off the Former Naval Hospital Complex, in Narragansett Bay. These species include the threatened loggerhead turtle (*Caretta caretta*), the endangered green turtle (*Chelonia mydas*), and Kemp’s Ridley turtle (*Lepidochelys kempii*) (Louis Berger 2001).

4.14.8 Geological Hazards

According to the United States Geological Survey (USGS), only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883 (USGS 2009). No other earthquakes have been recorded within the State of Rhode Island. The Former Naval Hospital Complex area is located within an earthquake zone where, in a 50 year period, there is only a 2% chance of an earthquake occurring with peak acceleration (ground movement) of 8 to 10% acceleration due to gravity (%g). It takes a peak acceleration of 10%g to cause damage to buildings; therefore, there is minimal risk of an earthquake that would cause damage in the Former Naval Hospital Complex area (USGS 2009).

According to facility personnel (Mueller 2009b), soils on Aquidneck Island, including Naval Station Newport, have levels of naturally-occurring arsenic that exceed the State of Rhode Island’s standards for Industrial/Commercial property.

See **Section 4.14.1** for information on flood hazards.



4.15 Cultural Resources

Cultural resources at the Former Naval Hospital Complex are federally regulated under the National Historic Preservation Act, Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act.

4.15.1 Historic Resources

In 1995, a cultural resources survey of the NAVSTA Newport was conducted. The survey included historical research, a Phase IA archaeological investigation, and an inventory and assessment of the buildings and structures of NAVSTA Newport in regard to their eligibility for listing in the National Register of Historic Places (NRHP) (U.S. Naval Complex 1998). The survey concluded that three areas within NAVSTA Newport property meet National Register Criteria as historic districts, including the Naval Hospital Historic District (Navy 2007, U.S. Naval Complex 1998). According to the 2007 *Draft Integrated Cultural Resources Management Plan* (ICRMP), the Naval Hospital Historic District is comprised of ten buildings defined as contributing buildings and six noncontributing buildings; however, this only includes four of the buildings included as part of the BRAC transfer or the Naval Hospital Complex described in this ECP Report (**Figure 4-11**) (Navy 2007). The designation of the Former Naval Hospital Complex as a Historic District results from largely intact permanent buildings, representing, as a whole, the unified plan adopted by the U.S. Navy for hospital construction just prior to World War I; furthermore, representing the theme of architecture and engineering of twentieth-century military buildings (Navy 2007). **Table 4-4** provides the building survey information for the four buildings located at the Former Naval Hospital Complex that are included within the Naval Hospital Historic District.

4.15.2 Archaeological Resources

A cultural resources survey of NAVSTA Newport was conducted between 1996 and 1998, including a Phase IA archeological investigation to assess the potential for prehistoric and/or historic archaeological resources. According to the 2007 ICRMP, the historical research and archeological reconnaissance undertaken during the 1996-1998 cultural resources survey concluded that extensive ground disturbance over large portions of NAVSTA Newport has limited the potential for preservation of archeological sites in many areas of the installation (Navy 2007). Further, the survey resulted that there are no large archeological sites within the boundaries of NAVSTA Newport; however, a number of local areas within the installation were determined to be archeologically sensitive. None of the sensitive areas identified include the Former Naval Hospital Complex or surrounding area (Navy 2007).

Under the provisions of the Department of the Navy's Environmental and Natural Resources Program Manual (OPNAVINST 5090.1B), NAVSTA Newport developed a Historic and Archaeological Resources Protection (HARP) Plan for the identification, protection, and management of significant cultural resources on the installation (Louis Berger 2000). During the development of the HARP, several locations were considered to have a strong potential to contain prehistoric or historic period archaeological resources. One of the areas described are the waters of Narragansett Bay offshore of NAVSTA Newport, known to contain a wide range of submerged archaeological resources (Louis Berger 2000). According to the HARP, the highlighted areas offshore include three locations within Coddington Cove, to the north of the



Former Naval Hospital Complex; however, dredging and other actions in other waters offshore of the installation have reduced the potential for significant submerged archaeological resources to exist in those areas. The HARP concludes that there is no documentary evidence of historic shipwrecks or other potentially significant submerged resources within Coasters Harbor or the vicinity of the Former Naval Hospital Complex (Louis Berger 2000).

4.15.3 Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act is not applicable because no known Native American graves have been identified on the installation (Navy 2007, Kam 2009).

4.16 Solid Waste

According to facility personnel (Moore 2009b), solid waste at NAVSTA Newport was disposed of at an on-site landfill (not located within the BRAC transfer area that includes the Naval Hospital Complex). Sometime in the 1980's, solid waste was no longer disposed of on-site, but was picked up by station personnel and disposed of at a transfer station in Newport. Since 1995 or 1996, a contractor collects and disposes of solid waste.

4.17 Universal Wastes

Federal universal wastes are set forth in 40 CFR Part 273 and include batteries, pesticides, thermostats, and lamps. States can modify the universal waste rule and add additional universal waste in individual state regulations.

According to the facility personnel, all universal waste generated at NAVSTA Newport, including the Former Naval Hospital Complex, is collected and recycled by the NAVSTA Newport Environmental Department (Rielly 2009c, Malcolm Pirnie 2005).

4.18 Medical Wastes

Currently there are no medical wastes generated, stored, or disposed of at the Former Naval Hospital Complex (Malcolm Pirnie 2005). Prior to the closing of the hospital in 1993, Building 1 was the only building within the Former Naval Hospital Complex to generate medical waste. According to the 2005 *Final Environmental Baseline Survey for Transfer Naval Hospital Newport, Newport, Rhode Island* and NAVSTA Newport environmental staff, an incinerator was utilized in the disposal of medical waste, and was located adjacent to Building A-33 (not within the BRAC transfer that includes the Naval Hospital Complex) (see **Figure 4-12**). The incinerator was removed in 1998, and an outside service was contracted to collect the medical waste from Building 1 twice per week for disposal at an off-site permitted facility (Rielly 2009c, Malcolm Pirnie 2005).

Buildings 45, 62, 993, Quarters A and B, and Pier 71 did not generate or store any medical waste.



4.19 Hazardous Materials

Known hazardous materials stored in the chemical storage room of the Former Naval Hospital's Building 1 included 5-gallon containers of alcohol, xylene, formalin, and AmeriClear (histology clearing solvent). Flammables were stored in cabinets that acted as secondary containment, while hazardous materials stored on the floor of the chemical storage room were not contained within secondary storage in the event of a spill (Malcolm Pirnie 2005). According to the 2005 *Final Environmental Baseline Survey for Transfer Naval Hospital Newport, Newport, Rhode Island*, a utility closet in Building 62 was observed to contain household chemicals including small (less than 0.5 gallons) bottles of Ajax, all purpose detergent, scouring powder, ink, and furniture polish. A Material Safety Data Sheets (MSDS) book was also observed within Building 62, indicating additional household chemicals such as metal polish, furniture polish, paint, general purpose detergent, an ink stamp pad, antiseptic towelettes, silver polish, Pledge furniture polish, and multi-surface cleaner (Malcolm Pirnie 2005). **Figure 4-13** provides the locations of the hazardous materials storage areas.

No documentation of environmental concerns related to hazardous materials was observed for Building 45, Building 993, Quarters A and B, or Pier 71; however, it is suspected that household cleaning supplies were stored in Building 45 and Quarters A and B during their occupancy and use (Malcolm Pirnie 2005).

4.20 Summary of Environmental Conditions

Environmental conditions at the Former Naval Hospital Complex consist of the following:

- Presence of LBP in Building 1 and Quarters A and B;
- Due to the age of the buildings within the Former Naval Hospital Complex, it is likely that lead paint exists in the other buildings (7, 45, 993, 62, and 63);
- Presence of ACM in Building 1 and Quarters A and B;
- Presence of radon above 4 pCi/L in Building 1;
- Stormwater drains discharge directly into Narragansett Bay, and floor drains of Building 1 suspected to discharge into stormwater sewer and Narragansett Bay;
- Designated EFH eelgrass beds may be present within the 6.8 submerged acres;
- Portions of the Former Naval Hospital Complex are within the 100-year flood boundary; and
- Presence of six buildings documented as contributing to the Naval Hospital Historic District.

A summary of existing environmental conditions at the Former Naval Hospital Complex is presented in **Figure 4-14**.



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5.0 Certification

I certify that the Environmental Conditions of Property Report for the Former Naval Hospital complex at Naval Station Newport, Newport, Rhode Island, November 2009 and its enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained within the Environmental Conditions of Property Report for the Former Naval Hospital complex at Naval Station Newport, Newport, Rhode Island, November 2009 and its enclosures is, to the best of my knowledge and belief, true, accurate and complete and accurately reflects the property's condition as of November 2009 based upon my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information.


Name

DAVID DEARD
Signature

11-5-09
Date



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TABLES



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Table 4-1. Aboveground Storage Tanks

TANK #	SIZE (GALLONS)	CONTENTS	SECONDARY CONTAINMENT	LEAK DETECTION	DATE INSTALLED	DATE CLOSED
301	2500	Diesel	Concrete Containment Area	Monitoring / Leak Detection System and Overfill Protection	April 25, 1995	September 18, 1998
308	275	Diesel	None	Monitoring / Leak Detection System	April 25, 1995	September 18, 1998

Source: Malcolm Pirnie 2005



Table 4-2. Transformers

TRF #	Serial #	Location	MFG	K.V.A.
T064	87V9360	SOUTH EAST OF OLD CHAPEL	VANTRAN	45
T148	77L605295	VAULT #30 NAV. HOSP.	WEST	225
T149	L162012T73AA	BLDG. 1 REAR NAV. HOSP.	G.E.	150
T151	X78432	V-27 NH	SORGEL	500
T152	S390002	VAULT #27 NAV. HOSP.	PORTER DELTA	300
T160	M5959247CRA	BLDG.1 N.H. N.SIDE MHE 19	G.E.	500
T351	84JB130041	NORTH SIDE OF BLDG 1	WEST	300
T718	DF12313078	NORTH END OF BLDG 993	A.P.S.	750
T929	380116491	VAULT 27	COOPER	15
T930	9938059188	VAULT 27	COOPER	15
T931	380116481	VAULT 27	COOPER	15

Source: Malcolm Pirnie 2005



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
1	2/23/1995	Central Sterilization Room fire exit	Wall/Floor	0.039	No		
	2/23/1995	Central Sterilization Room	Wall	0.15	Yes		
	3/14/1995	Room 1204	Wall	0.027	No		
	3/14/1995	Room 1225	Wall	2.31	Yes		
	3/14/1995	Room 2508	Ceiling	0.013	No		
	7/20/1995	X-ray Storage, 2nd Floor	Window Sill	0.12	Yes		
	7/20/1995	X-ray Storage, 2nd Floor	Wall	15.3	Yes		
	8/10/1995	Internal Medicine, Utility Room	Wall	24.3	Yes		
	8/10/1995	Internal Medicine, Men's Head	Wall	22.2	Yes		
	1/24/1996	Physical Therapy, 1st Floor	Radiator	0.35%	Yes		
	8/20/1996	Entrance to Building 1	Pillars	16.10%	Yes		
	8/21/1994	Exterior Roof Soffit East Side		9.03%	Yes		
	7/31/1992	Store Room Outside URGAC		0.06%	Yes		
	12/14/1993	Room 3004		0.56%	Yes		
	12/14/1993	Room 3008		0.02%			
	12/14/1993	Room 3010		0.11%	Yes		
	12/14/1995	Room 3019		0.31%	Yes		
	12/14/1993	Room 3020		0.14%	Yes		
12/14/1993	Room 3011		22.89%	Yes			
12/14/1993	Room 3018		0.19%	Yes			
45	2/1/1994	Naval Hospital-Secretary Office	Interior Walls	0.02%			
62	4/11/1996	Naval Hospital (chapel)	Door Trim	0.03%			
	4/11/1996	Naval Hospital (chapel)	Rear Toilet Room	0.10%	Yes		
	12/4/2000	Chapel	Exterior Siding	21.42%	Yes		
	12/4/2000	Chapel	Exterior Side Front Door	19.14%			
	12/4/2000	Chapel	Interior Pews	0.52%	Yes		



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
	12/4/2000	Chapel	Ceiling over Alter	0.16%	Yes		
	12/4/2000	Chapel	Interior Trim	0.52%	Yes		
	12/4/2000	Chapel	Ceiling over Choir	0.15%	Yes		
Quarters A	11/3/1995	1	Threshold	400 ug/ft2			
			Door, Glass			1.1	N
			Door Jamb-Casing, Glass			0.7	N
			Exterior Door			0.4	N
			Exterior Door Casing-Jamb			3.5	Y
			Window Sill			0.8	N
			Window Casing			0.4	N
			Window Sash			0.4	Y
			Ceiling			2.7	N
			Radiator			0.1	N
			Walls			0.1	N
			Chair Rail			0	N
			Baseboards			0.7	Y
Quarters A	11/3/1995	Exterior	Side 1, Left Corner	6.471%			
			Siding			2.9	Y
			Door, Side 1			0.4	N
			Door Jamb-Casing, Side 1			75	Y
			Door, Side 3			0	N
			Door Jamb-Casing, Side 3			0	N
			Threshold			0	N
			Window Sill, Side 1			1.5	Y
			Window Sill, Side 2			1.9	Y
			Window Casing, Side 2			75	Y
			Window Casing, Side 3			3.6	Y
			Window Sash			4.7	Y



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Column			2.7	Y
Quarters A	11/3/1995	2	Upper Walls			0	N
			Baseboard			0	N
			Door Jamb-Casing			3.9	N
			Window Sill/Apron			0.7	N
			Window Casing			0.1	N
			Window Sash			75	Y
			Window Well			Assume Pos.	Y
			Exterior Side Sashes			Assume Pos.	Y
			Radiator Cover			0	N
			Ceiling			0	N
Quarters A	11/3/1995	3	Upper Walls			0.1	N
			Exterior Door			0	N
			Door			75	Y
			Door Jamb-Casing			75	N
			Window Sill/Apron			1.1	Y
			Window Casing			75	Y
			Window Sash			3.8	Y
			Exterior Side Sashes			75	Y
			Radiators			2.6	Y
			Ceiling			3.1	N
			Cabinets			0.3	N
Quarters A	11/3/1995	4-KITCHEN	Floor	33 ug/ft2			
			Upper Walls			0	N
			Door			75	N
			Door Casing			75	Y
			Door Jamb			75	Y



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Exterior Door			75	Y
			Exterior Door Jamb-Casing			75	Y
			Ceiling			0	N
			Thresholds			0	N
			Radiators			2	Y
Quarters A	11/3/1995	5	Upper Walls			0	N
			Baseboard			0.8	N
			Door Jamb-Casing			75	N
			Window Sill/Apron			2.4	N
			Window Casing			0	N
			Window Sash			2.8	Y
			Window Well			Assume Pos.	Y
			Exterior Side Sashes			Assume Pos.	Y
			Radiator Cover			0	N
			Mantle			75	N
Quarters A	11/3/1995	7	Upper Walls			0	N
			Lower Walls			0.3	N
			Baseboard			0	N
			Door Jamb-Casing			75	Y
			Door			4.6	N
			Window Sill/Apron			0.4	N
			Window Casing			0.2	N
			Window Sash			Assume Pos.	Y
			Window Well			Assume Pos.	Y
			Closet Door-Interior			Assume Pos.	Y



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Radiators			0.7	Y
			Ceiling			0.1	N
Quarters A	11/3/1995	8	Upper Walls			0	N
			Baseboard			0.5	N
			Door			0	N
			Door Jamb-Casing			2.7	N
			Window Sill/Apron			0.3	N
			Window Casing			2.8	N
			Closet Walls			3.8	N
			Closet Door-Interior			75	N
			Closet Casing-Jamb			75	N
			Closet Shelves			0.4	N
			Radiators			2.5	N
			Ceiling			0.2	N
Quarters A	11/3/1995	9	Upper Walls			0.1	N
			Lower Walls			75	N
			Baseboard			75	N
			Door			75	Y
			Door Jamb-Casing			75	Y
			Window Sill/Apron			2.7	Y
			Window Casing			2.1	N
			Window Sash			2	Y
			Window Well	2608 ug/ft2		75	Y
			Exterior Side Sashes			75	Y
			Closet Walls			0.2	N
			Closet Door-Interior			0.1	N
			Closet Shelves			0	N
			Closet Floor			0.1	N



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
Quarters A	11/3/1995	10	Ceiling			75	N
			Upper Walls			0	N
			Baseboard			4.7	N
			Door			75	N
			Door Jamb-Casing			75	N
			Window Sill/Apron	236 ug/ft2		2.8	Y
			Window Casing			75	Y
			Window Sash/			75	Y
			Window Well			75	Y
			Exterior Side Sashes			75	Y
			Closet Walls			0.8	N
			Closet Door-Interior			75	N
			Closet Casing-Jamb			75	N
			Closet Baseboards			75	N
			Closet Shelves			75	N
Radiators			1.8	N			
Ceiling			0.1	N			
Shelf			0	N			
Quarters A	11/3/1995	11	Upper Walls			0.7	N
			Baseboard			2.1	Y
			Door			1.9	Y
			Door Jamb-Casing			4.2	Y
			Window Sill/Apron			2.1	N
			Window Casing			3.8	N
			Window Sash			75	Y
			Window Well			75	Y
			Exterior Side Sashes			75	Y
			Closet Walls			1.2	N
Closet Door-Interior			75	N			



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Closet Casing-Jamb			75	N
			Closet Shelves			75	N
			Radiators			2.1	N
			Ceiling			0.1	N
Quarters A	11/3/1995	Staircase First to Second Floor	Upper Walls			0	N
			Risers			75	N
			Railing Cap			0.3	N
			Balusters			75	N
			Newel Posts			75	N
			Stringer			75	N
			Ceiling			0.1	N
Quarters A	11/3/1995	Staircase Second to Third Floor	Upper Walls			0.1	N
			Treads			0.1	N
			Risers			0.2	N
			Railing Cap			3.8	N
			Balusters			75	N
			Ceiling			0.1	N
Quarters A	11/3/1995	12	Floor	69 ug/ft2			
			Upper Walls			1.3	N
			Baseboard			4	N
			Door			1.6	Y
			Door Jamb-Casing			1.1	Y
			Thresholds			0.2	N
			Ceiling			0.1	N
Quarters A	11/3/1995	13	3rd Floor	18.260%			
			Upper Walls			2.4	N
			Baseboard			3.1	N
			Door			1.5	N
			Door Jamb-Casing			2.3	N



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Window Sill/Apron			1.1	Y
			Window Casing			75	N
			Window Sash			2	Y
			Window Well			75	Y
			Exterior Side Sashes			75	Y
			Radiators			1.7	N
			Ceiling			0.5	N
Quarters A	11/3/1995	14	Upper Walls			0	N
			Lower Walls			0.1	N
			Door			2.7	Y
			Door Jamb-Casing			4.8	Y
			Window Sill/Apron			0.8	Y
			Window Casing			3.1	Y
			Window Sash			75	Y
			Window Well			Assume Pos.	Y
			Exterior Side Sashes			Assume Pos.	Y
			Radiators			0.4	N
			Ceiling			0.1	N
Quarters A	9/29/1994	Kitchen Pantry North Wall	Base Cabinets	0.013%			
Quarters A	5/9/1995	South Gable Wall	Wall	9.500%			
Quarters A	5/9/1995	Front Entrance	Trim	0.040%			
Quarters B	11/3/1995	1	Threshold	111 ug/ft2			
			Upper Walls			1.3	N
			Baseboard			0.6	N
			Exterior Door			0.4	N
			Window Sill/Apron			0.5	N



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Window Casing			0.5	N
			Window Sash			0.5	Y
			Window Well			Assume Pos.	Y
			Radiator Cover			0.1	N
			Ceiling			4.2	N
Quarters B	11/3/1995	2	Upper Walls			0	N
			Baseboard			2.9	Y
			Door Jamb-Casing			1.5	Y
			Window Sill/Apron			1	Y
			Window Casing			1.8	N
			Window Sash			75	Y
			Window Well			75	Y
			Exterior Side Sashes			75	Y
			Cabinets			75	Y
			Ceiling			0.4	N
			Mantle			4.4	N
Quarters B	11/3/1995	3	Upper Walls			0	N
			Baseboard			0.7	N
			Door Jamb-Casing			2.5	Y
			Door, Glass			1.8	Y
			Window Sill/Apron			1.7	Y
			Window Casing			2	Y
			Window Sash			4.2	Y
			Window Well			75	Y
			Exterior Side Sashes			75	Y
			Ceiling			0.7	N
Quarters B	11/3/1995	4-KITCHEN	Floor	10 ug/ft2			
			Upper Walls			0	N



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Door Jamb-Casing, Exterior			2.8	Y
			Door, Living Room			2	Y
			Window Casing			Assume Pos.	N
			Window Sill/Apron			Assume Pos.	N
			Window Sash			Assume Pos.	Y
			Ceiling			0.2	N
			Radiators			0.7	Y
Quarters B	11/3/1995	5	Floor	675 ug/ft2			
			Lower Walls			0	N
			Exterior Door			4	Y
			Door Jamb-Casing			1.4	Y
			Window Sill/Apron			2.9	Y
			Window Casing			3.6	Y
			Window Sash			4.4	Y
			Radiators			1.4	Y
			Ceiling			75	N
			Cabinets			0.1	N
Quarters B	11/3/1995	Staircase	Corner Board	19.17%			
			Upper Walls			0	N
			Wall Casing			0.4	N
			Treads			0.8	Y
			Risers			2.6	Y
			Railing Cap			0.7	N
			Balusters			2.7	Y
			Stringer	18.18%		2.7	Y
			Shelf			0.8	N
			Ceiling			0	N



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
Quarters B	11/3/1995	6	Upper Walls			0	N
			Baseboard			1.2	Y
			Door			2.9	Y
			Door Jamb-Casing			1.5	Y
			Ceiling			0.4	N
Quarters B	11/3/1995	7	Upper Walls			0	N
			Lower Walls			0.2	N
			Door			75	Y
			Door Jamb-Casing			1.1	Y
			Window Casing			3.6	Y
			Window Sash			1.4	Y
			Window Sill/Apron			0.9	Y
			Radiators			1.2	Y
Quarters B	11/3/1995	8	Upper Walls			0	N
			Baseboard			1.3	Y
			Door			75	Y
			Door Jamb-Casing			2.6	N
			Window Sill/Apron			1.1	N
			Window Casing			2.1	N
			Window Sash			2	Y
			Window Well			Assume Pos.	Y
			Exterior Side Sashes			Assume Pos.	Y
			Closet Walls			4.4	N
			Closet Door-Interior			75	N
Closet Casing-Jamb			75	N			
Closet Shelves			75	N			
Radiators			0.7	Y			



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Ceiling			0.1	N
			Cabinets			1.7	Y
Quarters B	11/3/1995	9	Window Wells	2384 ug/ft2			
			Upper Walls			0	N
			Baseboard			2.6	N
			Door			4.7	Y
			Door Jamb-Casing			4.7	Y
			Window Casing			2.1	N
			Window Sash			3.1	Y
			Window Sill/Apron			0.5	N
			Closet Walls			0	N
			Closet Door-Interior			75	N
			Closet Casing-Jamb			3.1	N
			Radiators			75	N
			Ceiling			0	N
			Cabinets			2.5	N
Quarters B	11/3/1995	10	Upper Walls			0.1	N
			Baseboard			1.2	Y
			Door			2.7	Y
			Door Jamb-Casing			4.6	N
			Window Sill/Apron	208 ug/ft2		1.1	Y
			Window Casing			1.7	N
			Window Sash			75	Y
			Window Well			75	Y
			Ceiling			0.1	N
Quarters B	11/3/1995	12	Upper Walls			0.8	N
			Baseboard			75	N
			Door			2.1	Y



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Door Jamb-Casing			2.3	Y
			Ceiling			0.4	N
Quarters B	11/3/1995	13	Upper Walls			1.8	N
			Baseboard			4.5	N
			Door			1.8	N
			Door Jamb-Casing			3.6	Y
			Window Sill/Apron			2.4	Y
			Window Casing			4.6	N
			Window Sash			75	Y
			Window Well			Assume Pos.	Y
			Exterior Side Sashes			Assume Pos.	Y
			Ceiling			0.4	N
Quarters B	11/3/1995	14	Upper Walls			0.2	N
			Door			3.5	Y
			Door Jamb-Casing			75	Y
			Window Sill/Apron			1.5	Y
			Window Casing			1.6	Y
			Window Sash			4.6	Y
			Window Well			Assume Pos.	Y
			Exterior Side Sashes			Assume Pos.	Y
			Radiators			0.5	Y
			Ceiling			0.3	N
Quarters B	11/3/1995	Exterior	Siding			75	Y
			Corner boards			3.1	Y
			Door			3.5	Y
			Door Jamb-Casing			75	Y



Table 4-3. Lead Based Paint

Building	Date	Room	Location	LAB		XRF	
				Results	LBP	Results (mg/cm ²)	Lead Hazard
			Threshold			0.4	Y
			Window Sill, Side 1			2.5	Y
			Window Casing, Side 1			75	Y
			Window Casing, Side 3			3.3	Y
			Window Sill, Side 4			4.3	Y
			Window Sash			75	Y
			Bulkhead			0	N
			Column			75	N

Source: Moore 2009c and Malcolm Pirnie 2005



Table 4-4. Survey Results of Naval Hospital Historic District

BUILDING #	DATE	ORIGINAL USE	USE STATUS	NATIONAL REGISTER STATUS	TREATMENT CATEGORY
1	1913	Main Hospital Building	Vacant	NRED-C	1
7	1918	Garage	Vacant	NRED-C	2
45	1942	Nurse's Home	Vacant	NRED-C	2
62	1947	Chapel	Vacant	NEA	Update Evaluation
68	1948	Detached Garage (Qtrs. A and B)	Vacant	NEA	Update Evaluation
A-B	1923	Officer's Quarters A and B	Vacant	NRED-C	2

Source: Navy 2007

NRED-C Contributing resource in National Register-eligible district under Criterion C

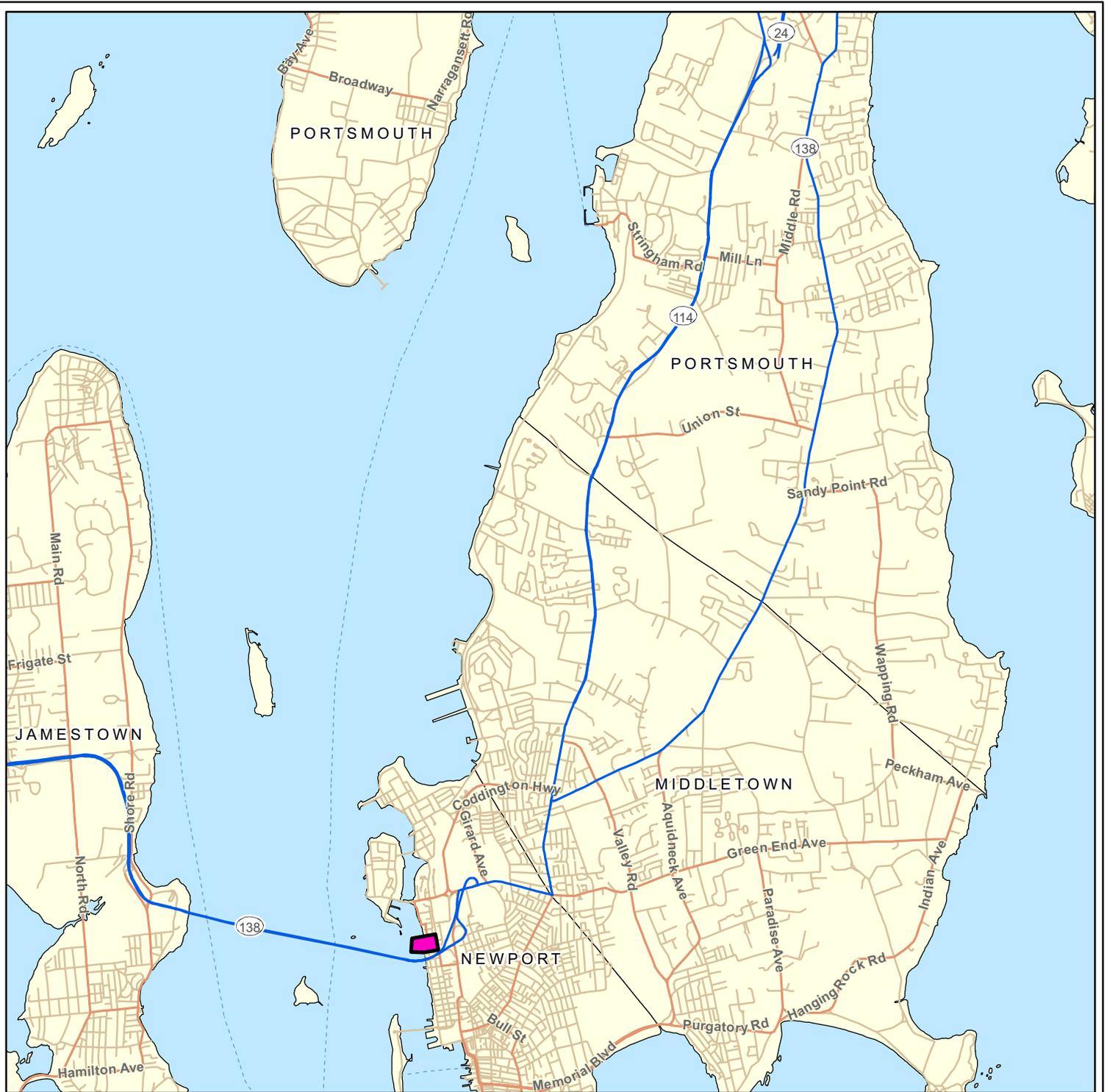
NEA Does not meet standards for exceptional importance; requires reevaluation upon reaching 50 years



FIGURES



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LEGEND

- Primary Highway
- Secondary Highway
- Local Road
- Ferry
- ECP Site Boundary



NOTES & SOURCES
 Coordinate System: NAD 83, UTM Zone 19
 Data Sources: ESRI.

Former Naval Hospital
 Complex
 Newport, RI

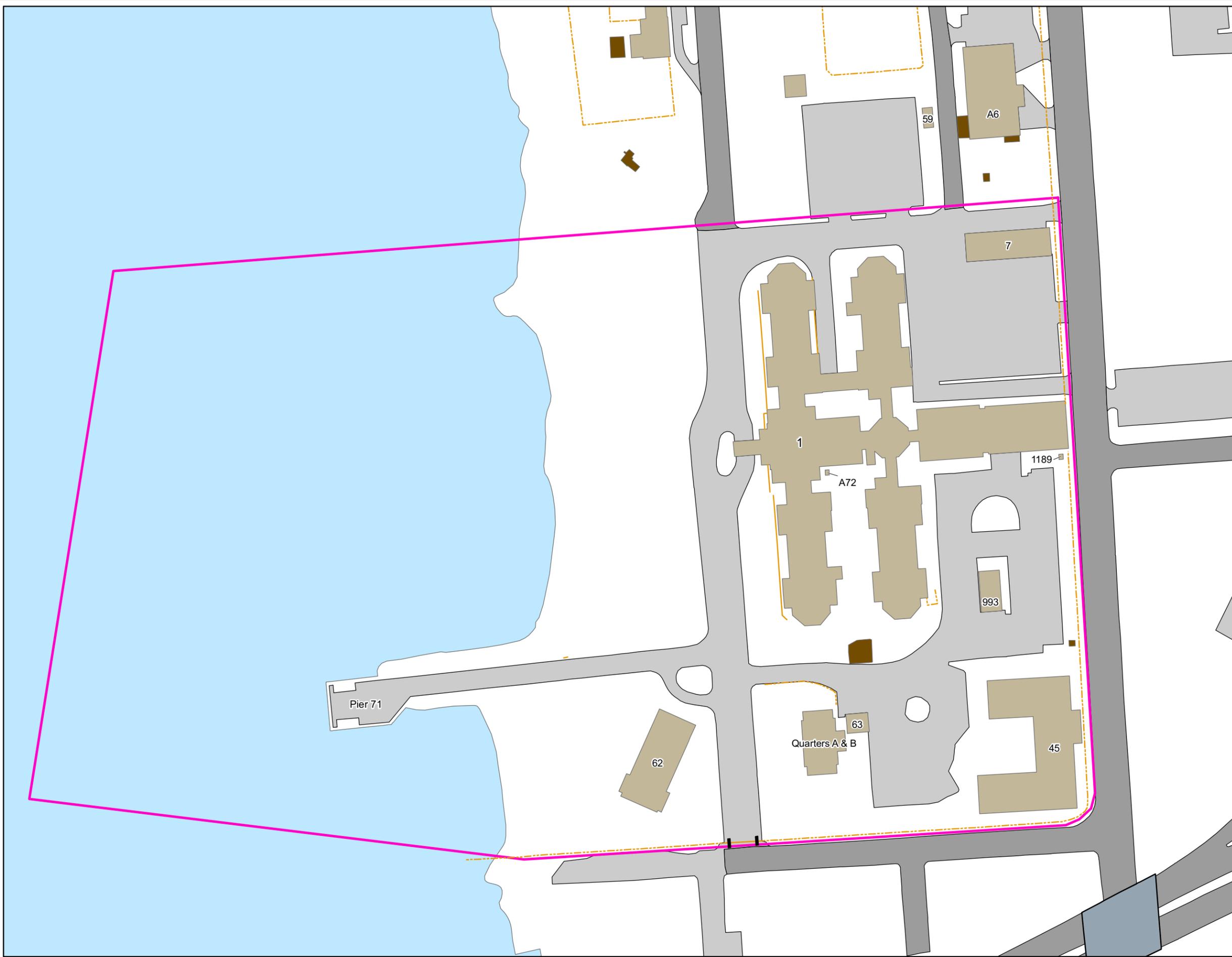
0 3,000 6,000 Feet

0 1,000 2,000 Meters

SITE LOCATION MAP

FIGURE
3-1

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 October 27, 2009 DWN: APC CHKD: AKN



TITLE

HOSPITAL LAYOUT

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

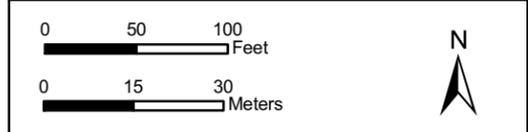
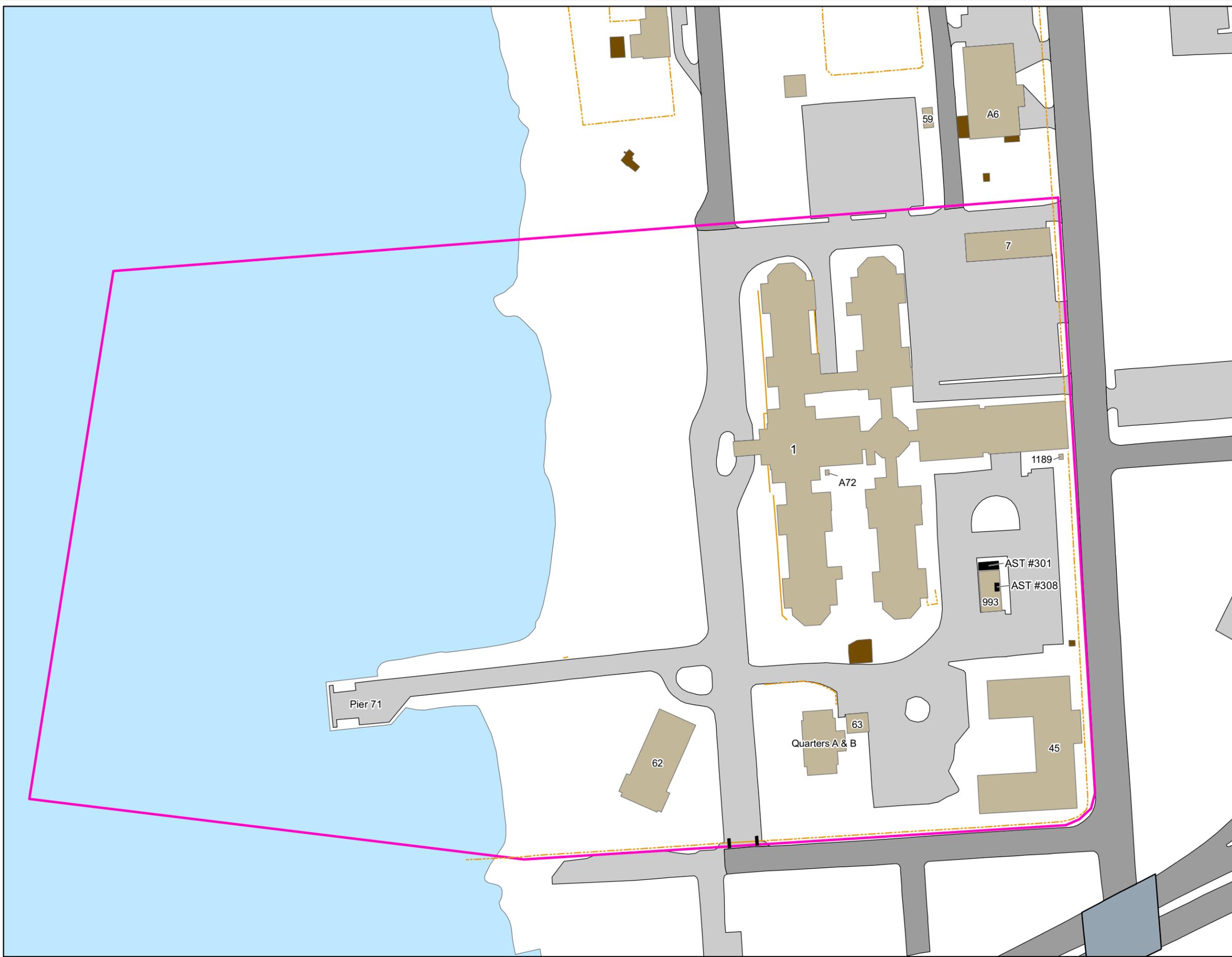


FIGURE
3-2



TITLE

ABOVE GROUND STORAGE TANKS

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Above Ground Storage Tank
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

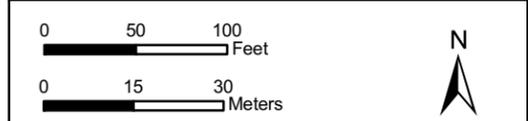
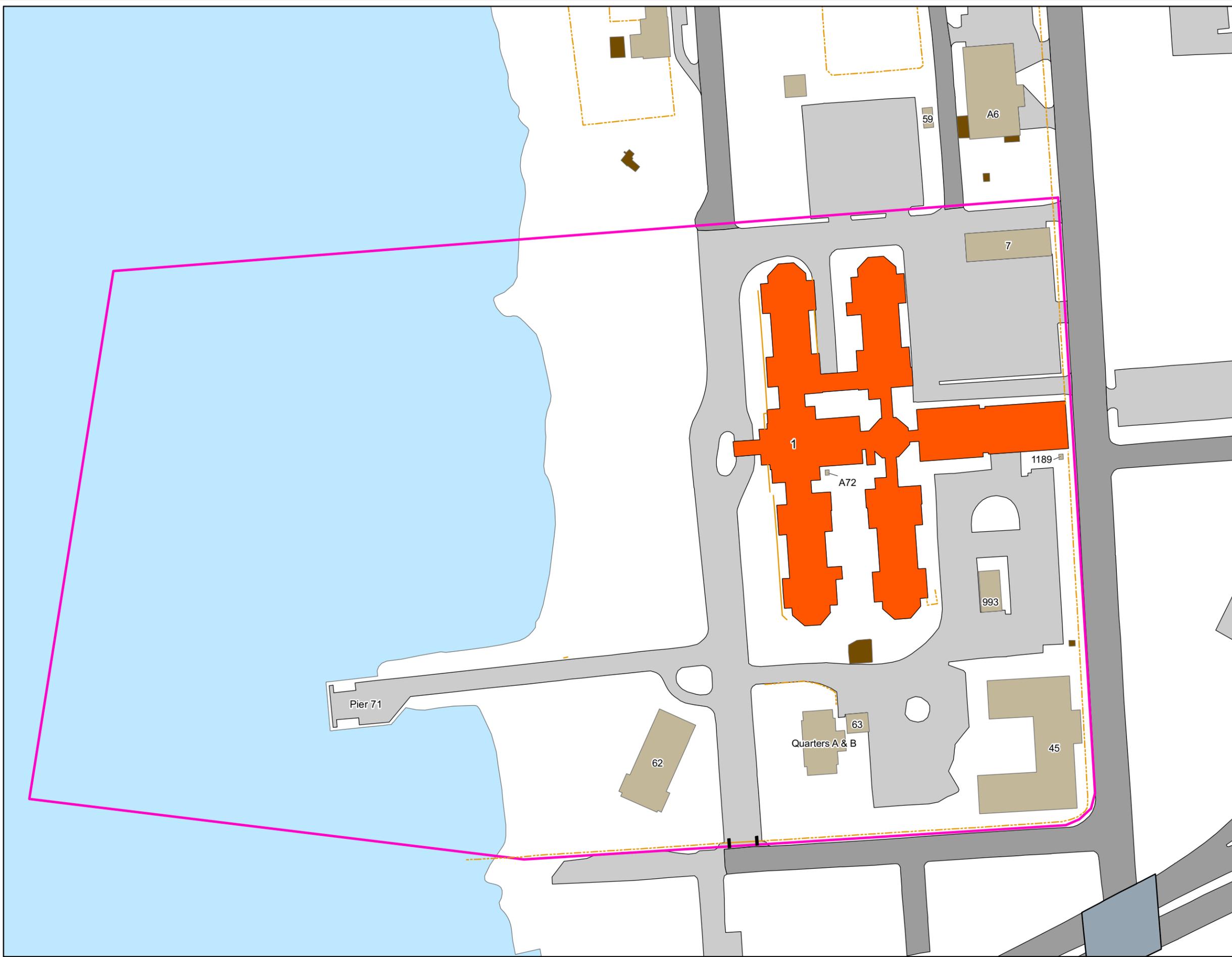


FIGURE
4-1



TITLE

HAZARDOUS WASTE STORAGE

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Hazardous Waste Storage
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

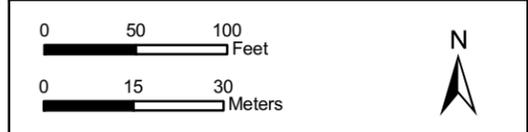
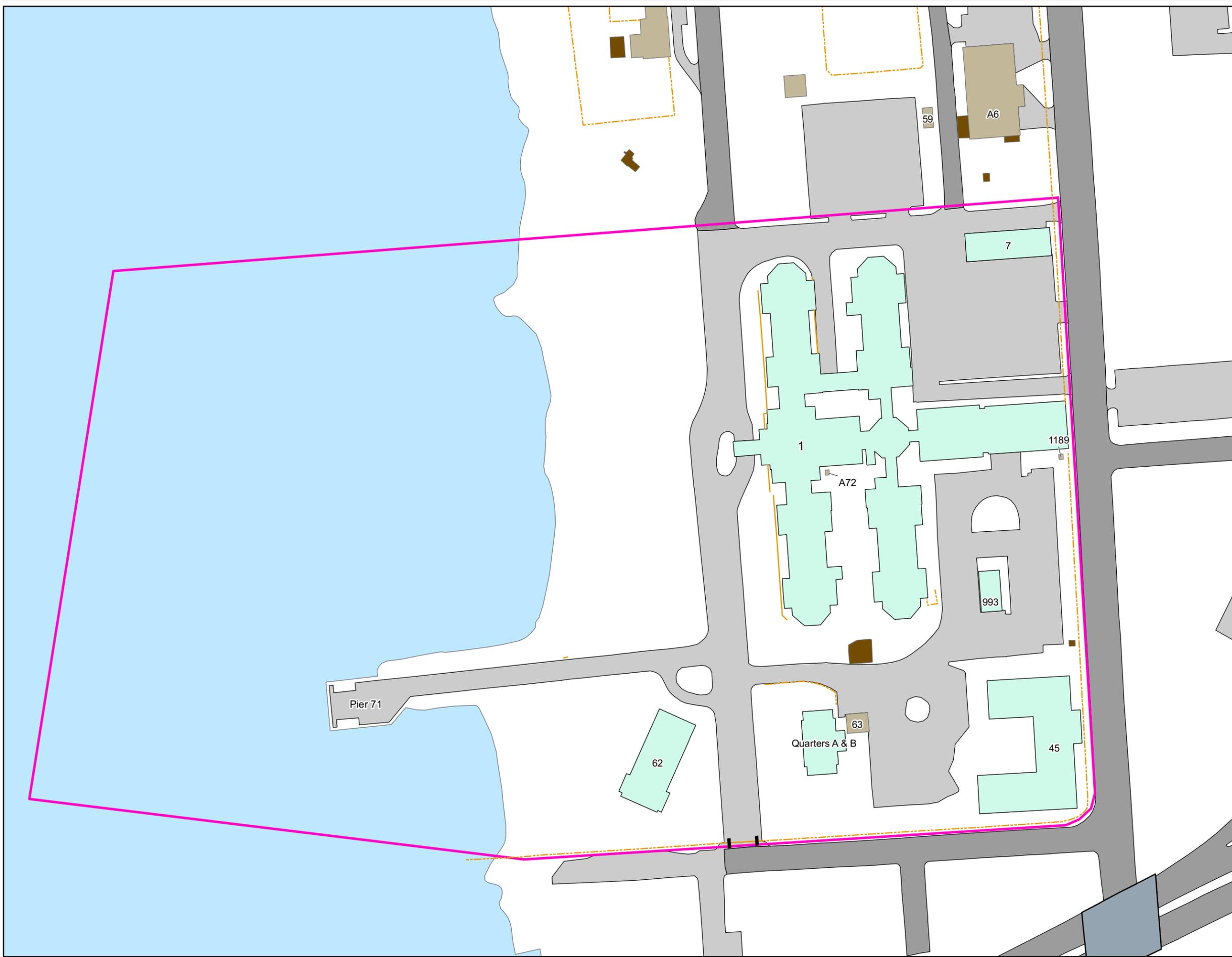


FIGURE
4-2



TITLE

ASBESTOS

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Suspected Asbestos Containing Material
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

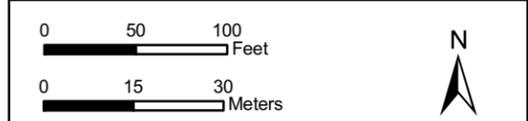
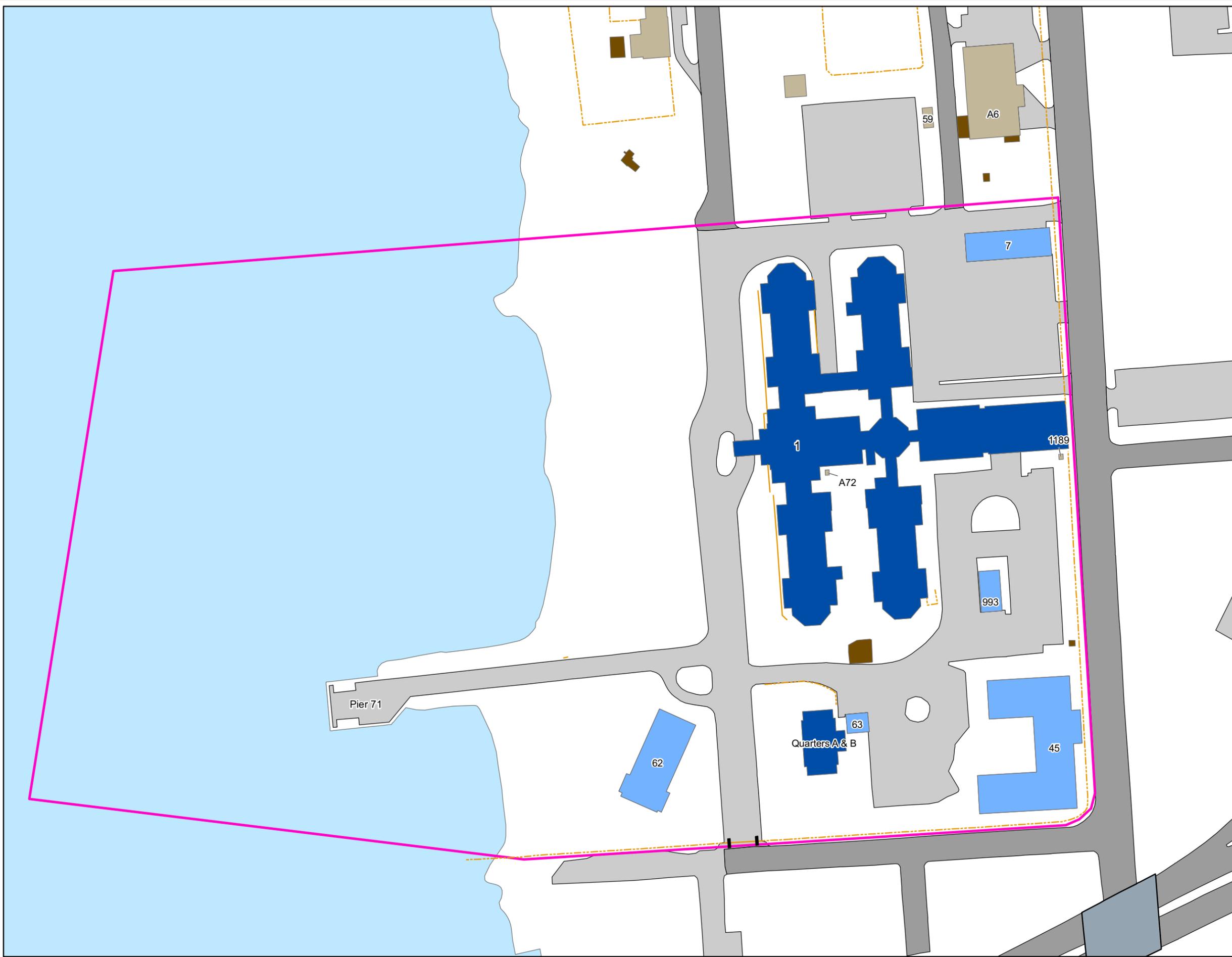




FIGURE
4-4



TITLE

LEAD BASED PAINT

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Confirmed Lead Based Paint
 - Suspected Lead Based Paint
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

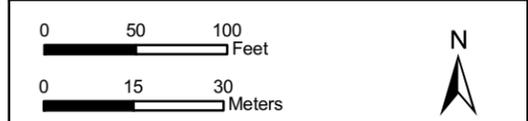
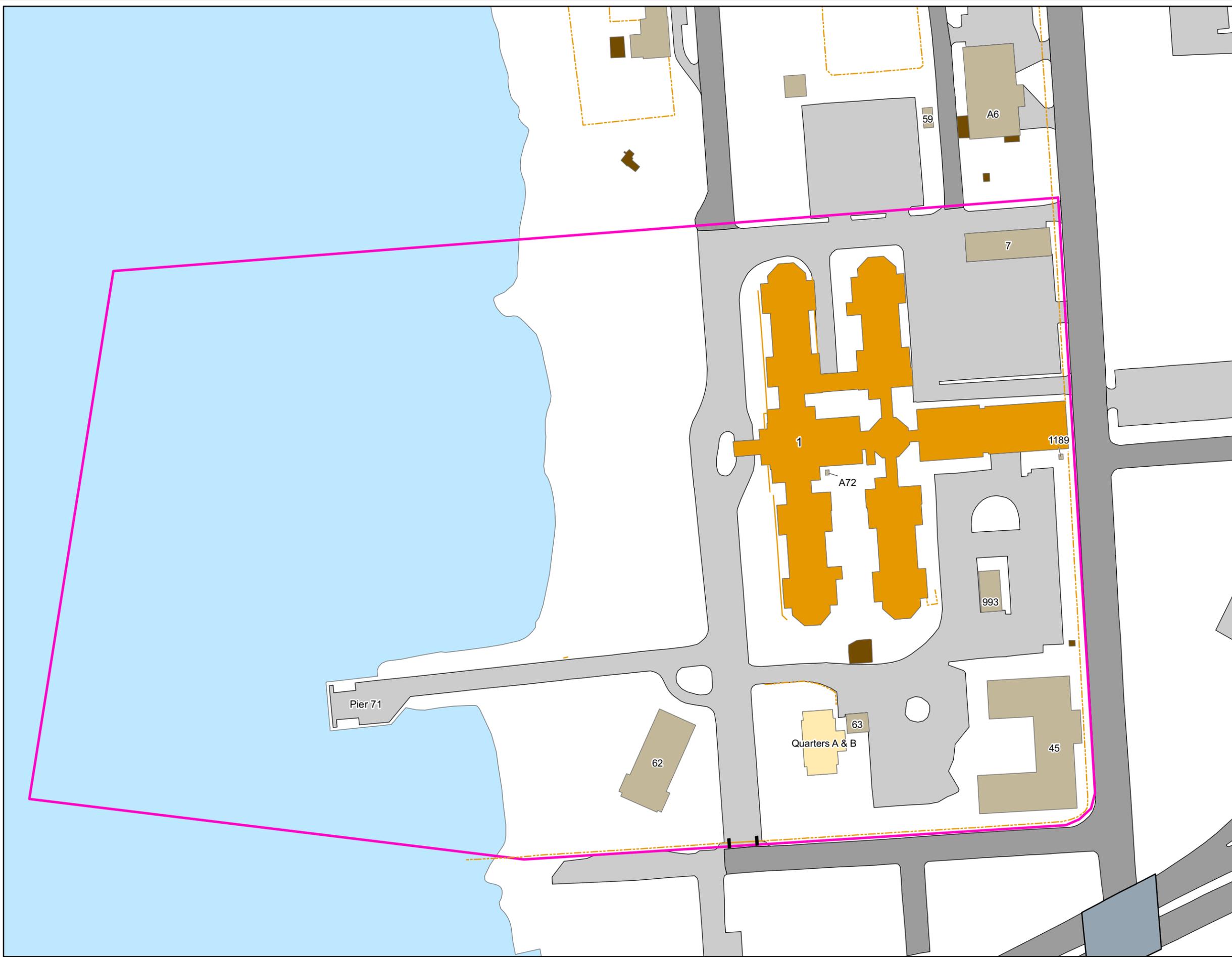


FIGURE
4-5



TITLE

RADON

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Positive Radon Result
 - Negative Radon Result
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

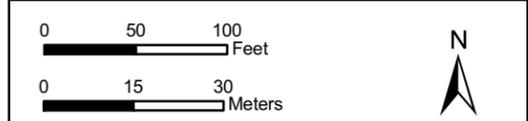
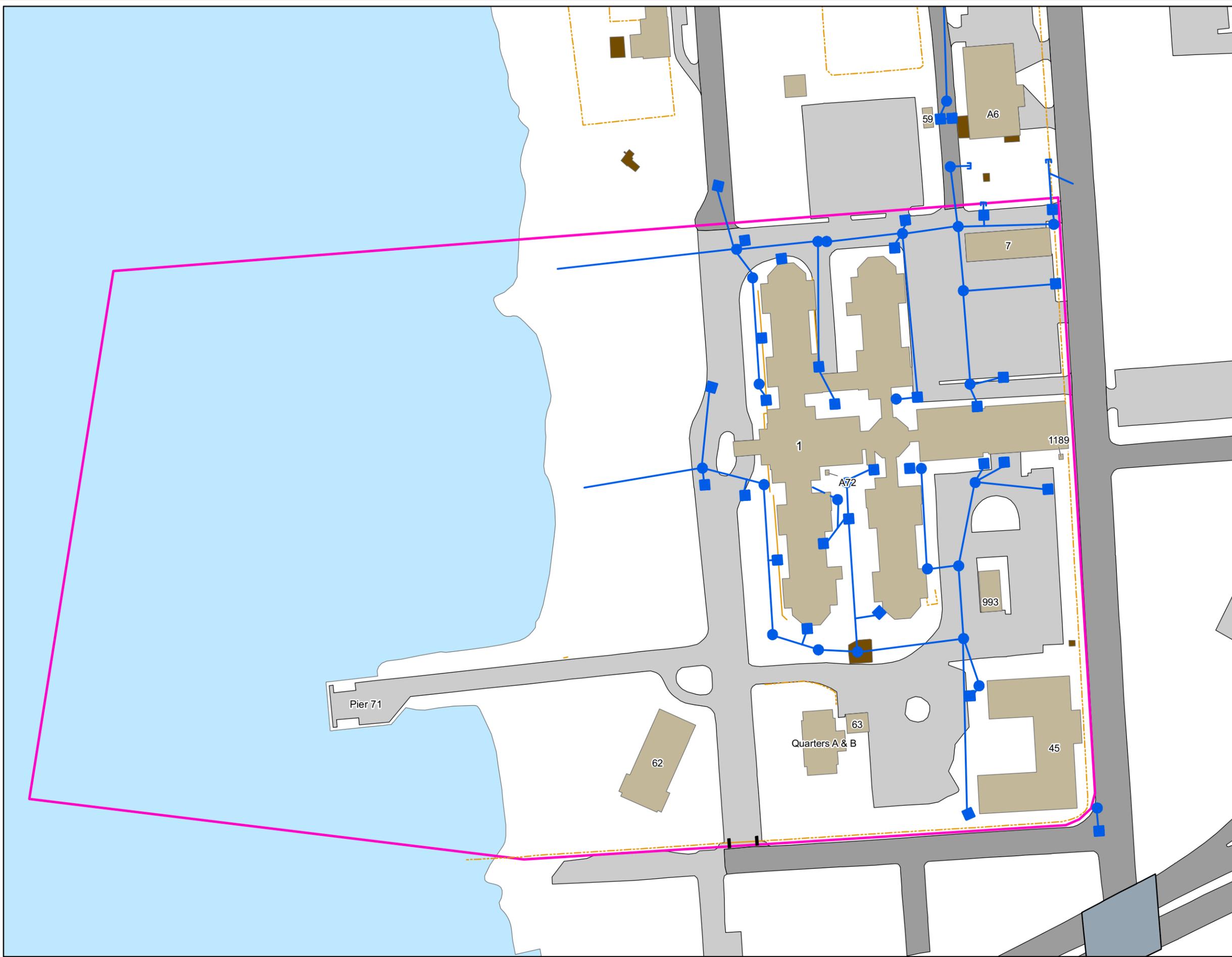


FIGURE
4-6



TITLE

STORMWATER DISTRIBUTION

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Stormwater Line
 - Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

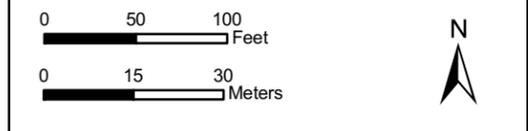
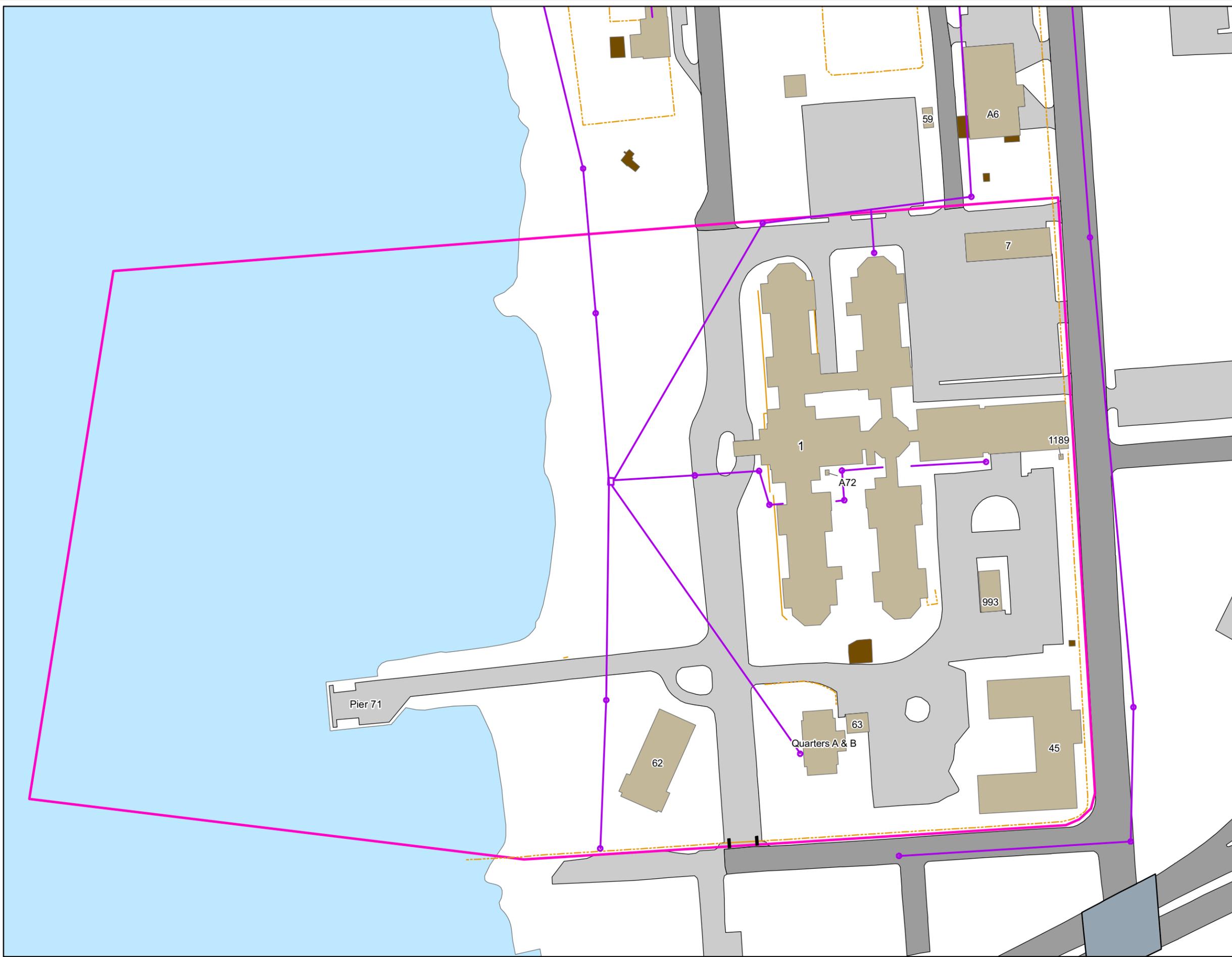


FIGURE
4-7



TITLE

WASTEWATER DISTRIBUTION SYSTEM

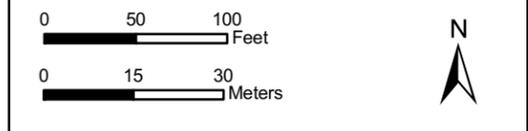
Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Sewer Line
 - Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water

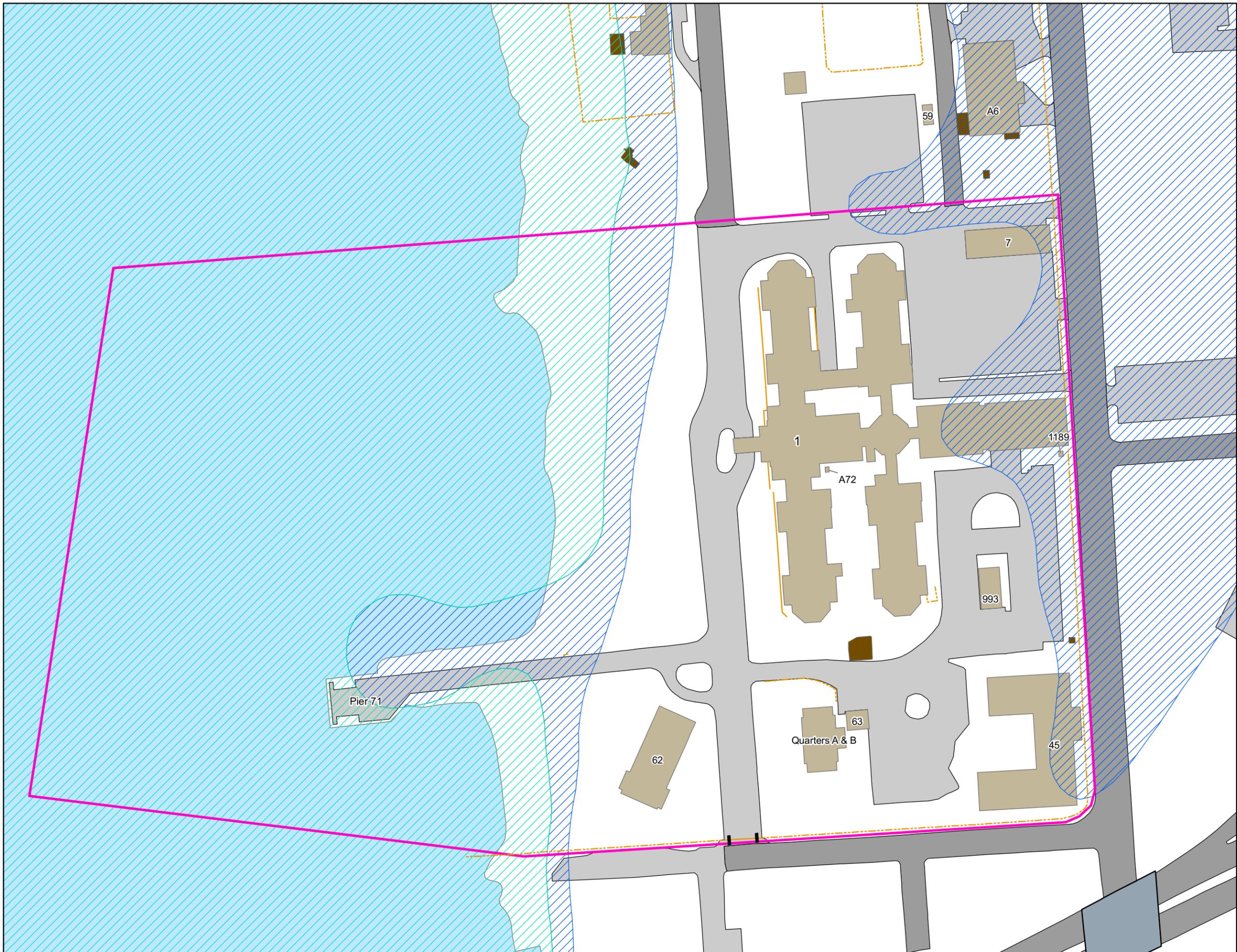


NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009



Logos for the Department of the Army and Naval Station Newport are displayed. To the right, the text **FIGURE 4-8** is enclosed in a box.



TITLE

FLOOD MAP

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - 100 Year AE Flood Zone
 - 100 Year VE Flood Zone
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

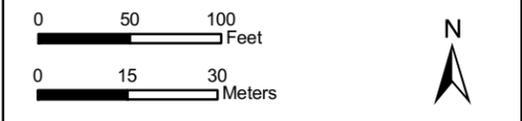
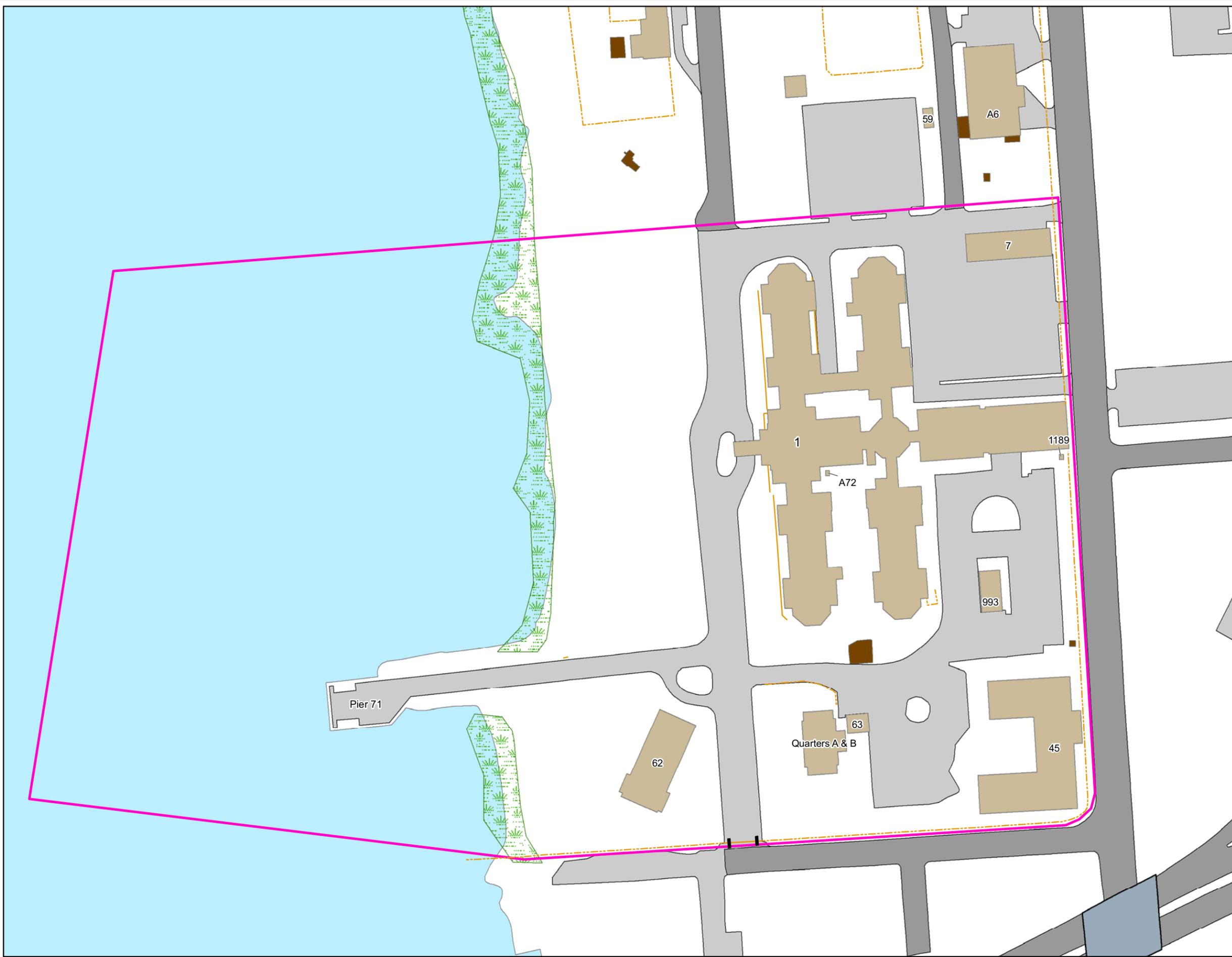


FIGURE
4-9



TITLE

WETLANDS

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Wetland Area
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

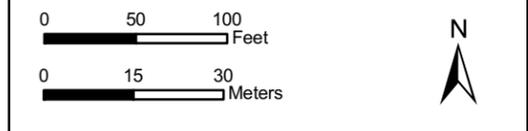
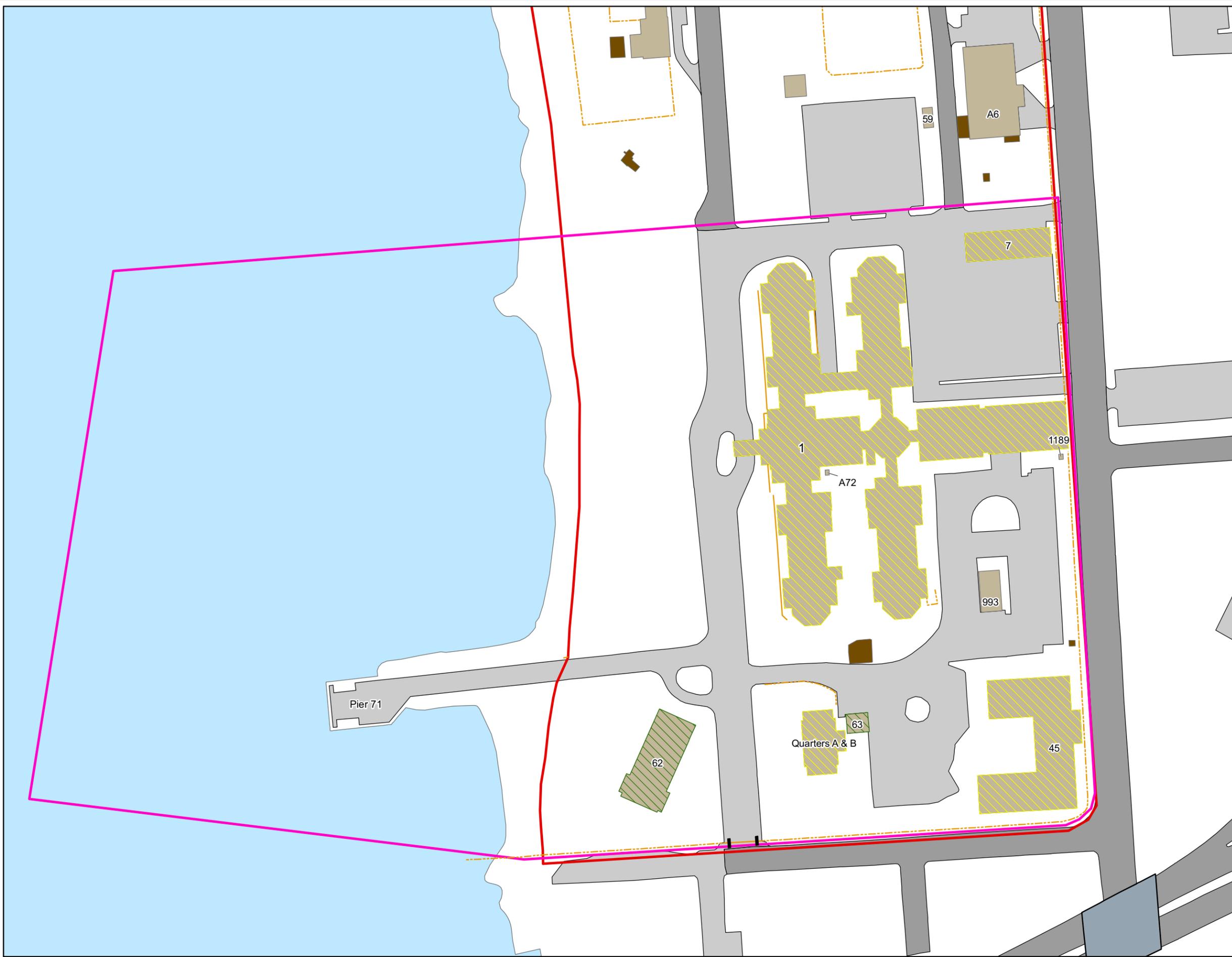


FIGURE
4-10



TITLE

HISTORIC RESOURCES

Former Naval Hospital Complex
Newport, RI

LEGEND

- Wall
- Gate
- Fence
- ECP Site Boundary
- NEA
- NRED-C
- Naval Hospital Historic District
- Building
- Paved Vehicle Parking Area
- Bridge
- Slab
- Paved Road
- Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

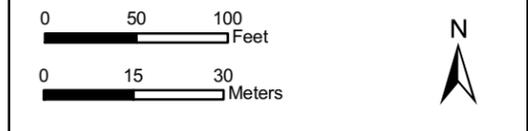
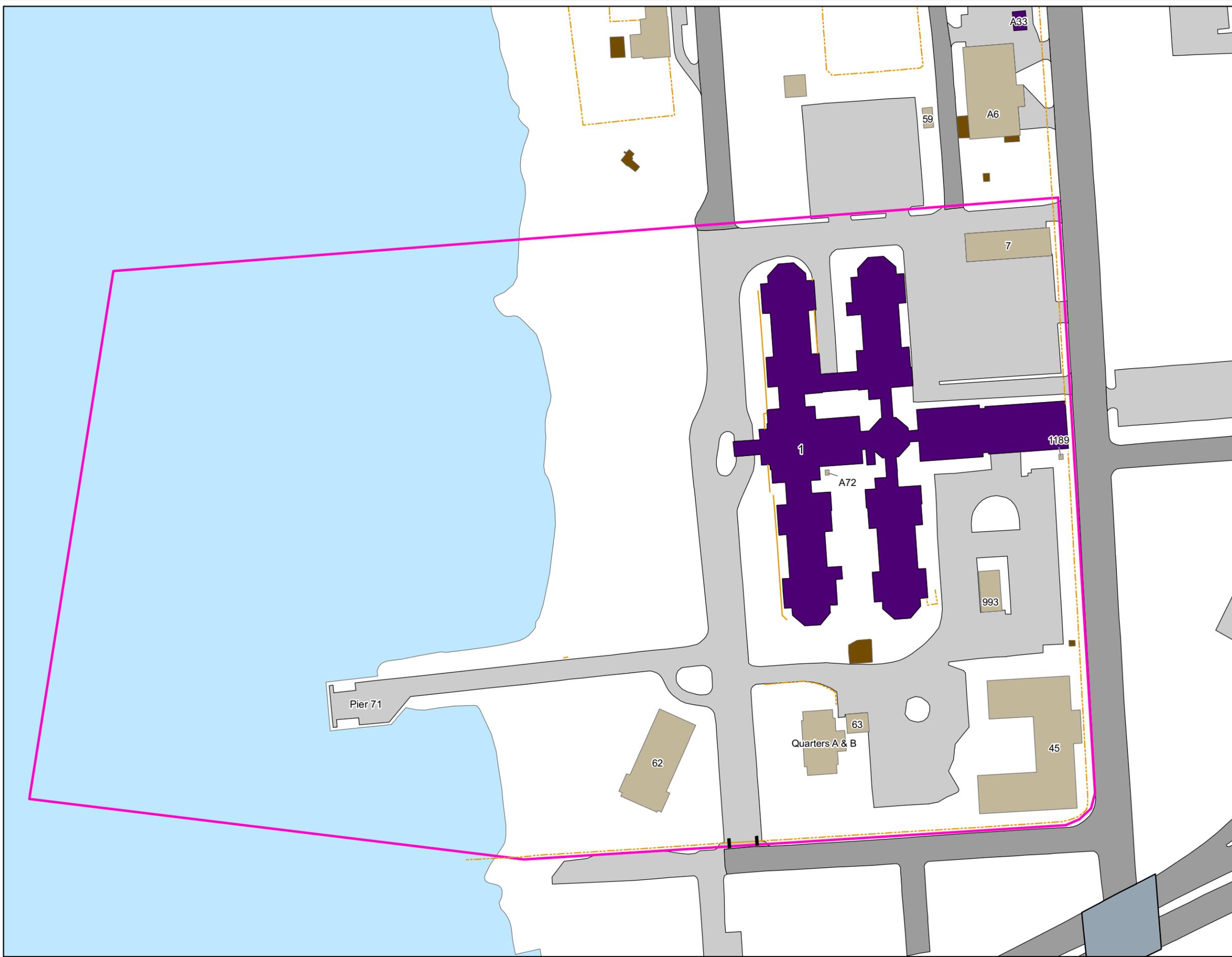


FIGURE
4-11



TITLE

MEDICAL WASTE

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Medical Waste
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

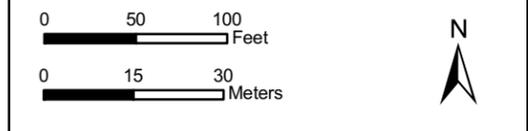
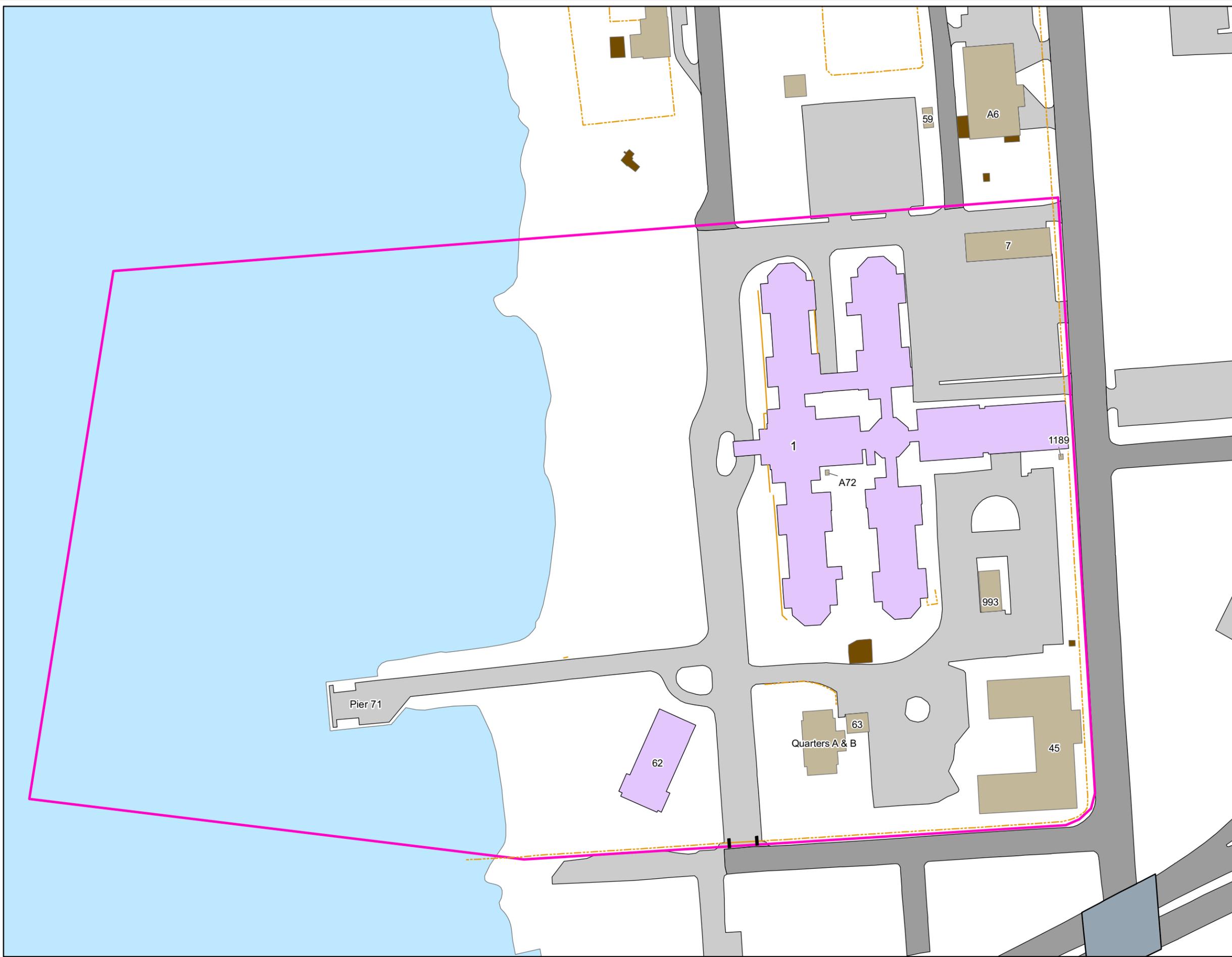


FIGURE
4-12



TITLE

HAZARDOUS MATERIALS

Former Naval Hospital Complex
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - Hazardous Material Storage
 - Building
 - Paved Vehicle Parking Area
 - Bridge
 - Slab
 - Paved Road
 - Water



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

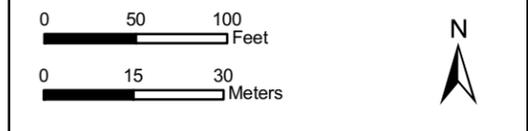
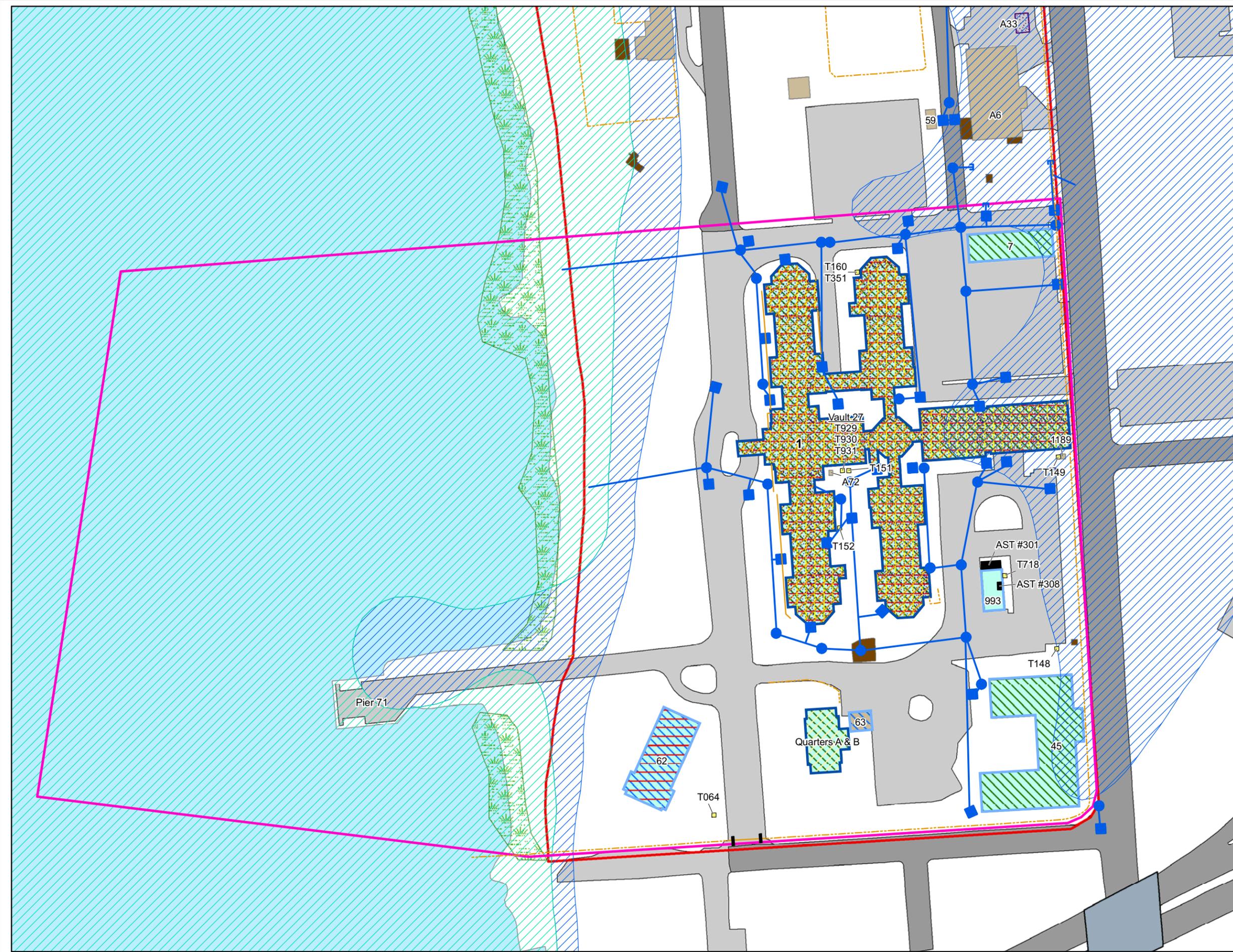


FIGURE
4-13



TITLE

SUMMARY OF ENVIRONMENTAL CONDITIONS

Former Naval Hospital Complex
Newport, RI

LEGEND

Stormwater Line	Wall
ECP Site Boundary	Gate
Above Ground Storage Tank	Fence
100 Year AE Flood Zone	NEA
100 Year VE Flood Zone	NRED-C
Confirmed Lead Based Paint	Transformer
Suspected Lead Based Paint	Slab
Hazardous Waste Storage	Paved Road
Hazardous Material Storage	Water
Medical Waste	Bridge
Positive Radon Result	Building
Negative Radon Result	Wetland Area
Paved Vehicle Parking Area	Suspected Asbestos Containing Material
Naval Hospital Historic District	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

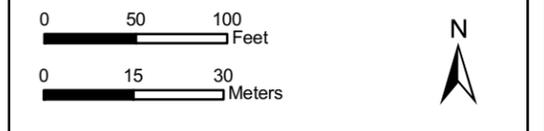


FIGURE
4-14



APPENDIX A

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Department of the Navy BRAC Program Management Office



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List of Contacts



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- FINAL -

**ENVIRONMENTAL CONDITION OF PROPERTY
REPORT**

for the

**NAVAL STATION NEWPORT
Newport, Rhode Island**

Former Navy Lodge

Department of the Navy BRAC Program Management Office

Department of the Navy
Base Realignment and Closure
Program Management Office
1455 Frazee Road, Suite 900
San Diego, California 92108-4310



November 2009



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ABBREVIATIONS, ACRONYMS, AND SYMBOLS

%g	percent acceleration due to gravity	INRMP	Integrated Natural Resources Management Plan
ACM	Asbestos Containing Material	IRP	Installation Restoration Program
AOC	Area of Contamination	MEC	Munitions and Explosives of Concern
AHERA	Asbestos Hazard Emergency Response Act	NAVSTA	Naval Station
AST	aboveground storage tank	NETC	Naval Education and Training Center
BRAC	Base Realignment and Closure	NMFS	National Marine Fisheries Service
CAA	Clean Air Act	NPDES	National Pollutant Discharge Elimination System
CC	Coddington Cove	NRHP	National Register of Historic Places
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	NUWC	Naval Underwater Warfare Center
CERFA	Community Environmental Response Facilitation Act	OWR	Office of Water Resources
CFR	Code of Federal Regulations	PCB	polychlorinated biphenyls
CRMC	Rhode Island Coastal Resources Management Council	pCi/L	picocuries per liter
CWA	Clean Water Act	PMO	Program Management Office
CZMA	Coastal Zone Management Act	RICRMP	Rhode Island Coastal Resources Management Program
DoD	Department of Defense	RIDEM	Rhode Island Department of Environmental Management
EBS	Environmental Baseline Survey	RIDOT	Rhode Island Department of Transportation
ECP	Environmental Condition of Property	RIDES	Rhode Island Discharge Elimination System
EFH	Essential Fish Habitat	SDWA	Safe Drinking Water Act
FEMA	Federal Emergency Management Agency	SWPPP	Stormwater Pollution Prevention Plan
FFDCA	Federal Food, Drug, and Cosmetic Act	TSCA	Toxic Substances Control Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act	TSDF	Treatment, Storage, and Disposal Facility
GIS	Geographic Information System	U.S.	United States
HARP	Historic and Archaeological Resources Protection	U.S.C.	United States Code
ICRMP	Integrated Cultural Resources Management Plan		



Department of the Navy BRAC Program Management Office



USEPA U.S. Environmental Protection Agency
USGS U.S. Geological Survey
UST underground storage tank



EXECUTIVE SUMMARY

This Environmental Condition of Property (ECP) report for the Former Navy Lodge, Naval Station Newport, Newport, Rhode Island summarizes the historical, cultural, and environmental conditions of the property as part of Base Realignment and Closure (BRAC) documentation associated with closure of the Former Navy Lodge. Information was reviewed with installation points of contact to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

A brief summary of ECP findings is provided below by subject area.

- **Classifications of Environmental Conditions.** This ECP Report is not intended to identify uncontaminated property in compliance with the Community Environmental Response Facilitation Act (CERFA) and Department of Defense (DoD) policy.
- **Installation Restoration Program Sites.** The entire Naval Station Newport was listed on the National Priorities List (NPL) in 1989 (United States Environmental Protection Agency ID RI6170085470); however, the Former Navy Lodge site is not an area of concern.
- **Underground Storage Tanks.** The Navy is not aware of any underground storage tanks at the site.
- **Aboveground Storage Tanks.** No aboveground storage tanks (ASTs) are located at the Former Navy Lodge.
- **Munitions and Explosives of Concern.** No known munitions and explosives of concern are known to be present at the Former Navy Lodge site.
- **Hazardous Waste.** No hazardous waste is known to have been generated at the Former Navy Lodge site.
- **Polychlorinated Biphenyls.** One transformer was located on the Former Navy Lodge property. All PCB transformers were removed from the NAVSTA Newport in the 1980s.
- **Radiological Materials.** There are no known radiological materials at the Former Navy Lodge site; nor was the site used to store radiologicals in the past.
- **Pesticides.** Pesticides are applied at the Naval Station (NAVSTA) Newport by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and for grounds maintenance. No pesticides have been stored in the past, or are currently stored, at the Former Navy Lodge.
- **Asbestos.** No friable asbestos-containing materials are known to be present at the Former Navy Lodge, as the site is currently vacant. Thirteen asbestos samples were collected in 1992 from locations in the Former Navy Lodge. Asbestos was detected in both the boiler insulation and the water tank insulation. It is unknown what was done with this material prior to the demolition of the building.
- **Lead-Based Paint.** No lead-based paint is known to be present at the Former Navy Lodge, as the site is currently vacant. However, six samples were collected from various areas in rooms 122 and 123. The results indicate that two of the six samples



had lead levels above the 0.06 percent standard. All demolition debris was disposed of offsite.

- **Radon.** No radon is known to be present at the Former Navy Lodge.
- **Air Quality.** There are no known air emission sources at the Former Navy Lodge, as the site is currently vacant.
- **Drinking Water.** Drinking water for NAVSTA Newport is provided by the City of Newport. The Former Navy Lodge contains the South Anchorage Meter Station, owned by the City of Newport.
- **Groundwater.** Currently, there are no known groundwater wells at the Former Navy Lodge; therefore, there is no site specific information on the groundwater.
- **Stormwater.** The Former Navy Lodge was not identified within the Stormwater Pollution Prevention Plan as a potential source of pollutants. There were five catch basins in the parking lots that discharged site stormwater into the city stormwater system under West Main Street.
- **Surface Water.** No surface water bodies are located within the boundaries of the Former Navy Lodge site.
- **Wastewater.** The former Navy Lodge was connected to the NAVSTA Newport sanitary sewer system.
- **Floodplains.** No portion of the Former Navy Lodge site lies within a designated 100-year or 500-year flood boundary.
- **Wetlands and Aquatic Habitats (Special Aquatic Sites).** There are no known wetlands or special aquatic habitats at the Former Navy Lodge site.
- **Coastal Zone Areas.** Under the Rhode Island Coastal Resources Management Program and the Rhode Island Coastal Resources Management Council (CRMC), the Former Navy Lodge falls within the first tier of the Rhode Island's coastal zone boundary inland extent.
- **Coral Reefs.** The Former Navy Lodge property does not have any coral reef habitat; therefore, coral reef protection issues are not applicable.
- **Fisheries.** The Magnuson-Stevens Fishery Conservation and Management Act is not applicable to the Former Navy Lodge because there are no water bodies on the site.
- **Marine Mammals.** The Marine Mammal Protection Act is not applicable to the Former Navy Lodge site.
- **Threatened, Endangered, and Other Sensitive Species.** There are no known federal or state-threatened, endangered, or other sensitive species identified at the Former Navy Lodge site.
- **Geological Hazards.** Only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883. No other earthquakes have been recorded within the State of Rhode Island.



- **Historic Resources.** A cultural resources survey of the NAVSTA Newport was conducted in 1995 and concluded that there are no historical resources identified at the Former Navy Lodge.
- **Archaeological Resources.** A cultural resources survey was conducted between 1996 and 1998; no sensitive areas within the Former Navy Lodge site were identified.
- **Native American Graves Protection and Repatriation Act.** The Native American Graves Protection and Repatriation Act is not applicable because no known Native American graves have been identified on the installation.
- **Solid Wastes.** All solid wastes generated at the Former Navy Lodge were collected and disposed of by a licensed contractor. Solid waste is not currently generated at the Former Navy Lodge.
- **Universal Waste.** According to the facility personnel, all universal waste generated at NAVSTA Newport, including the Former Navy Lodge is collected by the NAVSTA Newport Environmental Department for offsite recycling. Universal waste is not currently generated at the Former Navy Lodge.
- **Medical Waste.** Currently there is no medical waste generated, stored, or disposed of at the Former Navy Lodge.
- **Hazardous Materials.** It is unknown whether hazardous materials were stored at the Former Navy Lodge; there was no observation or documentation of hazardous material or storage at the site. However, it is likely that household cleaning supplies were used when the facility was operational.



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1.0 Purpose

The Navy Base Realignment and Closure (BRAC) Program Management Office (PMO) prepared this Environmental Condition of Property (ECP) report for the Former Navy Lodge, Naval Station Newport, Newport, Rhode Island.

This report used existing information to summarize the historical, cultural, and environmental conditions of Former Navy Lodge property. Information was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

The purposes of the ECP report are to:

- Provide the BRAC PMO with the information it may use to make disposal decisions regarding the property;
- Provide the public with information relative to the environmental condition of the property;
- Assist the local government in planning for the reuse of BRAC property;
- Assist Federal agencies during the Federal property screening process;
- Provide information for prospective buyers;
- Assist new owners in meeting their obligations under the United States (U.S.) Environmental Protection Agency's (USEPA's) "All Appropriate Inquiry" regulations, at such time as they become final; and
- Assist in determining appropriate responsibilities, asset valuation, liabilities, and liabilities with other parties to a transaction.



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2.0 Background

Naval Station Newport History

The Former Navy Lodge, in Middletown, RI, is located at the southern end of the Naval Station (NAVSTA) Newport, in Newport, Newport County, Rhode Island. The origin of the U.S. Navy's presence within Rhode Island began during the Revolutionary War, where the first Commander-in-Chief of the Continental Navy, Esek Hopkins, would use Narragansett Bay as shelter between combat engagements (Global Security 2006). In 1869, the U.S. Navy's Admiral Dixon Port assisted in the establishment of an experimental torpedo station on Goat Island, approximately less than one mile south of the current NAVSTA Newport. During World War II, the torpedo station reached its peak of importance, manufacturing 80 percent of the torpedoes used by the U.S. Navy during the war. The torpedo station was permanently closed in 1951, and Goat Island was transferred to the City of Newport. In place of the experimental torpedo station, a new research facility was created, the Naval Underwater Ordnance Station. In 1970 the Naval Underwater Ordnance Station merged with the naval activities at New London, Connecticut, established to what is now the Naval Underwater Warfare Center (NUWC) (Global Security 2006).

By 1973, a Shore Establishment Realignment study merged five previously independent commands and created the Naval Education and Training Center (NETC). These five former shore commands include the Naval Base Staff, Naval Station, Naval Officer Training Center, Public Works Center, and the Supply Center Annex. Additionally, NETC is also home of the U.S. Navy's most prestigious educational institution, the Naval War College, established in 1884 and is the oldest such institution in continuous existence anywhere in the world (Global Security 2006, NWC 2009). In October of 1998, Naval Station Newport (NAVSTA) was established as the primary host command, taking over base operating support responsibilities from NETC.

Currently, NAVSTA Newport is home to more than 42 naval and defense commands and activities such as training officers, officer candidates, senior enlisted personnel and midshipman candidates, as well as conducting advanced undersea warfare and development systems. Approximately 5,000 employees work at NAVSTA Newport, with an additional 9,300 students (CNIC 2009, Global Security 2006).

Former Navy Lodge History

The Former Navy Lodge, located in the eastern end of Coddington Cove section of NAVSTA Newport, in Middletown, RI, consists of approximately three acres of land (Preston 2009). For the purposes of this report, the Former Navy Lodge consisted of one building that has been demolished.

The Former Navy Lodge building, known as Building 685-CC, was constructed in 1971, and was demolished in approximately 2004 (Navy 2004). The Former Navy Lodge site is currently vacant and covered with grass. Around 2004, a portion of the eastern side of the Former Navy Lodge property was conveyed to the Rhode Island Department of Transportation (RIDOT) for the construction of the Coddington Road Turning Lane (Navy 2004).



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3.0 Property Description

The Former Navy Lodge site is located at the south eastern portion of NAVSTA Newport, Newport, Rhode Island on the eastern side of the Coddington Cove section of the station (**Figure 3-1**). Property consists of approximately three acres of land. The Former Navy Lodge property is located on the corner of Coddington Highway and West Main Road (Route 114). The site is bordered by a municipal playground to the north, by West Main Road to the east, Coddington Highway to the south, and by residential property to the west (**Figure 3-2**).

The Former Navy Lodge building, known as Building 685-CC, was demolished in approximately 2004 (Navy 2004). The Former Navy Lodge site is currently vacant and covered with grass. A small telephone utility shed exists in the southwest corner of the site and a water feed vent and concrete pad exists in the north east corner.



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4.0 Environmental Condition Overview – Existing Environmental Information

As part of ECP report activities, extensive record reviews were conducted, and an on-site visit and personnel interviews were held to document current and historic conditions at the Former Navy Lodge. The on-site visits were conducted on July 28 and 29, 2009.

The BRAC PMO Northeast office, as well as site personnel located at NAVSTA Newport, provided relevant information for this ECP report. Additionally, available reports of previous environmental investigations at NAVSTA Newport were obtained and reviewed. **Appendix A** presents a list of the documents that were reviewed as part of this effort. The information presented in this report was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

Interviews were conducted with NAVSTA Newport personnel during a site visit and in subsequent telephone conversations and e-mail communications. References are presented in **Appendix A**. **Appendix B** presents a list of the people contacted during preparation of this ECP Report.

4.1 Classification of Environmental Conditions

The Community Environmental Response Facilitation Act (CERFA) of 1992 (amending the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] to add Section 120(h)(4) of CERCLA, 42 United States Code (U.S.C.) Section 9620(h)(4)) requires the identification and documentation of uncontaminated real property controlled by the Department of Defense (DoD) components where DoD plans to make excess property available for reuse pursuant to a base closure law. Uncontaminated property is defined as any "real property on which no hazardous substances and no petroleum products or their derivatives were known to have been released, or disposed of." This includes aviation fuel and motor oil. This ECP Report is not intended to identify uncontaminated property in compliance with CERFA and DoD policy.

An Environmental Baseline Survey (EBS) checklist was completed by NAVSTA Newport Environmental personnel for the Former Navy Lodge Property in August 2004 (Navy 2004).

4.2 Installation Restoration Program Sites

The entire Naval Station Newport is listed on the National Priorities List (NPL). However, there are no Installation Restoration Program (IRP) sites or Areas of Contamination (AOCs) identified on the Former Navy Lodge site (Navy 2004).



4.3 Storage Tanks

4.3.1 Underground Storage Tanks

There are no known underground storage tanks (USTs) at the Former Navy Lodge site (Sylvester 2009); however, a UST is suspected to have been located at the site adjacent to the Former Navy Lodge building (Navy 2004). According to the environmental baseline survey on the adjacent housing area, it is unknown as to whether USTs had been used in the past at the former facility (Malcolm Pirnie 2003). According to facility personnel (Mueller 2009a), there is no evidence of a UST at the Former Navy Lodge site on the construction or renovation drawings.

4.3.2 Aboveground Storage Tanks

There are no aboveground storage tanks (AST) located at the Former Navy Lodge site. No ASTs are known to have been used in the past at the facility (Navy 2004).

4.4 Munitions and Explosives of Concern

No known munitions and explosives of concern (MEC) have been stored at the Former Navy Lodge site (Malcolm Pirnie 2003), and no MEC is known to be present.

4.5 Hazardous Waste

In accordance with CERCLA 120(h)(1), Title 40 Code of Federal Regulation (CFR) Part 373 and the DoD policy of June 17, 1994, notice is required when a hazardous substance has been stored for one year or more in quantities greater than 1,000 kilograms or the substance's CERCLA reportable quantity, whichever is greater, or when hazardous substances that are also listed under 40 CFR 261.30 as acutely hazardous wastes, and that are stored for one year or more, have been stored in quantities greater than or equal to the substance's reportable quantity. Medical wastes and universal wastes are not regulated under CERCLA.

No hazardous waste is known to have been generated at the Former Navy Lodge before its demolition. Hazardous waste generated at NAVSTA Newport is collected and transported to the NAVSTA Newport Public Works Central Hazardous Waste Accumulation Area for temporary storage, and later transfer to a hazardous waste treatment, storage, and disposal facility (TSDF) located off-base (Navy 2004, Malcolm Pirnie 2005).

4.6 Polychlorinated Biphenyls

The Toxic Substances Control Act (TSCA) (Public Law [Pub. L.] 94-469 enacted in 1976 and effective January 1, 1977) authorizes the USEPA to secure information on all new and existing chemical substances and to control any of these substances that could cause an unreasonable risk to public health or the environment. Under earlier laws, the USEPA had authority to control toxic substances only after damage had occurred. The earlier laws did not require the screening of toxic substances before they entered the marketplace. TSCA closed the gap in the earlier laws by requiring that the health and environmental effects of all new chemicals be reviewed before they are manufactured for commercial purposes. Polychlorinated biphenyls (PCBs) are regulated under Title I (Control of Toxic Substances), which includes provisions for



testing chemical substances and mixtures, manufacturing and processing notices, regulating hazardous chemicals substances and mixtures, managing imminent hazards, and reporting and retaining information.

According to the 2003 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island* and the 2004 *Environmental Baseline Survey (EBS) Checklist Naval Station Newport, West Main Road/Coddington Highway Turning Lane*, there is no documentation regarding transformer or electrical equipment type, condition, PCB content, or maintenance (Malcolm Pirnie 2003, Navy 2004). There was one transformer located on the Former Navy Lodge (**Figure 4-1**). According to facility personnel (Mueller 2009b), all PCB transformers were removed in the 1980s.

4.7 Radiological Materials

According to the 2004 *Environmental Baseline Survey (EBS) Checklist Naval Station Newport, West Main Road/Coddington Highway Turning Lane* and facility personnel, there are no known radiological materials at the Former Navy Lodge site (Navy 2004, Moore 2009a).

4.8 Pesticides

The USEPA regulates the use of pesticides under the authority of two federal statutes: the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA). The FIFRA provides the basis for regulation, sale, distribution and use of pesticides in the U.S., whereas the FFDCA authorizes the USEPA to set maximum residue levels, or tolerances, for pesticides used in or on foods or animal feed.

According to the 2002 *Naval Station Newport Pest Management Plan*, pesticides are applied by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and for grounds maintenance (EFA Northeast 2002). Currently, pesticides are stored at the NAVSTA Newport Pest Control Shop, Building 1298, which is not within the Former Navy Lodge area (EFA Northeast 2002, U.S. Malcolm Pirnie 2005). No pesticides are known to have been stored in the past, or are currently stored, at the Former Navy Lodge site (Malcolm Pirnie 2003).

4.9 Asbestos

Asbestos abatement is regulated under TSCA Title II, Asbestos Hazard Emergency Response, which was added by the Asbestos Hazard Emergency Response Act (AHERA) (Pub. L. 99-519), enacted by Congress on October 22, 1986. It authorizes the USEPA to amend its TSCA regulations to impose more requirements on asbestos abatement in schools. AHERA provides for the promulgation of federal regulations requiring inspection for asbestos and appropriate response actions in schools and mandates periodic reinspection. In addition, it requires the USEPA Administrator to determine "the extent of the danger to human health posed by asbestos in public and commercial buildings and the means to respond to any such danger."

According to the 2004 *Final Environmental Baseline Survey (EBS) Checklist Naval Station Newport, West Main Road/Coddington Highway Turning Lane*, and due to the site being currently vacant, no friable asbestos-containing materials are known to be present at the Former



Navy Lodge site (Navy 2004). Tables provided by facility personnel (Smith 2009) indicate that in 1992, asbestos samples were collected from 13 locations inside the Former Navy Lodge building (**Table 4-1**). Asbestos was detected in both the boiler insulation and the water tank insulation. According to facility personnel (Poisson 2009), the asbestos was removed and disposed of off-site prior to the building demolition. According to facility personnel (Poisson 2009) subsurface water and steam lines may be insulated with asbestos containing material.

4.10 Lead-Based Paint

According to the 2004 *Final Environmental Baseline Survey (EBS) Checklist Naval Station Newport, West Main Road/Coddington Highway Turning Lane*, and due to the site being currently vacant, no lead-based paint is known to be present at the Former Navy Lodge site (Navy 2004). However, a lead-based paint results table provided by facility personnel (Moore 2009c) indicated that a total of six samples were collected from various area in rooms 122 and 123 inside the Former Navy Lodge building. The results indicate that two of the six samples had lead results above the 0.06 percent standard (**Table 4-2**). All debris from demolition of the Navy Lodge building was disposed of offsite.

4.11 Radon

Indoor radon concentrations are regulated under TSCA Title III (Indoor Radon Abatement), which was added on October 28, 1988 (Pub. L. 100-551). The purpose of this legislation is to assist states in responding to the threat to human health posed by exposure to radon. The USEPA is required to publish an updated citizens' guide to radon health risk and to perform studies of the radon levels in schools and radon contamination in federal buildings.

According to the 2004 *Final Environmental Baseline Survey (EBS) Checklist Naval Station Newport, West Main Road/Coddington Highway Turning Lane*, and due to the site being currently vacant, no radon is known to be present at the Former Navy Lodge site (Navy 2004). According to the 2003 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island*, Newport, Rhode Island is located in the USEPA National Radon Database Zone 2. The average indoor level for Zone 2 is greater than 2 pCi/L and less than 4 pCi/L. The USEPA has established an indoor air action level of 4 pCi/L for radon (Malcolm Pirnie 2003).

4.12 Air Quality

Air emissions at the NAVSTA Newport are regulated under the Clean Air Act (CAA).

There are no known air emissions sources at the Former Navy Lodge site (Navy 2004).

4.13 Water Quality

4.13.1 Drinking Water

The Safe Drinking Water Act (SDWA) of 1974, amended in 1986 and 1996, was passed to protect public health by regulating the nation's public drinking water supply and its sources including rivers, lakes, reservoirs, springs, and groundwater. Drinking water for the installation



is provided by the City of Newport. According to the 2004 *Water System Vulnerability Assessment*, the City provides approximately 1,011,000 gallons per day to the installation, operating under the Rhode Island public water system identification number 1000016 (Dorocz 2009, Woodard & Curran 2004). Approximately 14 chlorination stations are located throughout the installation, in order to feed sodium hypochlorite solution on an emergency basis to raise the chlorine residual and meet water quality standards for coliform. According to facility personnel, this is done as a result of the low chlorine residual after leaving the City of Newport and Portsmouth Water and Fire Districts water plants and traveling to NAVSTA Newport (Woodard & Curran 2004, Dorocz 2009). The 2004 *Water System Vulnerability Assessment* stated that NAVSTA Newport experienced four coliform violations between January of 1996 and December 1998, no recent violations are known to have occurred (Woodard & Curran 2004).

Furthermore, a concrete pad and water feed vent pipe that is owned by the City of Newport is located in the northeast corner of the Former Navy Lodge site (**Figure 3-2**). As mentioned in the 2004 *Water System Vulnerability Assessment Naval Station Newport, Newport, Rhode Island*, the South Anchorage Meter Station, located at the Former Navy Lodge site contains a chlorination service connection and maintains an average annual flow percentage of zero (Woodward & Curran 2004).

4.13.2 Groundwater

Currently, there are no known groundwater wells at the Former Navy Lodge site; therefore, there is no site specific information on the groundwater (Malcolm Pirnie 2003).

Groundwater within NAVSTA Newport is relatively shallow due to the proximity to sea level. Any wells that are developed may have salt intrusion. Deeper artesian wells capture water that is trapped between bedrock and is replenished where the aquifer is near or at surface level. Groundwater in the vicinity of the Former Navy Lodge is classified by the Rhode Island Department of Environmental Management (RIDEM) as "GB: groundwater not suitable for drinking water use without treatment due to known or presumed degradation" (RIDEM 2004, Malcolm Pirnie 2005).

4.13.3 Stormwater

The Water Pollution Control Act Amendments of 1972, commonly known as the Clean Water Act (CWA), use a variety of regulatory and nonregulatory tools to reduce pollutant discharges into waterways and to manage polluted runoff. Under the CWA, a National Pollutant Discharge Elimination System (NPDES) permit is required for facilities discharging stormwater associated with industrial activities.

According to the 2003 *Final Industrial Stormwater Pollution Prevention Plan (SWPPP) Naval Station Newport, Newport, Rhode Island*, NAVSTA Newport is considered to be engaged in "industrial activity" by the RIDEM, Office of Water Resources (OWR). These activities include: landfills/open dumps receiving industrial waste; recycling of materials; transportation facilities; and light industry (GZA 2003). These operations meet the eligibility requirements for a Rhode Island Pollutant Discharge Elimination System (RIDES) General permit. The Former Navy Lodge, Building 685-CC, was not identified within the SWPPP as a potential source of Pollutants (GZA 2003). The stormwater system at the Former Navy Lodge consisted of five catch basins that discharged stormwater to the city stormwater system located under West Main



Street (**Figure 4-2**). NAVSTA Newport currently discharges stormwater under the MS4 General Permit (Moore 2009).

4.13.4 Surface Water

There are no surface water bodies within boundaries of the facility. However, Narragansett Bay is located approximately less than one half mile west of the property boundary of the site (refer to **Figure 3-2**) (Woodward & Curran 2004).

4.13.5 Wastewater

According to the 2005 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island* wastewater from NAVSTA Newport discharges to the Newport Water Pollution Control Plant, a secondary treatment facility using traditional activated sludge and chlorination. The wastewater lines for the Former Navy Lodge are shown in **Figure 4-3**.

4.14 Natural Resources

4.14.1 Floodplains

Based on Federal Emergency Management Agency (FEMA) data in the NAVSTA GIS, no portion of the Former Navy Lodge site lies within a designated 100-year or 500-year flood boundary. The nearest 100-year flood boundary is approximately one half mile west of the site in the floodplain of the Narragansett River.

4.14.2 Wetlands and Aquatic Habitats (Special Aquatic Sites)

According to facility personnel and the Rhode Island Wetlands Inventory Geographic Information Systems, there are no known wetlands on the Former Navy Lodge site (Kam 2009, RIGIS 2009).

4.14.3 Coastal Zone Areas

The Federal Coastal Zone Management Act (CZMA) (16 USC 1451-1464) encourages states to take a leading role in the management of their coastal regions. With state participation in the Federal coastal zone management program, Section 307 of the CZMA requires that various Federal activities which are reasonably likely to affect any land or water use, or natural resource of the coastal zone, be consistent with a state's approved coastal zone management program (CRMC 2009). In 1978, the State of Rhode Island adopted the Rhode Island Coastal Resources Management Program (RICRMP) into the Federal coastal management program established by the CZMA. The agency responsible for overseeing implementation of the RICRMP generally, and Federal consistency in particular, is the Rhode Island Coastal Resources Management Council (CRMC) (CRMC 2009).

The extent of Rhode Island's coastal zone boundary is the three mile outer limit. The CRMC's jurisdiction includes all tidal waters within state jurisdiction, while the inland extent of Rhode Island's coastal zone boundary is a tiered system which is dependent on the type and location



of an activity. Policies and standards governing activities within these three tiers are contained in the RICMP and the CRMC's Special Area Management Plans (CRMC 2009).

The first tier of Rhode Island's coastal zone generally extends 200 feet inland of a coastal feature. Within this area the CRMC has authority over any development activity, including maintenance. The second tier extends inland to include Rhode Island's 21 coastal communities. Within this second tier, all Federal (as well as state) activities must be consistent with the RICMP. The final tier of the CRMC jurisdiction encompasses the entire state for certain activities which the state has predetermined may affect coastal resources or uses regardless of location within the state. These activities include: energy generation, transfer processing, or storage; chemical processing; minerals extraction; sewage treatment and disposal; and solid waste disposal (CRMC 2009).

The Former Navy Lodge falls within the second tier of the Rhode Island's coastal zone boundary inland extent.

4.14.4 Coral Reefs

The Former Navy Lodge property does not have any coral reef habitat; therefore, coral reef protection issues are not applicable (Kam 2009).

4.14.5 Fisheries

The Magnuson-Stevens Fishery Conservation and Management Act requires all Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions or proposed actions, permitted, funded or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). EFH is defined as, "those waters and substrate necessary for fish for spawning, breeding feeding or growth to maturity." "Waters" include aquatic areas and their associated physical, chemical and biological properties. According to the 2001 Installation Natural Resources Management Plan (INRMP), the only EFH within the NAVSTA Newport vicinity are the recently designated eelgrass beds that are a key EFH for summer flounder (*Paralichthys dentatus*) (Louis Burger Group 2001).

The Magnuson-Stevens Fishery Conservation and Management Act is not applicable for the Former Navy Lodge because there are no water bodies on the site.

4.14.6 Marine Mammal

The Marine Mammal Protection Act is not applicable for the Former Navy Lodge site.

Harbor seals (*Phoca vitulina*) and harbor porpoises (*Phocoena phocoena*) may be seen in Narragansett Bay offshore of NAVSTA Newport. According to the 2001 INRMP, a pair of harbor seals have been observed during the winter months in Coddington Cove, approximately 0.5 miles west of the Former Navy Lodge (Louis Burger Group 2001). No other marine mammals are known to occur in the vicinity of the Former Navy Lodge site.



4.14.7 Threatened, Endangered, and Other Sensitive Species

There are no known federal or state threatened, endangered, or other sensitive species identified at the Former Navy Lodge site (Kam 2009, Louis Burger Group 2001).

4.14.8 Geological Hazards

According to the United States Geological Survey (USGS), only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883 (USGS 2009). No other earthquakes have been recorded within the State of Rhode Island. The Former Navy Lodge site is located within an earthquake zone where in a 50 year period, there is only a 2% chance of an earthquake occurring with peak acceleration (ground movement) of 8 to 10% acceleration due to gravity (%g). It takes a peak acceleration of 10%g to cause damage to buildings; therefore, there is minimal risk of an earthquake that would cause damage in the Former Navy Lodge site (USGS 2009).

According to facility personnel (Mueller 2009c), soils on Aquidneck Island, including Naval Station Newport, have levels of naturally-occurring arsenic that exceed the State of Rhode Island's standards for Industrial/Commercial property.

See **Section 4.14.1** for information on flood hazards.

4.15 Cultural Resources

Cultural resources at NAVSTA Newport are federally regulated under the National Historic Preservation Act, Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act.

4.15.1 Historic Resources

In 1995, a cultural resources survey of the NAVSTA Newport was conducted, excluding NUWC. The survey included historical research, a Phase IA archaeological investigation, and an inventory and assessment of the buildings and structures of NAVSTA Newport in regard to their eligibility for listing in the National Register of Historic Places (NRHP) (Louis Berger 1998). The survey concluded that three areas within NAVSTA Newport meet National Register Criteria as historic districts; the Former Navy Lodge is not included within any of the three districts identified (Navy 2007, Louis Berger 1998).

4.15.2 Archaeological Resources

A cultural resources survey of NAVSTA Newport was conducted in 1996 through 1998, including a Phase IA archeological investigation to assess the potential for prehistoric and/or historic archaeological resources. According to the 2007 *Draft Integrated Cultural Resources Management Plan* (ICRMP), the historical research and archeological reconnaissance undertaken during the 1996-1998 cultural resources survey concluded that extensive ground disturbance over large portions of NAVSTA Newport has limited the potential for preservation of archeological sites in many areas of the installation (Navy 2007). Further, the survey concluded that there are no large archeological sites within the boundaries of NAVSTA Newport; however, a number of local areas within the installation were determined to be archeologically sensitive.



None of the sensitive areas identified include the Former Navy Lodge or surrounding area (Navy 2007).

Under the provisions of the Department of the Navy's Environmental and Natural Resources Program Manual (OPNAVINST 5090.1B), NAVSTA Newport developed a Historic and Archaeological Resources Protection (HARP) Plan for the identification, protection, and management of significant cultural resources on the installation (Louis Berger 2000). During the development of the HARP, several locations were considered to have a strong potential to contain prehistoric or historic period archaeological resources. None of the areas identified in the HARP are in the vicinity of the Former Navy Lodge site (Louis Berger 2000).

4.15.3 Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act is not applicable because no known Native American graves have been identified on the installation (Navy 2007, Kam 2009).

4.16 Solid Waste

According to facility personnel (Moore 2009b), solid waste at NAVSTA Newport was disposed of at an on-site landfill (although not within the vicinity of the Navy Lodge site). Sometime in the 1980's, solid waste was no longer disposed of on-site but was picked up by station personnel and disposed of at a transfer station in Newport. Since 1995 or 1996, a contractor collects and disposes of solid waste.

4.17 Universal Wastes

Federal universal wastes are set forth in 40 CFR Part 273, and include batteries, pesticides, thermostats, and lamps. States can modify the universal waste rule and add additional universal waste in individual state regulations.

According to the facility personnel, all universal waste generated at NAVSTA Newport, is collected and recycled by the NAVSTA Newport Environmental Department (Rielly 2009).

4.18 Medical Wastes

There are no medical facilities or biohazardous wastes generated at the Former Navy Lodge (Malcolm Pirnie 2003).

4.19 Hazardous Materials

It is unknown whether hazardous materials were stored at the Former Navy Lodge; however, according to the 2003 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island*, there was no observation or documentation of hazardous material storage at the site (Malcolm Pirnie 2003, Navy 2004).



4.20 Summary of Environmental Conditions

Environmental conditions at the Former Navy Lodge consist of the following:

- A concrete pad and water feed vent pipe owned by the City of Newport is located in the northeast corner of the Former Navy Lodge site, and is utilized as a chlorination service connection for NAVSTA Newport.



5.0 Certification

I certify that the Environmental Conditions of Property Report for the Former Navy Lodge, Naval Station Newport, Newport, Rhode Island, November, 2009 and its enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained within the Environmental Conditions of Property Report for the Former Navy Lodge, Naval Station Newport, Newport, Rhode Island, November 2009 and its enclosures is, to the best of my knowledge and belief, true, accurate and complete and accurately reflects the property's condition as of November 2009 based upon my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information.

DAVID DROZD

Name

David Drozd

Signature

11-5-09

Date



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Tables



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Table 4-1 Asbestos Results

Date	Room	Location	Sample ID	Asbestos (%)	Quantity
11/18/1992	Wings A&C	Floor Tile	01A	0	
			01B	0	
			01C	0	
		Mastic	02A	0	
			02B	0	
			02C	0	
	Room Dividers, All Wings	Gypsum Wallboards	03A	0	
			03B	0	
			03C	0	
		Joint Compound	04A	0	
			04B	0	
			04C	0	
	Throughout RMS, All Wings	Cove Base Mastic	05A	0	
			05B	0	
			05C	0	
	Boiler Room, Wing A	Tank Insulation	06A	60	105 ft ²
			06B	NA	
			06C	NA	
		Boiler Insulation	07A	80	130 ft ²
			07B	NA	
			07C	NA	
		Pipe Fitting Insulation	08A	0	
			08B	0	
			08C	0	
	Misc. Areas	Floor Tile	09A	0	
			09B	0	
			09C	0	
		Mastic	10A	0	
			10B	0	
			10C	0	
Rooms, Wing B	Floor Tile	11A	0		
		11B	0		
		11C	0		
	Mastic	12A	0		
		12B	0		
		12C	0		
Hallways of All Wings	Ceiling Tile	13A	0		
		13B	0		
		13C	0		

Source: Smith 2009



Table 4-2 Lead Base Paint Results

Date	Room	Location	Result %
10/29/1993	122	South Wall Ceiling Trim	0.042
	122	West Wall	0.11
	123	East Wall by Floor	0.062
	123	West Wall	0.011
	123	South Wall	0.019
	123	Bathroom Ceiling	<0.010



FIGURES



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LEGEND

- Primary Highway
- Secondary Highway
- Local Road
- Ferry
- ECP Site Boundary



NOTES & SOURCES
 Coordinate System: NAD 83, UTM Zone 19
 Data Sources: ESRI

Former Navy Lodge
 Newport, RI

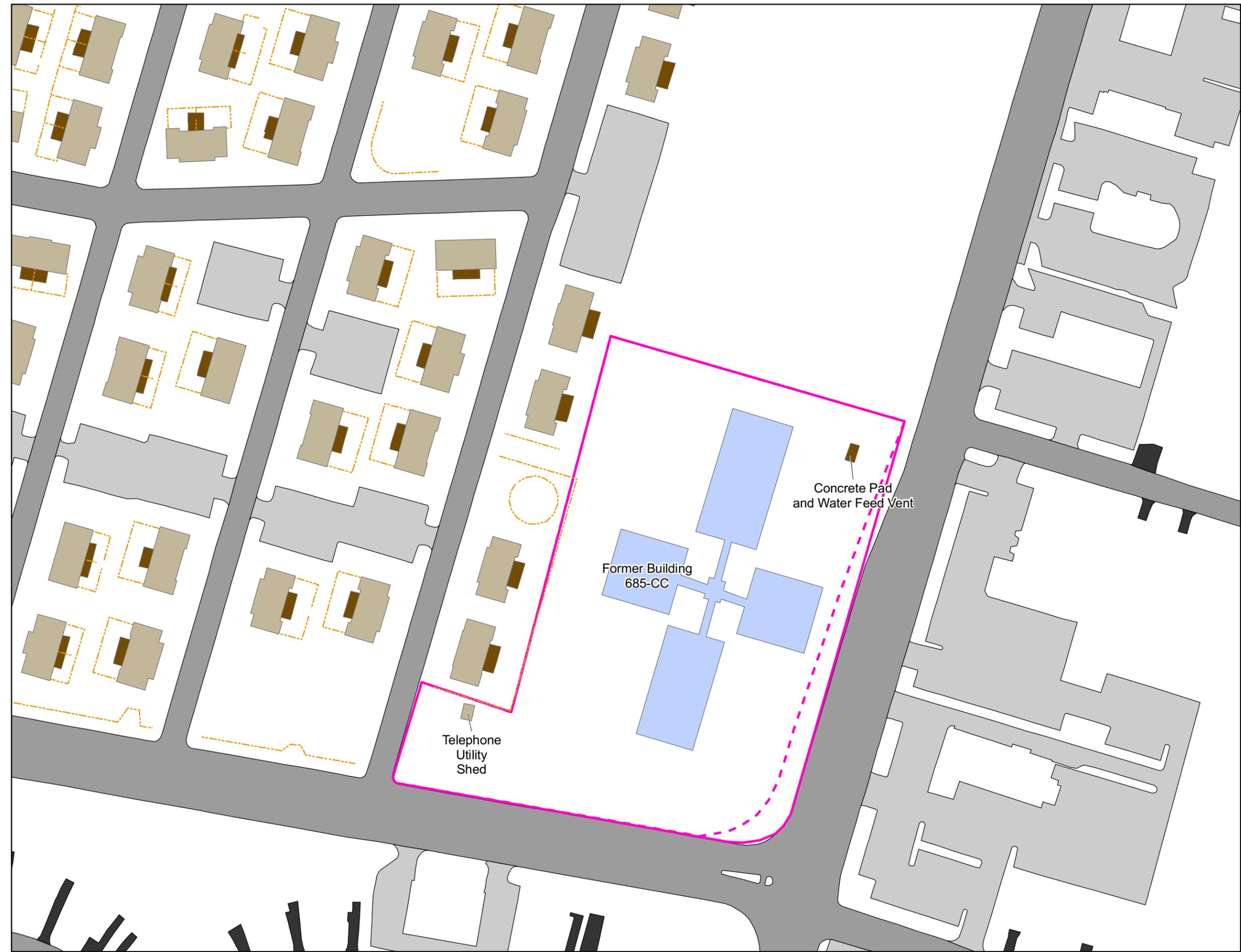
0 3,000 6,000 Feet

0 1,000 2,000 Meters

SITE LOCATION MAP

FIGURE
 3-1

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 August 21, 2009 DWN: APC CHKD: AKN



TITLE

SITE LAYOUT

Former Navy Lodge
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - ECP Site Boundary Easement
 - Paved Vehicle Parking Area
 - Paved Vehicle Driveway
 - Former Navy Lodge Building
 - Building
 - Slab
 - Paved Road



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

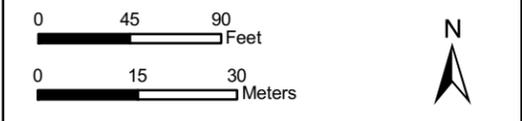


FIGURE
3-2



TITLE

TRANSFORMER LOCATIONS

Former Navy Lodge
Newport, RI

LEGEND

- Wall
- Gate
- Fence
- ECP Site Boundary
- ECP Site Boundary Easement
- Transformer
- Paved Vehicle Parking Area
- Paved Vehicle Driveway
- Former Navy Lodge Building
- Building
- Slab
- Paved Road



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

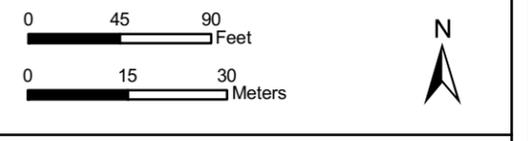
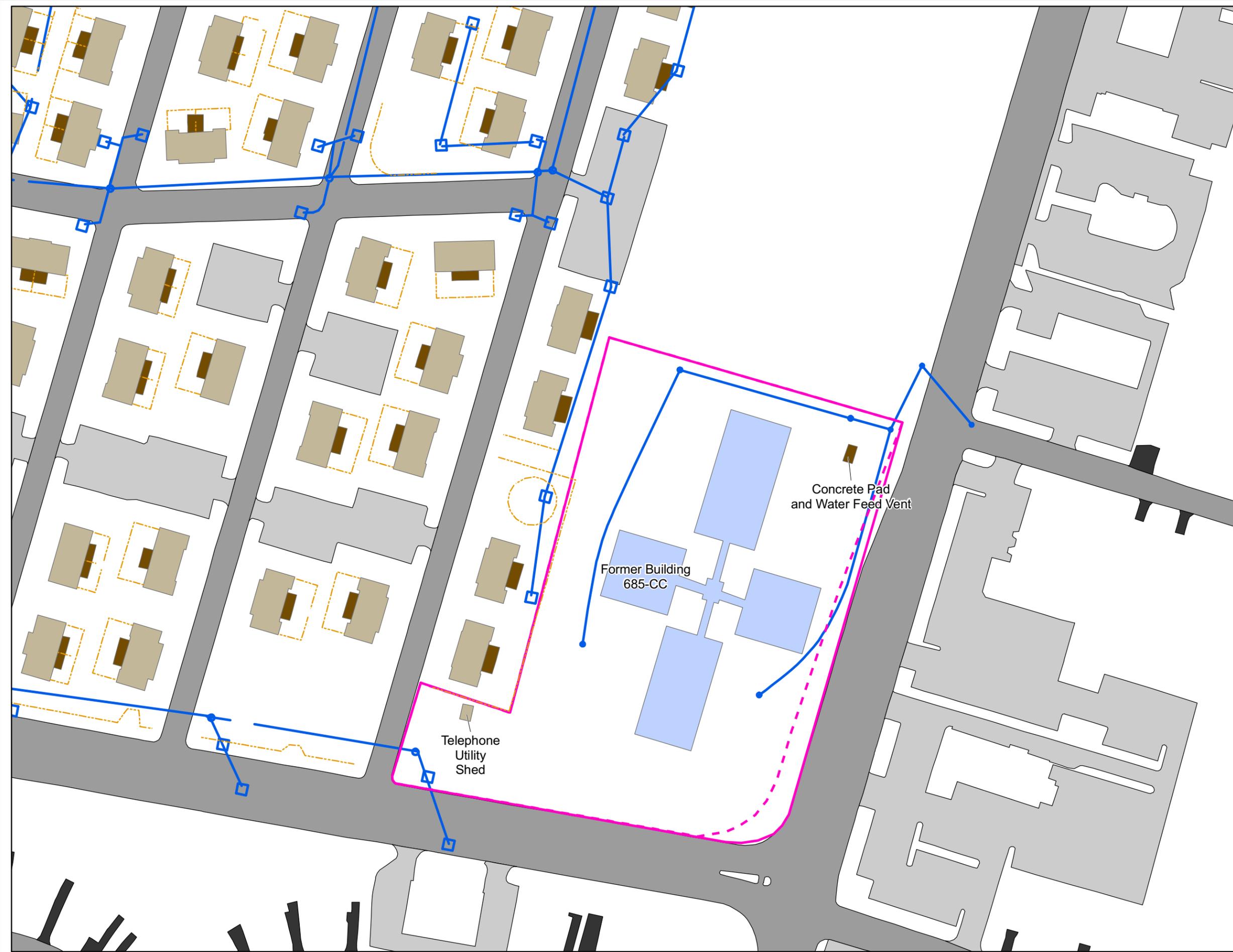


FIGURE
4-1

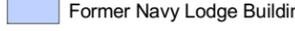
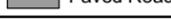


TITLE

STORMWATER SYSTEM

Former Navy Lodge
Newport, RI

LEGEND

-  Wall
-  Gate
-  Fence
-  ECP Site Boundary
-  ECP Site Boundary Easement
-  Stormwater Line
-  Paved Vehicle Parking Area
-  Paved Vehicle Driveway
-  Former Navy Lodge Building
-  Building
-  Slab
-  Paved Road



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

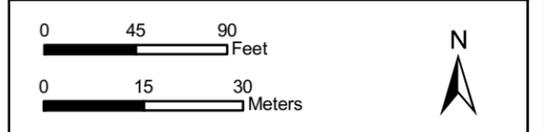





FIGURE
4-2



TITLE

WASTEWATER SYSTEM

Former Navy Lodge
Newport, RI

- LEGEND**
- Wall
 - Gate
 - Fence
 - ECP Site Boundary
 - ECP Site Boundary Easement
 - Sewer Line
 - Paved Vehicle Parking Area
 - Paved Vehicle Driveway
 - Former Navy Lodge Building
 - Building
 - Slab
 - Paved Road



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

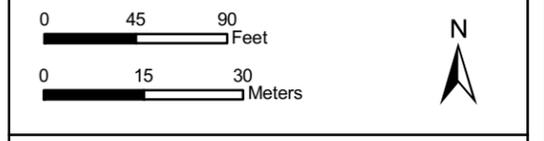


FIGURE
4-3



APPENDIX A

References



Department of the Navy BRAC Program Management Office



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APPENDIX A References

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APPENDIX B
List of Contacts



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APPENDIX B List of Contacts

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- FINAL -

**ENVIRONMENTAL CONDITION OF PROPERTY
REPORT**

for the

**NAVAL STATION NEWPORT
Newport, Rhode Island**

**Portions of Defense Highway,
Stringham Road,
and Midway/Greene Lane Segments**

Department of the Navy BRAC Program Management Office

Department of the Navy
Base Realignment and Closure
Program Management Office
1455 Frazee Road, Suite 900
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November 2009



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ABBREVIATIONS, ACRONYMS, AND SYMBOLS

%g	percent acceleration due to gravity	IRP	Installation Restoration Program
µg/L	micrograms per liter	LBP	Lead-Based paint
ACM	Asbestos Containing Material	MEC	Munitions and Explosives of Concern
AHERA	Asbestos Hazard Emergency Response Act	NAVSTA	Naval Station
AST	aboveground storage tank	NETC	Naval Education and Training Center
BRAC	Base Realignment and Closure	NGVD	National Geodetic Vertical Datum
CAA	Clean Air Act	NMFS	National Marine Fisheries Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	NPDES	National Pollutant Discharge Elimination System
CERFA	Community Environmental Response Facilitation Act	NPL	National Priorities List
CFR	Code of Federal Regulations	NRHP	National Register of Historic Places
CRMC	Rhode Island Coastal Resources Management Council	NUWC	Naval Undersea Warfare Center
CWA	Clean Water Act	NWI	National Wetlands Inventory
CZMA	Coastal Zone Management Act	OWR	Office of Water Resources
DoD	Department of Defense	OWS	oil/water separator
EBS	Environmental Baseline Survey	PCB	polychlorinated biphenyls
ECP	Environmental Condition of Property	pCi/L	picocuries per liter
EFH	Essential Fish Habitat	PMO	Program Management Office
FEMA	Federal Emergency Management Agency	ppm	Parts per Million
FFDCA	Federal Food, Drug, and Cosmetic Act	Pub. L.	Public Law
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act	RDEC	Residential Direct Exposure Criteria
HARP	Historic and Archaeological Resources Protection	RICRMP	Rhode Island Coastal Resources Management Program
ICRMP	Integrated Cultural Resources Management Plan	RIDEM	Rhode Island Department of Environmental Management
INRMP	Integrated Natural Resources Management Plan	RIDES	Rhode Island Discharge Elimination System
		SDWA	Safe Drinking Water Act
		SWPPP	Stormwater Pollution Prevention Plan
		TPH	total petroleum hydrocarbons



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TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and Disposal Facility
U.S.	United States
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
UST	underground storage tank



EXECUTIVE SUMMARY

This Environmental Condition of Property (ECP) report for the Portions of Defense Highway (also known as Burma Road), Stringham Road, and Midway/Greene Lane Segments (hereby referred to as the ECP Roadway Property), Naval Station (NAVSTA) Newport, Rhode Island summarizes the historical, cultural, and environmental conditions of the Property as part of Base Realignment and Closure (BRAC) documentation associated with transfer of the ECP Roadway. Information was reviewed with installation points of contact to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

A brief summary of ECP findings is provided below by subject area.

- **Classifications of Environmental Conditions.** This ECP Report is not intended to identify uncontaminated Property in compliance with the Community Environmental Response Facilitation Act (CERFA) and Department of Defense (DoD) policy.
- **Installation Restoration Program Sites.** The ECP Roadway Property was included on the NPL since it is a part of the entire NAVSTA Newport listing, although the Roadway property is not considered to be an area of contamination. The ECP Roadway does not have any CERCLA-related contamination associated with this property. There are a total of 13 areas of contamination on Navy property; the closest areas of contamination to the ECP Roadway Property are the McAllister Point Landfill, Tank Farms 1, 2, 3, 4, and 5, and the Melville North Landfill.
- **Underground Storage Tanks.** Two underground storage tanks (USTs) were associated with former Building 71 and an oil/water separator (OWS) was associated with former Building 70. The two USTs associated with Building 71 were removed in 1995, and in 1999 the OWS and discharge piping were also removed. There are no existing known USTs associated with former Buildings 70, 71, 111, or with current Building A 105. An underground oil pipeline runs along the Defense Highway that transported oil from the tank farms to the fueling piers.
- **Aboveground Storage Tanks.** No aboveground storage tanks (ASTs) are located at the ECP Roadway Property.
- **Munitions and Explosives of Concern.** No known munitions and explosives of concern have been stored at the ECP Roadway Property, and none are known to be present on the Property.
- **Hazardous Waste.** No hazardous waste is known to have been generated at the ECP Roadway Property. Building A 105, located within the Stringham Road Property, was a regulated 90-day hazardous waste storage facility used exclusively to store PCB items prior to transport to a contracted disposal facility. PCBs are not stored on the site any longer.
- **Polychlorinated Biphenyls.** Building A 105 was a regulated 90-day hazardous waste storage facility used exclusively to store PCB items prior to transport to a contracted disposal facility. There have been minor spill incidents within Building A 105, but there has been no evidence that PCB materials have migrated from the building during its operation as a hazardous waste storage facility.



- **Radiological Materials.** There are no known radiological materials at the ECP Roadway Property.
- **Pesticides.** Pesticides are applied at the NAVSTA Newport by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and for grounds maintenance. No pesticides have been stored in the past, or are currently stored, at the ECP Roadway Property.
- **Asbestos.** Asbestos-containing material (ACM) was known to be present within former Building 70 and the piping chambers, as well as suspected in former Buildings 71 and 111 prior to demolition. Due to the age of Building A 105, it is suspected that ACM could be present. The steam and condensate lines that run from the storage tanks to the fueling piers, along the Defense Highway, have an asbestos insulation system.
- **Lead-Based Paint.** Due to the age of the former Buildings 70, 71 and 111, it is suspected that they did contain lead-based paint (LBP); however, these buildings were demolished prior to 2000. Further, Building A 105 was built prior to 1979 and therefore LBP is suspected to be present. No LBP surveys have been conducted at any of the current or former buildings at the ECP Roadway Property.
- **Radon.** Radon surveys have not been conducted at any of the current or former buildings located within the ECP Roadway Property.
- **Air Quality.** There are no known air emission sources at the ECP Roadway Property.
- **Drinking Water.** Drinking water for NAVSTA Newport is provided by the City of Newport. Drinking water meters, owned by the City of Newport, are located in the Melville South area and the Greene Lane area of the ECP Roadway Property.
- **Groundwater.** Between October 2007 and March 2008, five groundwater monitoring wells were installed at the former Building 70 site to determine the impacts to groundwater, if any, as a result of the closure of the former 75,000-gallon UST. The results of the groundwater sampling determined that all of the samples collected contained levels of total petroleum hydrocarbons (TPH) above the RIDEM reporting limits of 50 micrograms per liter ($\mu\text{g/L}$).
- **Stormwater.** None of the buildings located within the ECP Roadway Property were identified within the 2003 SWPPP as a potential source of pollutants; however, the one-acre former Middletown Transfer Station was located within the Defense Highway Property. Although the former Middletown Transfer Station was not included within the 2003 SWPPP, it was in operation since 1984 as a refuse transfer station before it was decommissioned in 2008. All stormwater drains located in the ECP roadway Property have been included in RIDEM MS4 general permit for the NAVSTA Newport, discharging stormwater into Narragansett Bay.
- **Surface Water.** Surface water bodies within the boundaries of the ECP Roadway Property include three small freshwater streams (Gomes Brook, Normans Brook and Lawton Brook), as well as several wetland areas. Narragansett Bay is also located immediately west of the Defense Highway Property.
- **Wastewater.** No leach fields are known to exist at the ECP Roadway Property although wastewater lines run along the Defense Highway.
- **Floodplains.** The majority of the ECP Roadway Property lies within a designated 100-year and 500-year flood boundary; in particular the western portions of Gomes and Normans



Brooks. The northern sections of the ECP Roadway Property along Stringham Road, including Building A 105, are not within the 100-year or 500-year floodplains.

- **Wetlands and Aquatic Habitats (Special Aquatic Sites).** There are six known wetlands or special aquatic habitats located within the ECP Roadway Property, in addition to the coastal shoreline of Narragansett Bay.
- **Coastal Zone Areas.** Under the Rhode Island Coastal Resources Management Program and the Rhode Island Coastal Resources Management Council (CRMC), the ECP Roadway Property falls within all three tiers of the Rhode Island's coastal zone boundary inland extent.
- **Coral Reefs.** The ECP Roadway Property does not have any coral reef habitat; therefore, coral reef protection issues are not applicable.
- **Fisheries.** The Magnuson-Stevens Fishery Conservation and Management Act is not applicable to the ECP Roadway Property because the Property does not extend into Narragansett Bay.
- **Marine Mammals.** The Marine Mammal Protection Act is not applicable to the ECP Roadway Property.
- **Threatened, Endangered, and Other Sensitive Species.** There are no known federal or state-threatened, endangered, or other sensitive species identified at the ECP Roadway Property.
- **Geological Hazards.** Only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883. No other earthquakes have been recorded within the State of Rhode Island.
- **Historic Resources.** A cultural resources survey of the NAVSTA Newport was conducted in 1995 and concluded that there are no historical resources identified at the ECP Roadway Property.
- **Archaeological Resources.** A cultural resources survey were conducted from 1996 through 1998, indicating that there is a strong potential for prehistoric or historic period archaeological resources within the vicinity of the ECP Roadway Property. This area has been determined to have a potential to contain evidence of Native American burials; however, further studies would need to be conducted.
- **Native American Graves Protection and Repatriation Act.** There is a strong potential for prehistoric or historic period archaeological resources within the vicinity of the ECP Roadway Property. This area has been determined to have a potential to contain evidence of Native American burials; however, further studies would need to be conducted.
- **Solid Wastes.** All solid waste is collected and disposed of by a licensed contractor. The former Middletown Transfer Station was located on the Defense Highway Property. The transfer station was decommissioned in 2008.
- **Universal Waste.** According to the facility personnel, all universal waste generated at NAVSTA Newport, including the ECP Roadway Property is collected and recycled by the NAVSTA Newport Environmental Department.
- **Medical Waste.** There is no documentation that medical waste was generated, stored, or disposed of at the ECP Roadway Property.



Department of the Navy BRAC Program Management Office



- **Hazardous Materials.** There was no observation or documentation of hazardous material or storage at the site.



1.0 Purpose

The Navy Base Realignment and Closure (BRAC) Program Management Office (PMO) prepared this Environmental Condition of Property (ECP) report for the Naval Station Newport, Portions of Defense Highway, Stringham Road, and Midway/Greene Lane Segment (referred to in this report as the ECP Roadway Property). The ECP Roadway Property is located in Middletown and Portsmouth, Rhode Island.

This report used existing information to summarize the historical, cultural, and environmental conditions of the ECP Roadway Property. Information was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

The purposes of the ECP report are to:

- Provide the BRAC PMO with the information it may use to make disposal decisions regarding the Property;
- Provide the public with information relative to the environmental condition of the property;
- Assist the local government in planning for the reuse of BRAC property;
- Assist Federal agencies during the Federal property screening process;
- Provide information for prospective buyers;
- Assist new owners in meeting their obligations under the United States (U.S.) Environmental Protection Agency's (USEPA's) "All Appropriate Inquiry" regulations, at such time as they become final; and
- Assist in determining appropriate responsibilities, asset valuation, liabilities, and liabilities with other parties to a transaction.



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2.0 Background

Naval Station Newport History

The ECP Roadway Property is located along the western side (in the towns of Middletown and Portsmouth) of the Naval Station (NAVSTA) Newport, in Newport, Newport County, Rhode Island. The origin of the U.S. Navy's presence within Rhode Island began during the Revolutionary War, where the first Commander-in-Chief of the Continental Navy, Esek Hopkins, would use Narragansett Bay as shelter between combat engagements (GlobalSecurity 2006). In 1869, the U.S. Navy's Admiral Dixon Port assisted in the establishment of an experimental torpedo station on Goat Island, approximately less than one mile south of the current NAVSTA Newport. During World War II, the torpedo station reached its peak of importance, manufacturing 80 percent of the torpedoes used by the U.S. Navy during the war. The torpedo station was permanently closed in 1951, and Goat Island was transferred to the City of Newport. In place of the experimental torpedo station, a new research facility was created, the Naval Underwater Ordnance Station. In 1970 the Naval Underwater Ordnance Station merged with the naval activities at New London, Connecticut, established to what is now the Naval Underwater Warfare Center (NUWC) (GlobalSecurity 2006).

By 1973, a Shore Establishment Realignment study merged five previously independent commands and created the Naval Education and Training Center (NETC). These five former shore commands include the Naval Base Staff, Naval Station, Naval Officer Training Center, Public Works Center, and the Supply Center Annex. Additionally, NETC is also home of the U.S. Navy's most prestigious educational institution, the Naval War College, established in 1884 and is the oldest such institution in continuous existence anywhere in the world (GlobalSecurity 2006, NWC 2009). In October of 1998, Naval Station Newport (NAVSTA) was established as the primary host command, taking over base operating support responsibilities from NETC.

Currently, NAVSTA Newport is home to more than 42 naval and defense commands and activities such as training officers, officer candidates, senior enlisted personnel and midshipman candidates, as well as conducting advanced undersea warfare and development research. Approximately 5,000 employees work at NAVSTA Newport, with an additional 9,300 students (CNIC 2009, GlobalSecurity 2006).



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3.0 Property Description

The sections of ECP Roadway Property that are the subject of this report are located along the northwestern portion of NAVSTA Newport, Newport, Rhode Island on the western shoreline section of Aquidneck Island. The ECP Roadway Property includes approximately six-miles of Defense Highway that spans across both Middletown and Portsmouth, RI, between Stringham Road (Portsmouth, RI) in the north to the NUWC (located in Middletown, RI) at the southern end. In addition, the ECP Roadway Property includes Stringham Road, stretching from the southwestern corner of Tank Farm 1, east to West Main Road (Route 114). In total, the ECP Roadway Property consists of approximately 67 acres of land. Building A 105 is also included within the ECP Roadway Property site, and is located along the northern side of Stringham Road, Portsmouth, RI. The Midway/Greene Lane Property includes the western most section of Greene Lane and the site of former Buildings 70, 71, 111, and the Midway Fueling Pier located along side Defense Highway where it meets Greene Lane in Middletown, RI. The southern portion of the ECP Roadway Property includes a one-acre parcel that was leased to the Town of Middletown and used as a municipal solid waste collection and transfer Station. The former Middletown Transfer Station was decommissioned in 2008 (MCE 2008). The ECP Roadway Property is bordered by the Melville Housing area and Tank Farms 1 and 2 to the north; by West Main Road, Tank Farms 3, 4 and 5, the Greene Lane Housing area, and private properties to the east; NUWC to the south; and by Carr Point Recreation Area, McAllister Point Landfill, privately owned property and Narragansett Bay to the west (**Figure 3-1**).

Former Buildings 70, 71 and 111, within the Midway/Greene Lane Portion, were built during the 1940's and ceased operations in approximately 1974. All of the buildings were demolished prior to 1999 (Tetra Tech 2008a, Tetra Tech 2008b). The area where the former buildings were located is currently vacant and covered with gravel and vegetation.

Building A 105 was built prior to 1979 for the storage of fire-fighting foam. In 1979, the building was modified to provide temporary storage of materials containing polychlorinated biphenyls (PCBs), prior to transport to a contracted disposal facility. Building A 105 has been abandoned and is not in use (ENSR 1992).



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4.0 Environmental Condition Overview – Existing Environmental Information

As part of ECP report activities, extensive record reviews were conducted, and an on-site visit and personnel interviews were held to document current and historic conditions of the ECP Roadway Property. The on-site visits were conducted on July 28 and 29, 2009.

The BRAC PMO Northeast office, as well as site personnel located at NAVSTA Newport provided relevant information for this ECP report. Additionally, available reports of previous environmental investigations at NAVSTA Newport were obtained and reviewed. **Appendix A** presents a list of the documents that were reviewed as part of this effort. The information presented in this report was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

Interviews were conducted with NAVSTA Newport personnel during a site visit and in subsequent telephone conversations and e-mail communications. References are presented in **Appendix A**. **Appendix B** presents a list of the people contacted during preparation of this ECP report.

4.1 Classification of Environmental Conditions

The Community Environmental Response Facilitation Act (CERFA) of 1992 (amending the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] to add Section 120(h)(4) of CERCLA, 42 United States Code (U.S.C.) Section 9620(h)(4)) requires the identification and documentation of uncontaminated real property controlled by the Department of Defense (DoD) components where DoD plans to make excess property available for reuse pursuant to a base closure law. Uncontaminated property is defined as any "real property on which no hazardous substances and no petroleum products or their derivatives were known to have been released, or disposed of." This includes aviation fuel and motor oil. This ECP Report is not intended to identify uncontaminated in compliance with CERFA and DoD policy.

No Environmental Baseline Survey (EBS) has been completed for the Defense Highway, Stringham Road, or Midway/Greene Lane properties.

4.2 Installation Restoration Program Sites

NAVSTA Newport, including the ECP Roadway Property, was listed on the National Priorities List (NPL) in 1989 (USEPA ID# RI6170085470) (Malcolm Pirnie 2005). However, according to Ms. Cornelia Mueller, NAVSTA Newport Environmental Department, the ECP Roadway Property was included on the NPL since it is a part of the entire NAVSTA Newport listing, although the site is not considered to be area of contamination. The ECP Roadway does not have any CERCLA-related contamination associated with the property. There are a total of 13 areas of contamination within the installation; the closest areas of contamination to the ECP Roadway Property are:



- the McAllister Point Landfill (RI6170085470), located immediately adjacent to the west of the southern portion of the Defense Highway;
- Tank Farms 1 (RI8971524790), 2 (RID981065956), 3 (RID981066079), 4 (RID981065899), and 5 (RID981065832), all located north and east along the ECP Roadway Property; and
- the Melville North Landfill (RID981064421) located off NAVSTA Newport Property and southwest of the Defense Highway-Stringham Road junction (USEPA 2009).

Figure 4-1 provides the locations of the areas of contamination in the vicinity of the ECP Roadway Property that includes Stringham Road, Defense Highway and Midway/Greene Lane properties.

4.3 Storage Tanks

4.3.1 Underground Storage Tanks

There are several areas of remediation that are in association with the ECP Roadway Property, which include the locations of former Buildings 70, 71 and 111, located in the Midway/Greene Lane parcel, and the associated 6-mile span of fuel and steam pipeline and piping chambers. As detailed in **Section 3.0**, demolition of the former buildings occurred between 1995 and 1999, while the related pipeline system was cleaned, pressure tested, and abandoned in-place in 2000 (Tetra Tech 2008a, Tetra Tech 2008b, Tetra Tech 2008c).

Former Buildings 70, 71, and 111

The former Buildings 70, 71 and 111, operated between the 1940's and approximately 1974 as the Midway Booster Pump House (former Building 70) and Boiler House No. 3 (former Building 71). The use of former Building 111 is unknown. These buildings were associated with heating and pumping fuel (Navy Special: No. 6 fuel oil) from former Tank Farms 4 and 5, to the north, to the Midway Fueling Pier (Tetra Tech 2008a). In 1995, the two underground storage tanks (USTs), a 75,000-gallon No. 6 fuel oil UST and a 5,000-gallon diesel fuel UST, associated with former Building 71 were removed. Later that year, former Building 71 was also demolished. During the removal of the 75,000-gallon UST, it was determined that the UST had leaked and impacted the surrounding soil (Tetra Tech 2008c). Soil was removed from the area and post-excavation soil sampling results indicated localized areas of petroleum-impacted soil remained (Tetra Tech 2008c). A secondary remedial action was implemented in an attempt to reduce residual concentrations of Total Petroleum Hydrocarbons (TPH) in the soil (Tetra Tech 2008c). During the remediation activities in June 2000, the former Midway Fuel Pier Approach pipe removal and cleaning operations occurred. During the removal operations, the former oil/water separators (OWS) discharge line location was determined and petroleum-contaminated soils were identified. Removal of the discharge line occurred in February 2006 and subsequent remediation efforts were conducted (Tetra Tech 2008a). A total of 4,770 tons of soil were excavated during these remediation activities, removed and disposed of off-site between October 2005 and March 2008 (Tetra Tech 2008a).



Former Pipeline and Piping Chambers

The pipeline and piping Chambers, utilized to transfer various fuels, including jet fuel (JP-5 and JP-8), marine diesel, Navy Special (No. 6 fuel oil) and No. 2 fuel oil from Tank Farms 1, 2, 3, 4, and 5 to various ship fueling stations at the nearby piers, run along the Defense Highway portion of the ECP Roadway Property (**Figure 4-2**). The six-mile span of pipeline is located along Defense Highway, from the junction of Defense Highway and Stringham Road, to Pier 1 located south of the ECP Roadway Property. In 2000, the pipeline was cleaned; pressure tested and abandoned in-place, along with a total of 50 concrete chambers. These chambers provided access to valves, expansion joints, and reducers associated with the fuel pipeline. Five of the chambers had previously been demolished, while the remaining were partially buried and typically equipped with ladder access. Several of the chambers contained drains that discharged directly to the environment (Tetra Tech 2008b). The in-place abandonment of the chambers included asbestos abatement of the steam line insulation systems within each of the remaining concrete chambers to be demolished. Upon completion of the cleaning process and asbestos abatement, the soils below and adjacent to the pipeline penetrations were sampled. Excavation of petroleum contaminated soils exceeding the Rhode Island Department of Environmental Management (RIDEM) residential direct exposure criteria (RDEC) was conducted between February 14 and 20, 2008. Chamber AV-1 (located within the ECP Roadway Property) was identified as containing the highest concentration of TPH (85.6 parts per million [ppm]) of all the samples collected, and found to be below the RIDEM RDEC exceedances of 500 ppm (Tetra Tech 2008b). Screening of the excavated soils determined that the cleanup goals had been met and that the excavation work was complete (Tetra Tech 2008b).

Two USTs were associated with former Building 71 and an OWS was associated with former Building 70, on the Midway/Greene Lane portion of the ECP Roadway Property. According to the 2008 *Closeout Report for Former Building 70, Naval Station Newport, Middletown, Rhode Island*, the two USTs associated with former Building 71 were removed in 1995 (Tetra Tech 2008a). In 1999, during the demolition of former Building 70, the OWS and the discharge piping was also removed (Tetra Tech 2008a). There are no existing known USTs associated with former Buildings 70, 71, 111, or with current Building A 105. **Table 4-1** identifies the former USTs contents, volume and location. **Figure 4-3** provides the locations of the former USTs.

4.3.2 Aboveground Storage Tanks

There are currently no aboveground storage tanks (ASTs) located at the ECP Roadway Property, and no ASTs are known to have been used in the past at any existing or former buildings.

4.4 Munitions and Explosives of Concern

No known munitions and explosives of concern (MEC) have been stored at the ECP Roadway Property (Malcolm Pirnie 2003, Rielly 2009a) and none are known to be present on the property.



4.5 Hazardous Waste

In accordance with CERCLA 120(h)(1), Title 40 Code of Federal Regulation (CFR) Part 373 and the DoD policy of June 17, 1994, notice is required when a hazardous substance has been stored for one year or more in quantities greater than 1,000 kilograms or the substance's CERCLA reportable quantity, whichever is greater, or when hazardous substances that are also listed under 40 CFR 261.30 as acutely hazardous wastes, and that are stored for one year or more, have been stored in quantities greater than or equal to the substance's reportable quantity. Medical wastes and universal wastes are not regulated under CERCLA.

No hazardous waste is known to have been generated at the Defense Highway, Stringham Road, or Midway/Greene Lane properties. Hazardous waste generated at NAVSTA Newport is collected and transported to the NAVSTA Newport Public Works Central Hazardous Waste Accumulation Area, Building 15, for temporary storage, and later transfer to a hazardous waste treatment, storage, and disposal facility (TSDF) located off-base (Reilly 2009). Building 15 is not located within the ECP Roadway Property. Building A 105 is located within the Stringham Road Property and was once a regulated 90-day hazardous waste storage facility used exclusively to store PCB items prior to transport to a contracted disposal facility (ENSR 1992). The hazardous waste stored within Building A 105 is discussed in more detail in **Section 4.6**. **Figure 4-4** shows the location of Building A 105. Building A 105 is no longer in use.

4.6 Polychlorinated Biphenyls

The Toxic Substances Control Act (TSCA) (Public Law [Pub. L.] 94-469 enacted in 1976 and effective January 1, 1977) authorizes the USEPA to secure information on all new and existing chemical substances and to control any of these substances that could cause an unreasonable risk to public health or the environment. Under earlier laws, the USEPA had authority to control toxic substances only after damage had occurred. The earlier laws did not require the screening of toxic substances before they entered the marketplace. TSCA closed the gap in the earlier laws by requiring that the health and environmental effects of all new chemicals be reviewed before they are manufactured for commercial purposes. PCBs are regulated under Title I (Control of Toxic Substances), which includes provisions for testing chemical substances and mixtures, manufacturing and processing notices, regulating hazardous chemicals substances and mixtures, managing imminent hazards, and reporting and retaining information.

According to the 1992 *Revised Draft RCRA Closure Plan for Buildings 1166 and A 105, Naval Education and Training Center, Newport, Rhode Island* and facility personnel, Building A 105 was a regulated 90-day hazardous waste storage facility used exclusively to store PCB items prior to transport to a contracted disposal facility. Typical hazardous waste stored at Building A 105 included fluids in 55-gallon drums or smaller containers, transformer carcasses with or without fluids, and PCB-contaminated residues from clean-up activities conducted at NAVSTA Newport (ENSR 1992). According to the closure plan, there have been minor spill incidents within Building A 105, but there has been no evidence that PCB materials have migrated from the building during its operation as a hazardous waste storage facility (ENSR 1992). **Table 4-2** provides the maximum inventory of containerized hazardous wastes in Building A 105, based on NETC's Hazardous Waste Calendar 1990 Inventory and representing the maximum waste volume stored. According to facility personnel (Rielly 2009b), closure certification was obtained from the State of Rhode Island.



Figure 4-5 provides the locations of the current transformers found within the ECP Roadway Property and the location of the former PCB transformer storage building (A105). According to facility personnel (Mueller 2009a), all the PCB transformers were removed in the 1980s.

4.7 Radiological Materials

According to facility personnel, there are no known radiological materials at the ECP Roadway Property (Moore 2009).

4.8 Pesticides

The USEPA regulates the use of pesticides under the authority of two federal statutes: the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA). The FIFRA provides the basis for regulation, sale, distribution and use of pesticides in the U.S., whereas the FFDCA authorizes the USEPA to set maximum residue levels, or tolerances, for pesticides used in or on foods or animal feed.

According to the 2002 *Naval Station Newport Pest Management Plan*, pesticides are applied by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and for grounds maintenance (EFA Northeast 2002). Currently, pesticides are stored at the NAVSTA Newport Pest Control Shop, Building 1298, which is not within the ECP Roadway Property (EFA Northeast 2002, Malcolm Pirnie 2005). No pesticides are known have been stored in the past, or are currently stored, at any area within the ECP Roadway Property (EFA Northeast 2002).

4.9 Asbestos

Asbestos abatement is regulated under TSCA Title II, Asbestos Hazard Emergency Response, which was added by the Asbestos Hazard Emergency Response Act (AHERA) (Pub. L. 99-519), enacted by Congress on October 22, 1986. It authorizes the USEPA to amend its TSCA regulations to impose more requirements on asbestos abatement in schools. AHERA provides for the promulgation of federal regulations requiring inspection for asbestos and appropriate response actions in schools and mandates periodic reinspection. In addition, it requires the USEPA Administrator to determine "the extent of the danger to human health posed by asbestos in public and commercial buildings and the means to respond to any such danger."

According to the facility personnel and the 2008 *Closeout Report for Piping Chamber Remediation, Naval Station Newport, Middletown, Rhode Island*, a six-mile span of inactive fuel and steam line, including a total of 50 concrete chambers, are located along Defense Highway with the greater part situated within the ECP Roadway Property. The steam line that runs along Defense Highway has been identified as containing an asbestos insulation system in addition to the 50 chambers (Smith 2009, Navy 2004). Asbestos in-place abatement of the steam line insulation systems within the chambers was conducted in 2000 (refer to Section 4.2 for further information); however, the piping along Defense Highway still has asbestos insulation (Navy 2004).



Furthermore, according to facility personnel, asbestos-containing material (ACM) was present within former Building 70 and the piping chambers, as well as suspected in former Buildings 71 and 111 prior to demolition (Smith 2009). Due to the age of Building A 105, it is suspected that ACM could be present. Refer to **Figure 4-6** for the location of asbestos at the current and former buildings in the ECP roadway Property.

4.10 Lead-Based Paint

Due to the age of the former Buildings 70, 71 and 111, it is suspected they did contain lead-based paint (LBP); however, these buildings were demolished after 1999 (refer to **Sections 2.0** and **4.2**) (Tetra Tech 2008a). Further, Building A 105 was built prior to 1979 and therefore LBP is also suspected to be present (ENSR 1992) (**Figure 4-7**). No LBP surveys have been conducted at any of the current or former buildings at the ECP Roadway Property.

4.11 Radon

Indoor radon concentrations are regulated under TSCA Title III (Indoor Radon Abatement), which was added on October 28, 1988 (Pub. L. 100-551). The purpose of this legislation is to assist states in responding to the threat to human health posed by exposure to radon. The USEPA is required to publish an updated citizens' guide to radon health risk and to perform studies of the radon levels in schools and radon contamination in federal buildings.

Radon surveys have not been conducted at any of the current or former buildings located within the ECP Roadway Property. According to the 2003 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island, Newport, Rhode Island* is located in the USEPA National Radon Database Zone 2. The average indoor level for Zone 2 is greater than 2 picoCuries per liter (pCi/L) and less than 4 pCi/L. The USEPA has established an indoor air action level of 4 pCi/L for radon (Malcolm Pirnie 2003).

4.12 Air Quality

Air emissions at the NAVSTA Newport are regulated under the Clean Air Act (CAA).

NAVSTA Newport operates under RIDEM, Office of Air Resources Operating Permit Number RI-25-07 (RI) (RIDEM 2008). The Operating Permit was renewed in October 2007 and expires in October 2012. The emissions-generating equipment addressed in the operating permit includes emergency diesel generators, No. 2 fuel oil and natural gas burning boilers, liquefied propane gas burners, natural gas burning space heaters and storage tanks (RIDEM 2008).

There are no known air emissions sources at the ECP Roadway Property (Davis 2009).

4.13 Water Quality

4.13.1 Drinking Water

The Safe Drinking Water Act (SDWA) of 1974, amended in 1986 and 1996, was passed to protect public health by regulating the nation's public drinking water supply and its sources including rivers, lakes, reservoirs, springs, and groundwater. Drinking water for the installation



is provided by the City of Newport. According to the 2004 *Water System Vulnerability Assessment*, the City provides approximately 1,011,000 gallons per day to the installation, operating under the Rhode Island public water system identification number 1000016 (Dorocz 2009, Woodard & Curran 2004). Approximately 14 chlorination stations are located throughout the installation, in order to feed sodium hypochlorite solution on an emergency basis to raise the chlorine residual and meet water quality standards for coliform. According to facility personnel, this is done as a result of the low chlorine residual after leaving the City of Newport and Portsmouth Water and Fire Districts water plants and traveling to NAVSTA Newport (Woodard & Curran 2004, Dorocz 2009). The 2004 *Water System Vulnerability Assessment* stated that NAVSTA Newport experienced four coliform violations between January of 1996 and December 1998, no recent violations are known to have occurred (Woodard & Curran 2004).

4.13.2 Groundwater

Currently, there are no known groundwater wells for drinking water use in the ECP Roadway Property. Between October 2007 and March 2008, five groundwater monitoring wells were installed to determine the impacts to groundwater, if any, as a result of the closure of the former 75,000-gallon UST located at former Building 70 (Malcolm Pirnie 2003, Tetra Tech 2008c). The results of the groundwater sampling determined that all of the samples collected contained levels of TPH above the RIDEM reporting limits of 50 micrograms per liter ($\mu\text{g/L}$) (Tetra Tech 2008c). This site is still undergoing investigation and remediation. **Table 4-3** identifies the results of the groundwater sampling in regard to the baseline TPH levels.

Groundwater within NAVSTA Newport is relatively shallow due to the proximity to sea level. Any wells that are developed may have salt intrusion. Deeper artesian wells capture water that is trapped between bedrock and is replenished where the aquifer is near or at surface level. Groundwater in the vicinity of the ECP Roadway Property is classified by the RIDEM as “GB: groundwater not suitable for drinking water use without treatment due to known or presumed degradation” (RIDEM 2004, Malcolm Pirnie 2005).

4.13.3 Stormwater

The Water Pollution Control Act Amendments of 1972, commonly known as the Clean Water Act (CWA), uses a variety of regulatory and nonregulatory tools to reduce pollutant discharges into waterways and to manage polluted runoff. Under the CWA, a National Pollutant Discharge Elimination System (NPDES) permit is required for facilities discharging stormwater associated with industrial activities.

According to the 2003 *Final Industrial Stormwater Pollution Prevention Plan (SWPPP) Naval Station Newport, Newport, Rhode Island*, NAVSTA is considered to be engaged in “industrial activity” by the RIDEM, Office of Water Resources (OWR). These activities include: landfills/open dumps receiving industrial waste; recycling of materials; transportation facilities; and light industry (GZA 2003). These operations meet the eligibility requirements for a Rhode Island Pollutant Discharge Elimination System (RIDES) General Permit (Number RIR800126) (Moore 2009). None of the current or former buildings located within the ECP Roadway Property were identified within the 2003 SWPPP as a potential source of pollutants; however, as discussed in **Section 3.0**, the one-acre former Middletown Transfer Station was located along Defense Highway east of McAllister Point, near Greene Lane (GZA 2003, MCE 2008). Although the Middletown Transfer Station was not included within the 2003 SWPPP, it was in operation



since 1984 as a refuse transfer station before it was decommissioned in 2008 (MCE 2008). **Figure 4-8** provides the locations of stormwater drains within the ECP Roadway.

4.13.4 Surface Water

Surface water bodies within boundaries of the ECP Roadway Property include three small streams (Gomes Brook, Normans Brook and Lawton Brook), as well as several wetland areas, discussed in more detail in **Section 4.14.2**. In addition, Narragansett Bay is located immediately to the west of the ECP Roadway Property boundary (refer to **Figure 3-1**) (Louis Berger 2001, Woodard & Curran 2004).

4.13.5 Wastewater

According to the 2005 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island*, wastewater from NAVSTA Newport discharges to the Newport Water Pollution Control Plant, a secondary treatment facility using traditional activated sludge and chlorination (Malcolm Pirnie 2003). The wastewater distribution system in the ECP Roadway Property is shown of **Figure 4-9**. No leach fields are known to have existed at the ECP Roadway Property.

4.14 Natural Resources

4.14.1 Floodplains

Based on Federal Emergency Management Agency (FEMA) data, the majority of the ECP Roadway Property lies within a designated 100-year and 500-year flood boundary; in particular the western portions of Gomes, Normans, and Lawton Brooks. The northern sections of the ECP Roadway Property along Stringham Road, including Building A 105, are not within the 100-year or 500-year floodplains (RIDEM 1985). **Figure 4-10** indicates the areas of the ECP Roadway that are within the floodplain boundaries.

According to the 2001 *Integrated Natural Resource Management Plan (INRMP)*, NAVSTA Newport contains over ten miles of shoreline on the western shore of Aquidneck Island, where low-lying natural resources at the installation are especially vulnerable to flood damage from waves with high velocity (Louis Berger 2001). The INRMP states that flooding may be expected in inundate areas up to elevation 17 feet National Geodetic Vertical Datum (NGVD), eastward beyond the Defense Highway, particularly the valleys for the Gomes, Normans and Lawton Brooks (Louis Berger 2001). This area of inundation would also include the western most portions of Midway/Greene Lane during a 100-year flood (**Figure 4-10**).

4.14.2 Wetlands and Aquatic Habitats (Special Aquatic Sites)

According to the 2001 INRMP, several wetlands are located throughout the ECP Roadway Property (Louis Berger 2001). Six freshwater wetland systems have been identified, in addition to the Narragansett Bay shoreline along the Midway/Greene Lane portions of the ECP Roadway Property (located outside, but immediately adjacent to NAVSTA Newport). The shoreline area consists of an estuarine intertidal emergent, estuarine intertidal beach bar, and an estuarine



intertidal rocky shore (Louis Berger 2001). Freshwater wetland systems located within the ECP Roadway Property include:

- A perimeter wetland and riverbank wetland located along the eastern edge of Defense Highway, south of McAllister Point;
- An estuarine intertidal emergent wetland located along Gomes Brook, south of Midway/Greene Lane;
- An unnamed wetland north of the Greene Lane housing area;
- A wetland extending between the rail line and Defense Highway;
- A palustrine-forested wetland named Normans Brook;
- An estuarine intertidal flat and estuarine intertidal emergent wetland located along Lawton Brook; and
- A palustrine scrub shrub wetland located north of the access road to former Tank Farm 4 (Louis Berger 2001).

Refer to **Table 4-4** for the wetland Inventory classifications, locations, and descriptions of each wetland system observed within the ECP Roadway Property.

Special aquatic habitats have been identified in the areas adjacent to Former Tank Farm 4. According to the 2001 INRMP, Former Tank Farm 4 (RID981065899) had undergone remediation as an IRP site and is currently closed. However, sensitive environmental resources in the area of the remediation include Normans Brook to the south and a small palustrine wetland to the north, both of which are located within the ECP Roadway Property (Louis Berger 2001). Other special aquatic areas identified include the freshwater wetlands along Gomes Brook (Louis Berger 2001).

Additionally, the 2001 INRMP indicates that eelgrass (*Zostera marina*) and widgeon grass (*Ruppia maritima*) have been observed in areas offshore of NAVSTA Newport, including the areas west of the Defense Highway parcel, in areas along the Midway/Greene Lane parcel between McAllister Point Landfill and Carr Point Recreation Area (Louis Berger 2001). Eelgrass provides an important habitat for many species of fish within the Narragansett Bay, as both a source of food and protection. This special aquatic habitat is a valuable habitat that has recently gained a restoration initiative supported by the State of Rhode Island, federal agencies and nonprofit groups (Louis Berger 2001). **Figure 4-11** indicates the areas of known and suspected wetlands and special aquatic sites within the ECP Roadway Property.

4.14.3 Coastal Zone Areas

The Federal Coastal Zone Management Act (CZMA) (16 USC 1451-1464) encourages states to take a leading role in the management of their coastal regions. With state participation in the federal coastal zone management program, Section 307 of the CZMA requires that various federal activities which are reasonably likely to affect any land or water use, or natural resource of the coastal zone, be consistent with a state's approved coastal zone management program (CRMC 2009). In 1978, the State of Rhode Island adopted the Rhode Island Coastal Resources Management Program (RICRMP) into the federal coastal management program



established by the CZMA. The agency responsible for overseeing implementation of the RICRMP is the Rhode Island Coastal Resources Management Council (CRMC) (CRMC 2009).

The extent of Rhode Island's coastal zone boundary is the three mile outer limit. The CRMC's jurisdiction includes all tidal waters within state jurisdiction, while the inland extent of Rhode Island's coastal zone boundary is a tiered system which is dependent on the type and location of an activity. Policies and standards governing activities within these three tiers are contained in the RICMP and the CRMC's Special Area Management Plans (CRMC 2009).

The first tier of Rhode Island's coastal zone generally extends 200 feet inland of a coastal feature. Within this area the CRMC has authority over any development activity, including maintenance. The second tier extends inland to include Rhode Island's 21 coastal communities. Within this second tier, all federal (as well as state) activities must be consistent with the RICMP. The final tier of the CRMC jurisdiction encompasses the entire state for certain activities which the state has predetermined may affect coastal resources or uses regardless of location within the state. These activities include: energy generation, transfer processing, or storage; chemical processing; minerals extraction; sewage treatment and disposal; and solid waste disposal (CRMC 2009).

The ECP Roadway Property falls within all three tiers of the Rhode Island's coastal zone boundary inland extent.

4.14.4 Coral Reefs

The ECP Roadway Property does not have any coral reef habitat; therefore, coral reef protection issues are not applicable (Kam 2009).

4.14.5 Fisheries

The Magnuson-Stevens Fishery Conservation and Management Act requires all federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions or proposed actions, permitted, funded or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). EFH is defined as, "those waters and substrate necessary for fish for spawning, breeding feeding or growth to maturity." "Waters" include aquatic areas and their associated physical, chemical and biological properties. According to the 2001 INRMP, the only EFH within the NAVSTA Newport vicinity are the recently designated eelgrass beds that are a key EFH for summer flounder (*Paralichthys dentatus*) (Louis Berger 2001). As stated in **Section 4.14.2**, there are known eelgrass beds within the areas to the west of the Defense Highway, along the Midway/Greene Lane.

4.14.6 Marine Mammal

Harbor seals (*Phoca vitulina*) and harbor porpoises (*Phocoena phocoena*) may be seen in Narragansett Bay offshore of NAVSTA Newport. According to the 2001 INRMP, a pair of harbor seals has been observed during the winter months in Coddington Cove, less than one-half mile south of the Defense Highway parcel (Louis Berger 2001). No other marine mammals are known to occur within the ECP Roadway Property.



4.14.7 Threatened, Endangered, and Other Sensitive Species

There are no known federal or state threatened, endangered, or other sensitive species identified at the ECP Roadway Property (Kam 2009, Louis Berger 2001).

4.14.8 Geological Hazards

According to the United States Geological Survey (USGS), only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883 (USGS 2009). No other earthquakes have been recorded within the State of Rhode Island. The Defense Highway is located within an earthquake zone where in a 50 year period, there is only a 2% chance of an earthquake occurring with peak acceleration (ground movement) of 8 to 10% acceleration due to gravity (%g). It takes a peak acceleration of 10%g to cause damage to buildings; therefore, there is minimal risk of an earthquake that would cause damage in the ECP Roadway Property (USGS 2009).

According to facility personnel (Mueller 2009b), soils on Aquidneck Island, including Naval Station Newport, have levels of naturally-occurring arsenic that exceed the State of Rhode Island's standards for Industrial/Commercial property.

See **Section 4.14.1** for information on flood hazards.

4.15 Cultural Resources

Cultural resources at NAVSTA Newport are federally regulated under the National Historic Preservation Act, Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act.

4.15.1 Historic Resources

In 1995, a cultural resources survey of the NAVSTA Newport was conducted, excluding NUWC. The survey included historical research, a Phase IA archaeological investigation, and an inventory and assessment of the buildings and structures of NAVSTA Newport in regard to their eligibility for listing in the National Register of Historic Places (NRHP) (Louis Berger 1998). The survey concluded that three areas within NAVSTA Newport meet National Register Criteria as historic districts; the ECP Roadway Property is not included within any of the three districts identified (Navy 2007, Louis Berger 1998).

Further, the 2001 INRMP notes that two National Historic Landmarks are located within the boundaries of NAVSTA Newport. These landmarks are located on Coasters Harbor Island and at Fort Adams (Louis Berger 2001). Neither of these National Historic Landmarks are located within the ECP Roadway Property. **Figure 4-12** illustrates the locations of historic districts on or near the ECP Roadway Property.

4.15.2 Archaeological Resources

A cultural resources survey of NAVSTA Newport was conducted in 1996 through 1998, including a Phase IA archeological investigation to assess the potential for prehistoric and/or



historic archaeological resources (Louis Berger 1998). According to the 2007 *Draft Integrated Cultural Resources Management Plan* (ICRMP), the historical research and archeological reconnaissance undertaken during the 1996-1998 cultural resources survey concluded that extensive ground disturbance over large portions of NAVSTA Newport has limited the potential for preservation of archeological sites in many areas of the installation (Navy 2007, Louis Berger 1998). Further, the survey concluded that there are no large archeological sites within the boundaries of NAVSTA Newport; however, two local areas inside the Defense Highway parcel and on the installation were determined to be archeologically sensitive. These areas are located immediately to the south of the Midway/Greene Lane parcel, and adjacent to the Defense Highway parcel to the northeast of Lawton Brook (Navy 2007). Refer to **Table 4-5** and **Figure 4-12** for further information regarding the archeologically sensitive areas.

Under the provisions of the Department of the Navy's Environmental and Natural Resources Program Manual (OPNAVINST 5090.1B), NAVSTA Newport developed a Historic and Archaeological Resources Protection (HARP) Plan for the identification, protection, and management of significant cultural resources on the installation (Louis Berger 2000, Louis Berger 2001). During the development of the HARP, several locations were considered to have a strong potential to contain prehistoric or historic period archaeological resources. One of the areas identified is located in the Town of Middletown, within the vicinity of the Defense Highway parcel. This area has been determined to have a potential to contain evidence of Native American burials; however, further studies would need to be conducted. Additionally, the waters of Narragansett Bay, including the waters west of the Defense Highway parcel, are known to contain a wide range of submerged archaeological resources from the Revolutionary War period to the recent past (Louis Berger 2001). None of the areas identified are within the boundaries of the ECP Roadway Property (Navy 2007, Louis Berger 2000, Louis Berger 2001).

4.15.3 Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act is not applicable because no known Native American graves have been identified on the installation. Nonetheless, as discussed in **Section 4.15.2**, one area in the vicinity of ECP Roadway Property has been determined to have a potential to contain evidence of Native American burials; however, further studies would need to be conducted (Navy 2007, Kam 2009, Louis Berger 2001). During the construction of the bike path along the Defense Highway, a member of the Narragansett Indian Tribe was present to observe the construction. No evidence of Native American graves was detected (Poisson 2009).

4.16 Solid Waste

According to facility personnel (Moore 2009b), solid waste at NAVSTA Newport was disposed of at an on-site landfill outside of the ECP Property. Sometime in the 1980's, solid waste was no longer disposed of on-site but was picked up by station personnel and disposed of at a transfer station in Newport. Since 1995 or 1996, a contractor collects and disposes of solid waste off-site.



4.17 Universal Wastes

Federal universal wastes are set forth in 40 CFR Part 273, and include batteries, pesticides, thermostats, and lamps. States can modify the universal waste rule and add additional universal waste in individual state regulations.

According to the facility personnel, all universal waste generated at NAVSTA Newport, including Building A 105, is collected and recycled by the NAVSTA Newport Environmental Department (Rielly 2009a).

4.18 Medical Wastes

There are no medical facilities or biohazardous wastes generated at the ECP Roadway Property (Rielly 2009a).

4.19 Hazardous Materials

It is unknown whether hazardous materials were stored at any of the current and former buildings at the Midway/Greene Lane parcel; there was no observation or documentation of hazardous material or storage at the site.

4.20 Summary of Environmental Conditions

Environmental conditions at the ECP Roadway Property consist of the following:

- Building A 105 was a regulated 90-day hazardous waste storage facility used exclusively to store PCB items prior to transport to a contracted disposal facility. There have been minor spill incidents within Building A 105, but there has been no evidence that PCB materials have migrated from the building during its operation as a hazardous waste storage facility.
- Due to the age of the Building A 105, it is likely that asbestos and lead paint exists within the building.
- Groundwater TPH levels in the former Building 70 site (former Buildings 70, 71, and 111 located on Midway/Greene Lane parcel) were established to be above the TPH the RIDEM reporting limits of 50 µg/L.
- An underground fuel line exists that runs along the Defense Highway from the Tank Farms to the fuel piers.
- The underground steam and condensate lines that run along the Defense Highway have an asbestos insulation system.
- Stormwater discharges directly into Narragansett Bay.
- The leased one acre Middletown Transfer Station was not included in the current SWPPP for Naval Station Newport; household and municipal solid waste was collected at the Middletown Transfer Station.
- A strong potential to contain evidence of Native American burials has been identified within the vicinity of the ECP Roadway Property; further studies would need to be conducted.



All environmental conditions are present at the ECP Roadway Property are shown in **Figure 4-13**.



5.0 Certification

I certify that the Environmental Conditions of Property Report for the ECP Roadway Property, NAVSTA Newport, RI, November, 2009 and its enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained within the Environmental Conditions of Property Report for the ECP Roadway Property, NAVSTA Newport, RI, November, 2009 and its enclosures is, to the best of my knowledge and belief, true, accurate and complete and accurately reflects the Property's condition as of November 2009 based upon my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information.

DAVID DROZD

Name

David Drozd

Signature

11-5-09

Date



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TABLES



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Table 4-1 Underground Storage Tanks

Tank #	Location	Size (Gallons)	Contents	Installation Date	Removal Date
NA	South of Building 71	75,000	No. 6 Fuel Oil	NA	1995
NA	South of Building 71	5,000	Diesel Fuel	NA	1995

Source: Tetra Tech 2008a



**Table 4-2. Hazardous Waste Inventory Maximum Quantities
BLDG A 105 RCRA Closure Plan NETC Newport**

PCB (ppm)	Item	No. of Transformers	No. of Drums	Lbs
>500	Transformer	3	--	11,589
<500	Transformer	8	--	8,160
>500	PCB spill debris	--	8	5,025
>500	Empty 55-gallon container	--	3	150
>500	PCB oil	--	2	400
<500	PCB oil	--	11	4,490
Total		11	24	29,814

Source: ENSR 1992



Table 4-3 TPH Results of Baseline Groundwater Sampling Building 70

Sample ID	Sample Date	Monitoring Well Location	Sample Collection Method	Parameter	RL (mg/kg)	Results (ug/L)	Analytical Method
AREA9-PW1 (LF)	3/3/2008	PW1	low flow	TPH (C10-C36)	50	227	SW8100
AREA9-PW1 (B)	3/3/2008	PW1	bailer	TPH (C10-C36)	50	265	SW8100
AREA9-PW2 (LF)	3/3/2008	PW2	low flow	TPH (C10-C36)	50	1150	SW8100
AREA9-PW2 (B)	3/3/2008	PW2	bailer	TPH (C10-C36)	50	1850	SW8100
AREA9-PW3 (LF)	3/3/2008	PW3	low flow	TPH (C10-C36)	50	356	SW8100
AREA9-PW3 (B)	3/3/2008	PW3	bailer	TPH (C10-C36)	50	494	SW8100
AREA9-PW4 (B)	3/5/2008	PW4	bailer	TPH (C10-C36)	50	218	SW8100
AREA9-PW5 (B)	3/5/2008	PW5	bailer	TPH (C10-C36)	50	65	SW8100

Source: Tetra Tech 2008b

Notes:

RL = Reporting Limits

ug/L = micrograms per liter



Table 4-4 Wetland and Marine Habitat Classification*

Map Location	Location	System	Class	Mapping Symbols
Midway	Gate 32 to McAllister Point	Estuarine Intertidal	Beach Bar	EUS
	McAllister Point	Estuarine Intertidal	Rocky Shore	IRS
	McAllister Point to Melville	Estuarine Intertidal	Beach Bar	EUS
	Gomes Brook	Estuarine Intertidal	Emergent	EEM
Melville-South	Norman Brook	Palustrine	Forested	FOB
	Lawton Brook	Estuarine Intertidal	Flat/Emergent	FSF/EEM
Melville-North	Melville Ponds	Palustrine	Forested Scrub Shrub	FOB/SSA

Source: NFEC 2001

* Located outside, but adjacent to NAVSTA Newport Property.



Table 4-5 Archeological Sensitive Sites

Area	Description	Re-Assessment
P-1	Small bench along Cowl Brook at mouth of Cowl Brook.	Most of area is severely disturbed based on visual survey; previous landfill area with monitoring wells. Area contains a remnant stone fence and a possible historic cellar hole. Aside from the possible cellar hole, this area no longer considered sensitive due to extensive disturbances.
P-3	Washout basin at mouth of Norman Brook; gently sloping ground at mouth of stream at Narragansett Bay shoreline.	Area is severely disturbed, no longer considered sensitive
P-5	Bench or terrace of level to gently sloping ground at the mouth of Lawton Brook, Narragansett Bay shoreline.	Limited archeological potential; area has surficial disturbances but an intact soil profile; most of the sensitive landform is on adjacent private property.

Source: Navy 2007



FIGURES



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LEGEND

- Primary Highway
- Secondary Highway
- Local Road
- - - Ferry
- ECP Site Boundary



NOTES & SOURCES
 Coordinate System: NAD 83, UTM Zone 19
 Data Sources: ESRI.

Midway/Greene Lane,
 Defense Highway, and
 Stringham Road
 Newport, RI

N

0 3,000 6,000

Feet

0 1,000 2,000

Meters

SITE LOCATION MAP

FIGURE
 3-1

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 October 27, 2009 DWN: APC CHKD: AKN

TITLE

AREAS OF CONCERN

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

- Stream
- Railroad
- Wall
- Gate
- Fence
- ECP Site Boundary
- Paved Vehicle Parking Area
- Paved Vehicle Driveway
- Surface Water Course Area
- Building
- Bridge
- Slab
- Paved Road

SITE LOCATION MAP

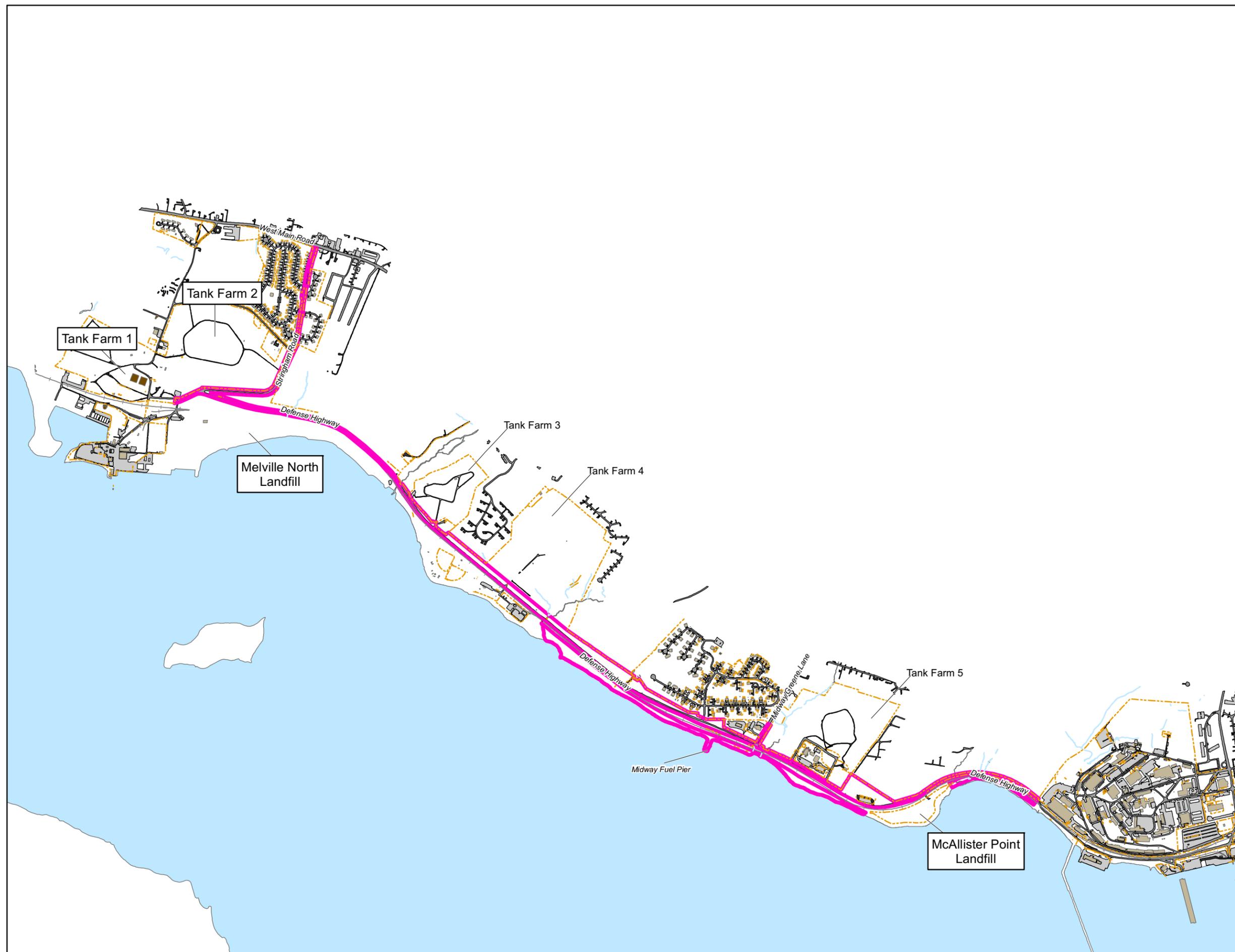


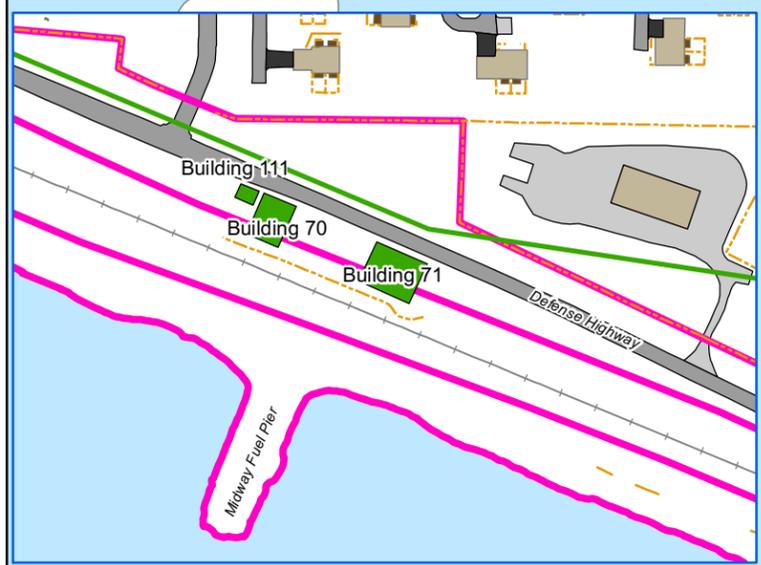
NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009



FIGURE 4-1





TITLE

UST INVESTIGATION

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

- Stream
- Oil Pipeline
- Former Building
- Railroad
- Wall
- Gate
- Fence
- ECP Site Boundary
- Paved Vehicle Parking Area
- Paved Vehicle Driveway
- Surface Water Course Area
- Building
- Bridge
- Slab
- Paved Road

SITE LOCATION MAP



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

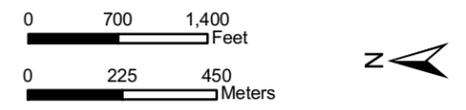
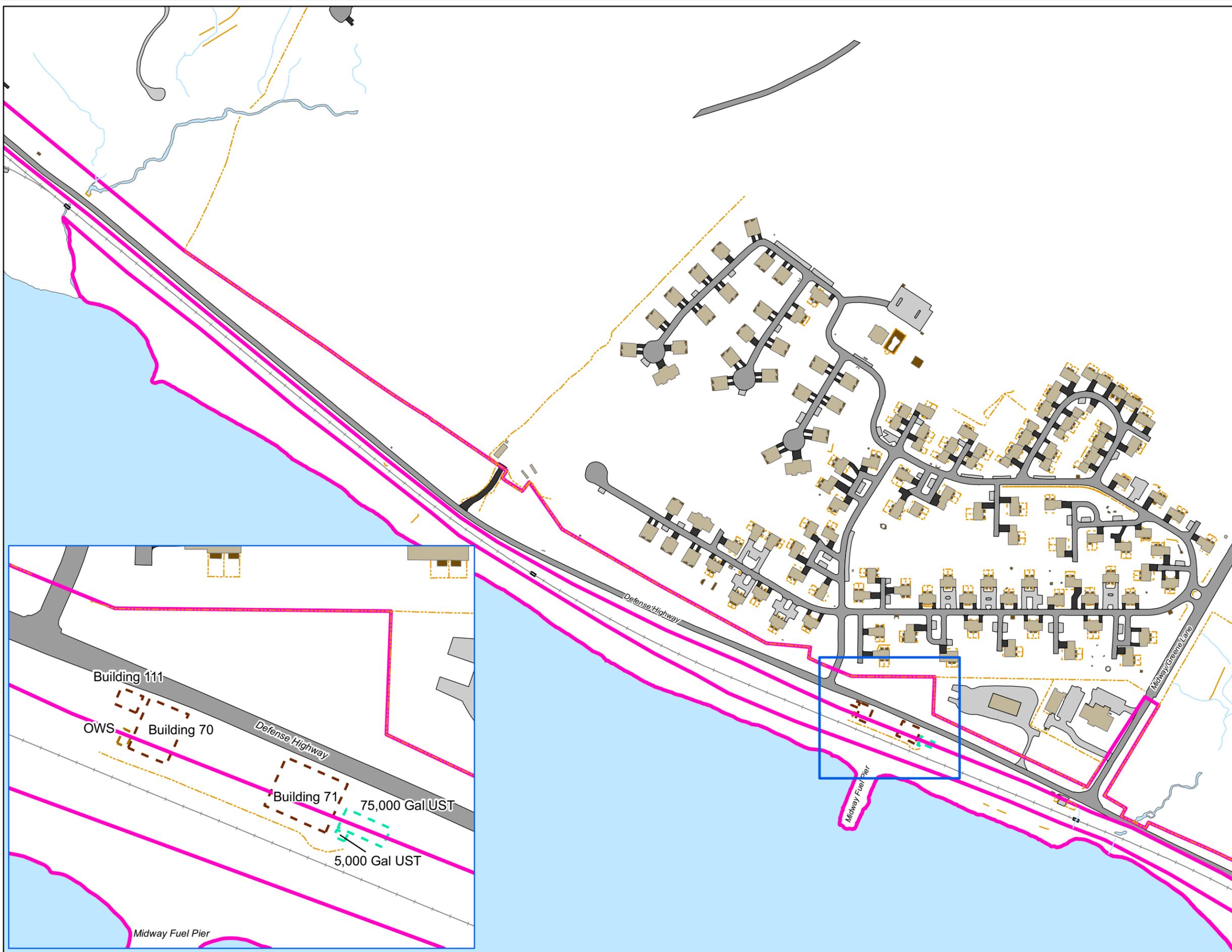


FIGURE
4-2



TITLE

UNDERGROUND STORAGE TANKS

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Railroad	Stream
Wall	Building
Gate	Bridge
Fence	Slab
ECP Site Boundary	Unpaved Road
Paved Vehicle Parking Area	Paved Road
Paved Vehicle Driveway	
Surface Water Course Area	
Former Tank	
Former Building	
Former OWS	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

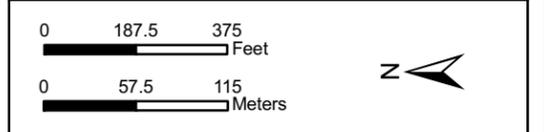
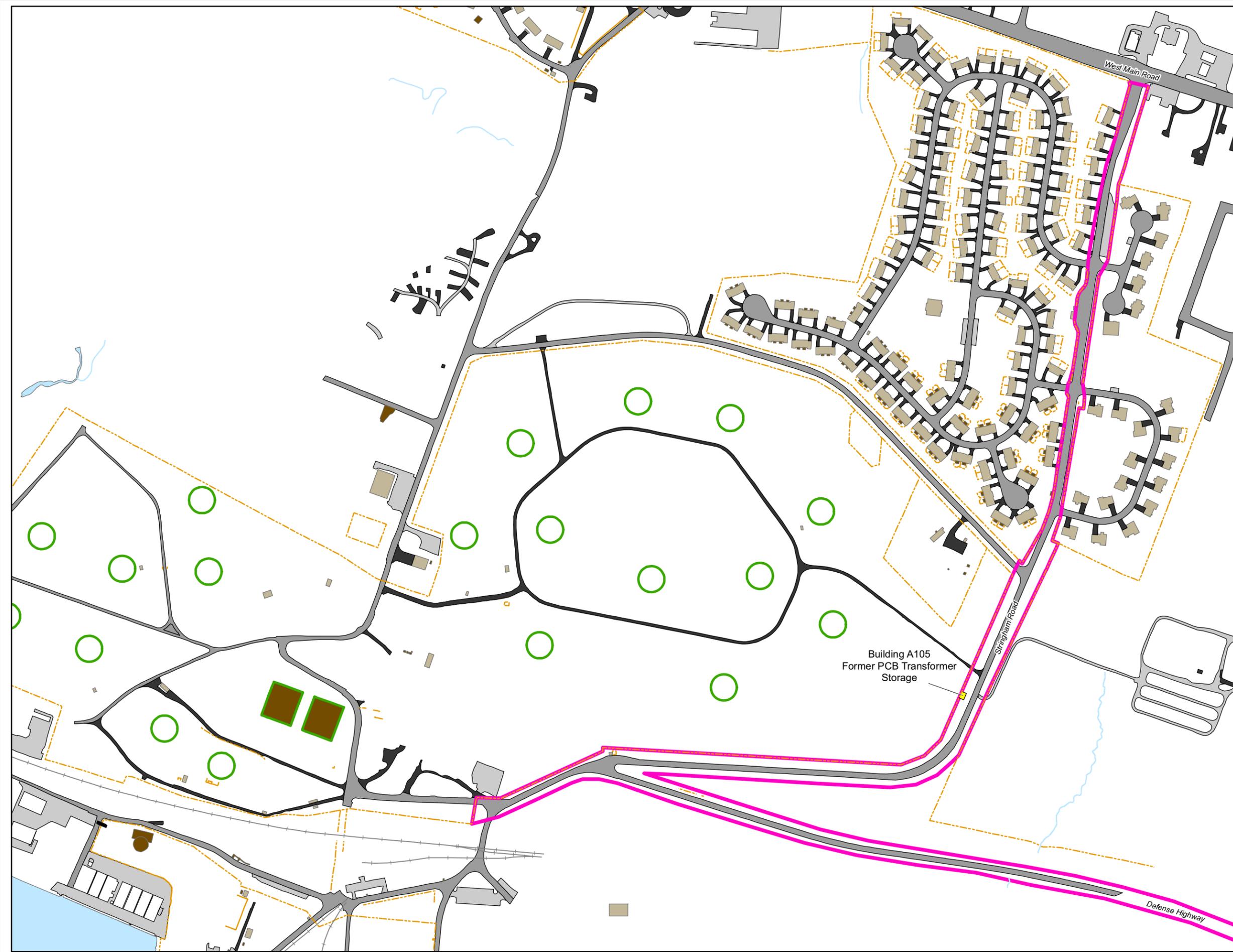


FIGURE
4-3



TITLE

HAZARDOUS WASTE STORAGE

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Stream	Building
Railroad	Unpaved Road
Wall	Paved Road
Gate	Slab
Fence	
Hazardous Waste Storage	
Tank	
ECP Site Boundary	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

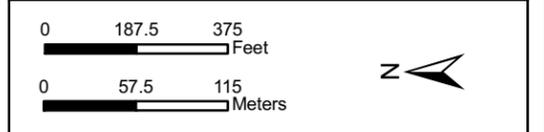


FIGURE
4-4

TITLE

TRANSFORMER LOCATIONS

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

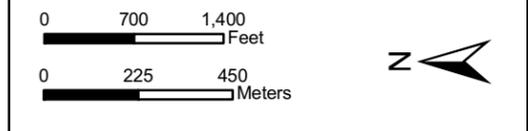
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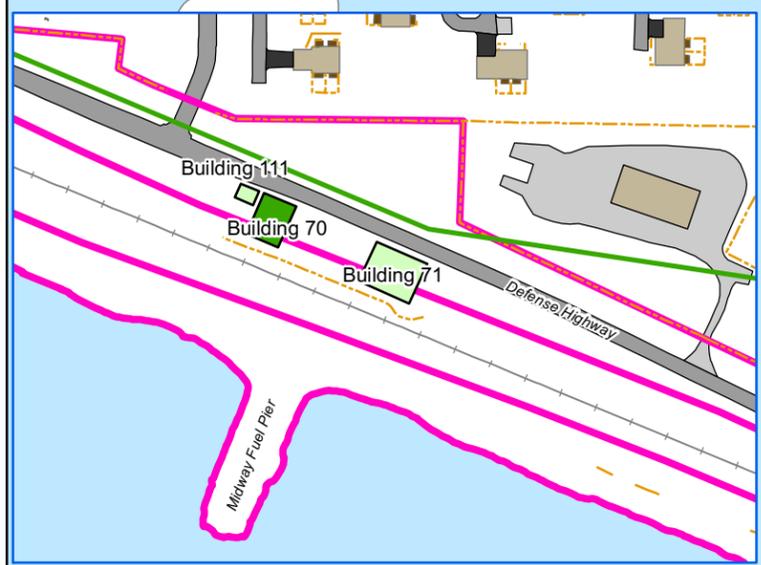
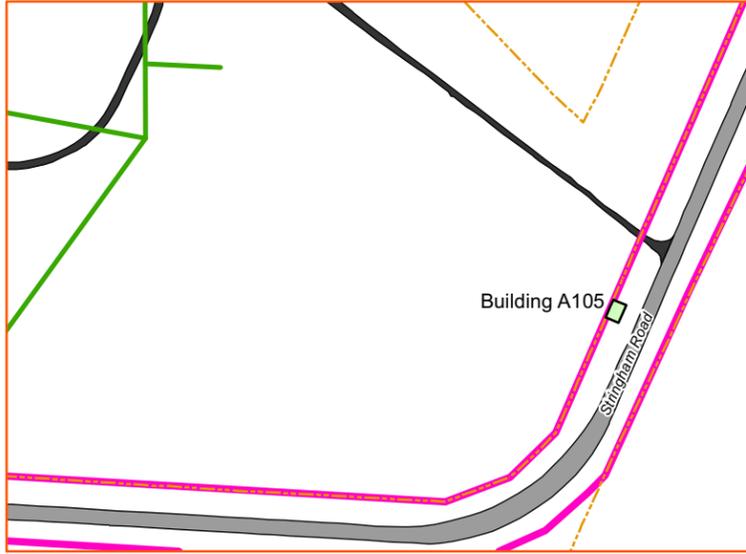
Stream	Building
Railroad	Unpaved Road
Wall	Paved Road
Gate	Slab
Fence	
Former Transformer Storage	
Tank	
ECP Site Boundary	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009





TITLE

ASBESTOS

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Stream	Building
Confirmed Asbestos	Bridge
Confirmed Asbestos	Slab
Suspected Asbestos	Paved Road
Railroad	
Wall	
Gate	
Fence	
ECP Site Boundary	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

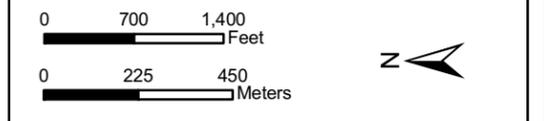


FIGURE
4-6



TITLE

LEAD BASED PAINT

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Stream	Building
Suspected Lead Based Paint	Bridge
Railroad	Slab
Wall	Paved Road
Gate	
Fence	
ECP Site Boundary	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

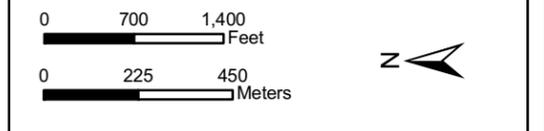


FIGURE
4-7



TITLE

STORMWATER DISTRIBUTION

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Stormwater Line	Building
Stream	Bridge
Railroad	Slab
Wall	Paved Road
Gate	
Fence	
ECP Site Boundary	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

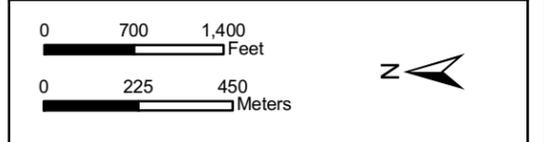
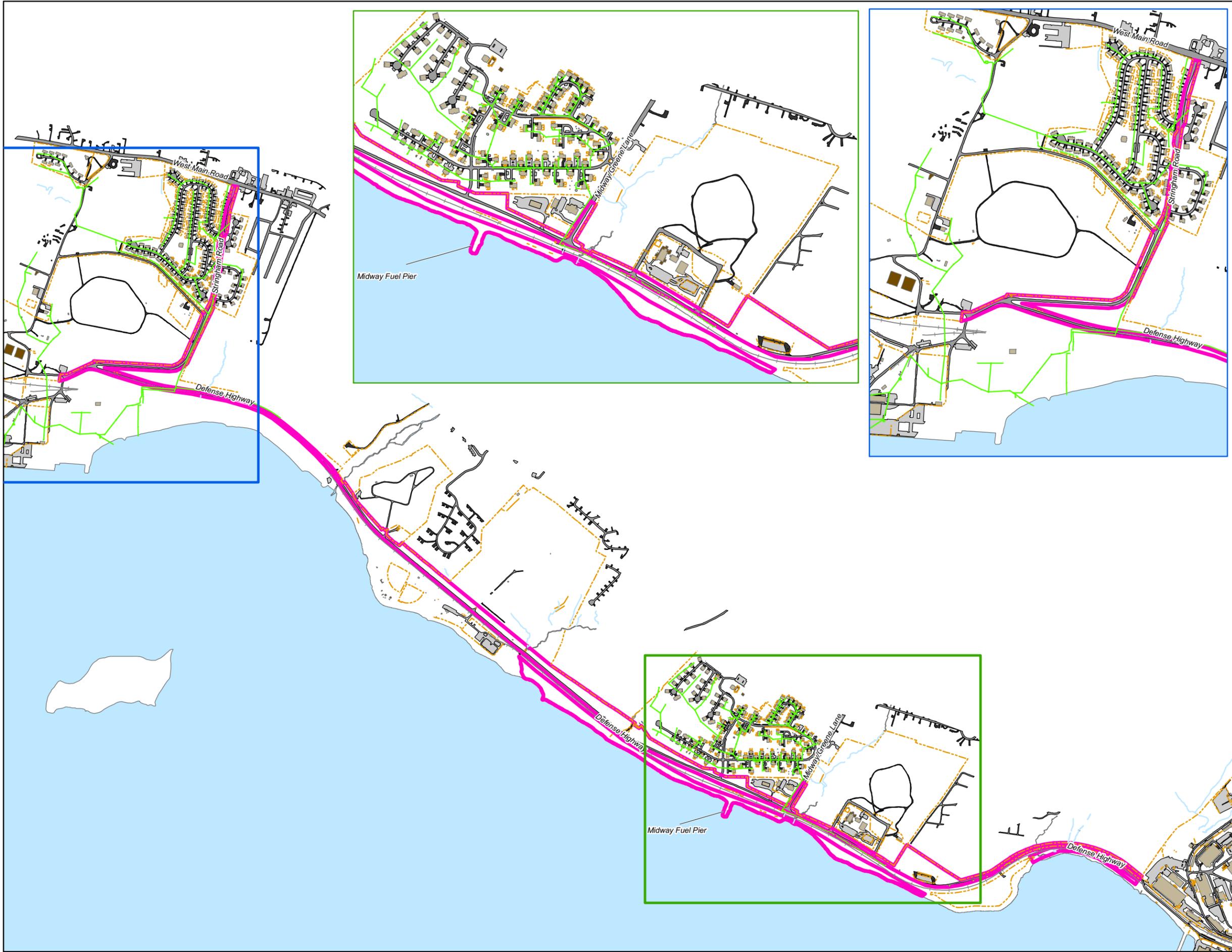


FIGURE
4-8



TITLE

WASTEWATER DISTRIBUTION

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Wastewater Line	Building
Stream	Bridge
Railroad	Slab
Wall	Paved Road
Gate	
Fence	
ECP Site Boundary	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

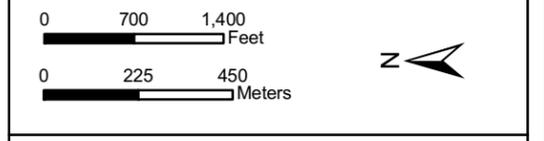


FIGURE
4-9



TITLE

FLOOD MAP

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Stream	Building
Railroad	Bridge
Wall	Slab
Gate	Paved Road
Fence	
100 Year A Flood Zone	
100 Year AE Flood Zone	
100 Year VE Flood Zone	
ECP Site Boundary	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

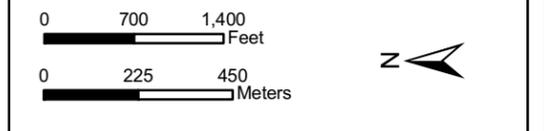


FIGURE
4-10

EUS	Estuarine - Beach Bar
EEM	Estuarine Intertidal - Emergent
FOB	Palustrine - Forested
FSF	Estuarine Intertidal-Flat
IRS	Estuarine - Rocky Shore
SSA	Palustrine - Scrub

TITLE

WETLANDS

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Stream	Slab
Railroad	Paved Road
Wall	Wetland Area
Gate	EEM
Fence	EUS
ECP Site Boundary	FOB
Paved Vehicle Parking Area	FSF/EEM
Paved Vehicle Driveway	IRS
Surface Water Course Area	SSA/FOB
Building	Other
Bridge	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

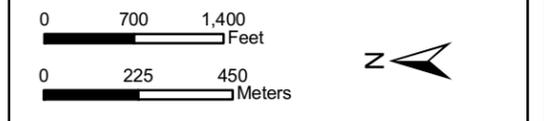
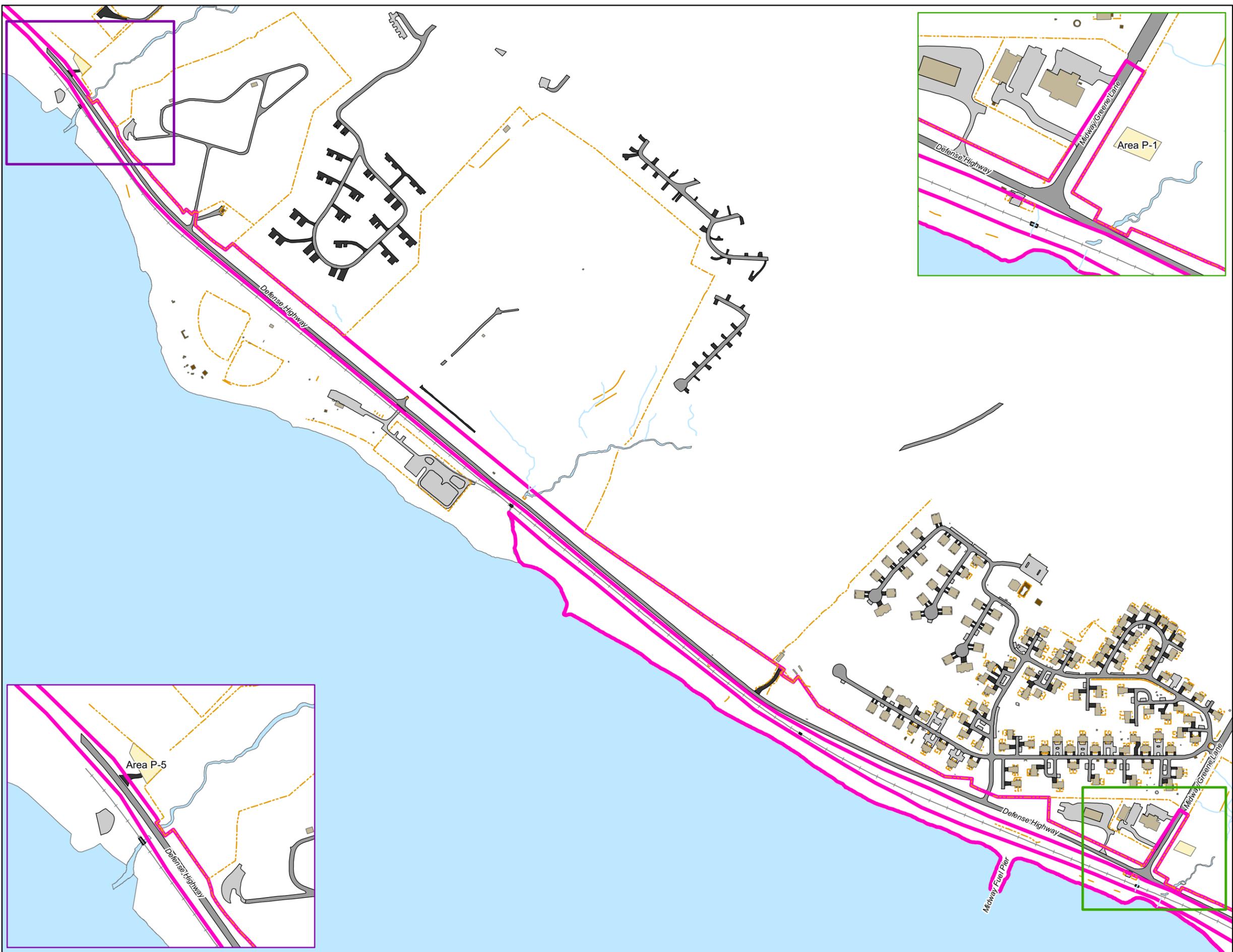




FIGURE
4-11





TITLE

HISTORIC RESOURCES

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Stream	Building
Railroad	Bridge
Wall	Slab
Gate	Paved Road
Fence	
Historic Area	
ECP Site Boundary	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

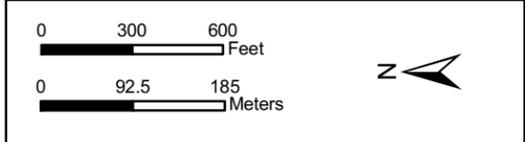
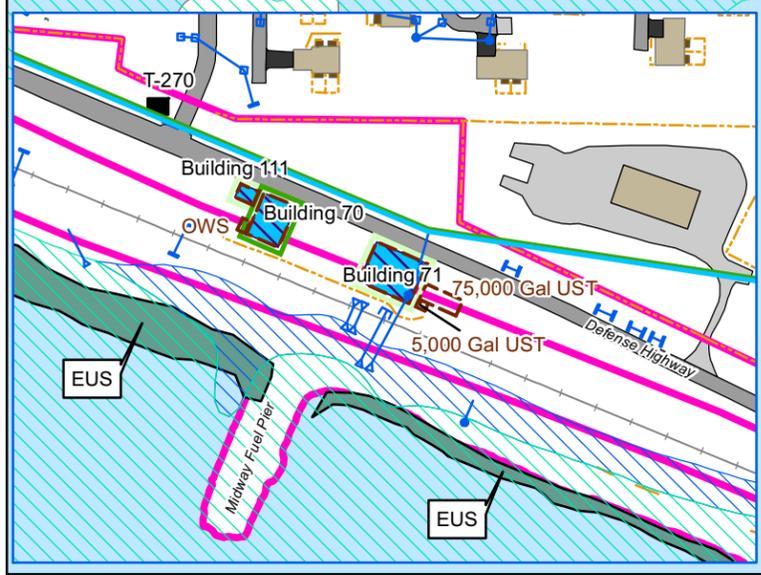
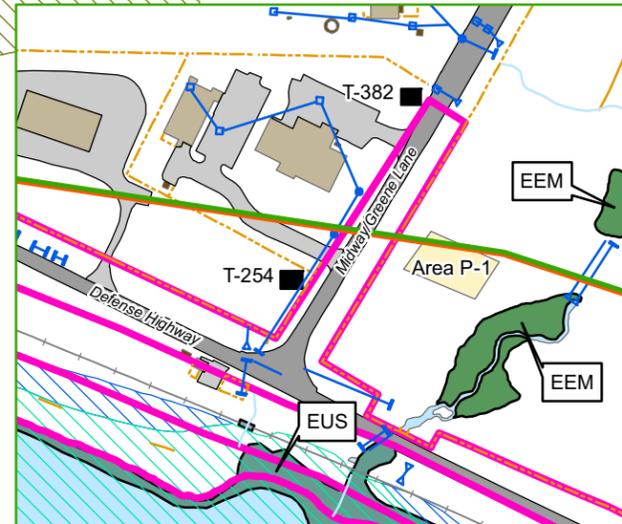
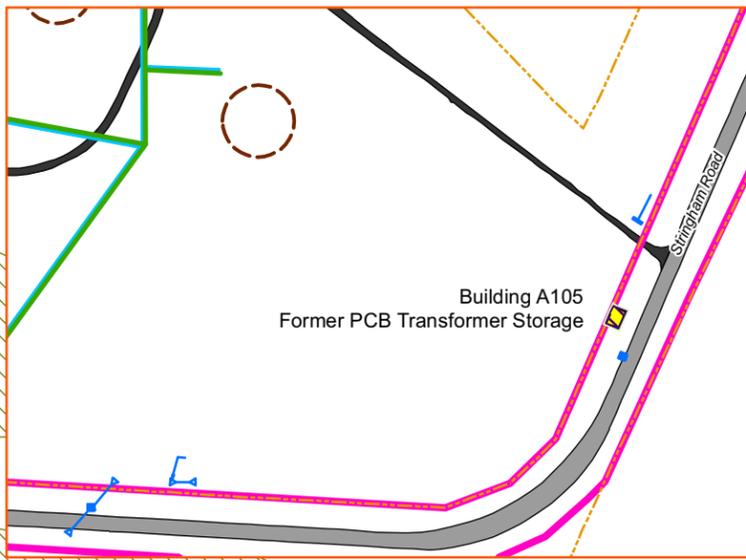
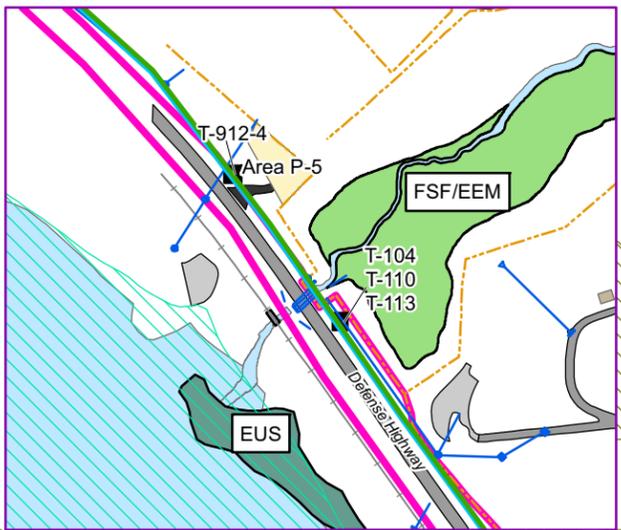
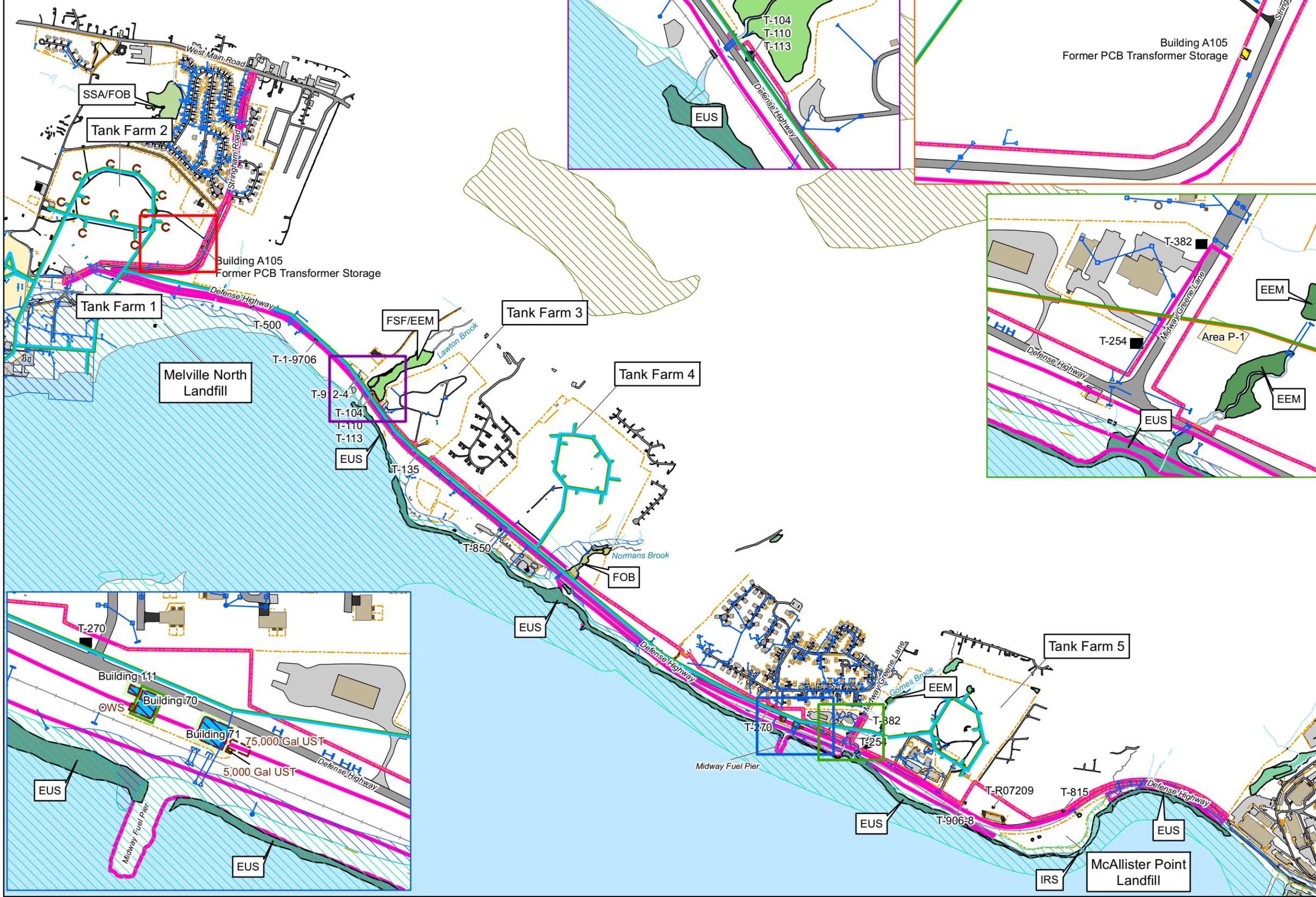


FIGURE
4-12

EUS	Estuarine - Beach Bar
EEM	Estuarine Intertidal - Emergent
FOB	Palustrine - Forested
FSF	Estuarine Intertidal-Flat
IRS	Estuarine - Rocky Shore
SSA	Palustrine - Scrub



TITLE

SUMMARY OF ENVIRONMENTAL CONDITIONS

Midway/Greene Lane, Defense Highway, and Stringham Road
Newport, RI

LEGEND

Stormwater Line	Stream
Confirmed Asbestos	Oil Pipeline
Former Structure	Railroad
Hazardous Waste Storage	Wall
Former Transformer Storage	Gate
Confirmed Asbestos	Fence
Suspected Asbestos	Historic Area
Suspected Lead Based Paint	IRP Building
100 Year A Flood Zone	Building
100 Year AE Flood Zone	Wetland Area
100 Year VE Flood Zone	EEM
ECP Site Boundary	EUS
Paved Vehicle Parking Area	FOB
Paved Vehicle Driveway	FSF/EEM
Surface Water Course Area	IRS
Bridge	SSA/FOB
Slab	Other
Paved Road	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

0 700 1,400 Feet

0 225 450 Meters

FIGURE 4-13



APPENDIX A

References



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Department of the Navy BRAC Program Management Office



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APPENDIX B
List of Contacts



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APPENDIX B List of Contacts

Navy ECP Contacts				
Contact Name (Last, First)	Title/Position	Location	Telephone Number	E-mail Address
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Sylvester, Arthur	Environmental Protection Specialist	NAFVAC	401-841-3919	arthur.sylvester@navy.mil
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Rielly, Mark	Environmental Protection Specialist	NAFVAC	401-841-1791	mark.rielly@navy.mil
Dorocz, David	Environmental Engineer	NAFVAC	401-841-7671	david.dorocz@navy.mil
Smith, Thomas	Environmental Protection Specialist	NAFVAC	401-841-7628	Thomas.j.smith3.ctr@navy.mil

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Beutel, Bill	Naval Station Newport ECP Project Manager	Portland, ME	207-761-1770	bill.beutel@amec.com

AMEC Contacts				
Contact Name (Last, First)	Title/Position	Location	Telephone Number	E-mail Address
Rice, John	Naval Station Newport ECP Project Team Leader	Westford, MA	978-692-9090	john.rice@amec.com
Garrett, Laura	Naval Station Newport ECP Project Team Member	Schenectady, NY	518-372-0905, ext. 34	laura.garrett@amec.com



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- FINAL -

**ENVIRONMENTAL CONDITION OF PROPERTY
REPORT**

for the

**NAVAL STATION NEWPORT
Newport, Rhode Island**

Tank Farm 1

Department of the Navy BRAC Program Management Office

Department of the Navy
Base Realignment and Closure
Program Management Office
1455 Frazee Road, Suite 900
San Diego, California 92108-4310



November 2009



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ABBREVIATIONS, ACRONYMS, AND SYMBOLS

%g	percent acceleration due to gravity	HARP	Historic and Archaeological Resources Protection
µg/L	micrograms per liter	ICRMP	Integrated Cultural Resources Management Plan
ACM	Asbestos Containing Material	INRMP	Integrated Natural Resources Management Plan
AHERA	Asbestos Hazard Emergency Response Act	IRP	Installation Restoration Program
amsl	Above Mean Sea Level	LBP	Lead-Based Paint
AST	aboveground storage tank	MEC	Munitions and Explosives of Concern
BRAC	Base Realignment and Closure	NAVSTA	Naval Station
BS&W	Bottom Sediment and Water	NETC	Naval Education and Training Center
CAA	Clean Air Act	NGVD	National Geodetic Vertical Datum
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	NMFS	National Marine Fisheries Service
CERFA	Community Environmental Response Facilitation Act	NPDES	National Pollutant Discharge Elimination System
CFR	Code of Federal Regulations	NPL	National Priorities List
CRMC	Rhode Island Coastal Resources Management Council	NRHP	National Register of Historic Places
CWA	Clean Water Act	NUWC	Naval Undersea Warfare Center
CZMA	Coastal Zone Management Act	NWI	National Wetlands Inventory
DFSC	Defense Fuel Supply Center	OWR	Office of Water Resources
DoD	Department of Defense	OWS	Oil/Water Separator
EBS	Environmental Baseline Survey	PCB	polychlorinated biphenyls
ECP	Environmental Condition of Property	pCi/L	picocuries per liter
EFH	Essential Fish Habitat	PMO	Program Management Office
FEMA	Federal Emergency Management Agency	ppb	Parts Per Billion
FFDCA	Federal Food, Drug, and Cosmetic Act	Pub. L.	Public Law
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act	RICRMP	Rhode Island Coastal Resources Management Program
FLA	Fuel Loading Area	RIDEM	Rhode Island Department of Environmental Management
		RIDES	Rhode Island Discharge Elimination System



SDWA	Safe Drinking Water Act
SWPPP	Stormwater Pollution Prevention Plan
SVOC	Semi-Volatile Organic Compound
TAL	Total Metals
TPH	total petroleum hydrocarbon
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and Disposal Facility
VOC	volatile organic compound
U.S.	United States
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
UST	underground storage tank



EXECUTIVE SUMMARY

This Environmental Condition of Property (ECP) report for Tank Farm 1, Naval Station (NAVSTA) Newport, Rhode Island summarizes the historical, cultural, and environmental conditions of the property as part of Base Realignment and Closure (BRAC) documentation associated with transfer of Tank Farm 1. Information was reviewed with installation points of contact to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

A brief summary of ECP findings is provided below by subject area.

- **Classifications of Environmental Conditions.** This ECP Report is not intended to identify uncontaminated property in compliance with the Community Environmental Response Facilitation Act (CERFA) and Department of Defense (DoD) policy.
- **Installation Restoration Program Sites.** The United States Environmental Protection Agency (USEPA) listed the NAVSTA Newport on the National Priorities List (NPL) in 1989 (USEPA ID# RI6170085470). Tank Farm 1 was included in the listing (Rhode Island Superfund Site in 1984 (RI8971524790)), due to reports from former Navy personnel of the possible existence of sludge disposal pits..
- **Underground Storage Tanks.** Eight underground storage tanks (USTs) are located within Tank Farm 1. Two of the USTs are only partially underground and are used as gross oil/water separators (OWS) for the tank ring drains. The six remaining USTs held diesel, aviation gasoline, or motor gasoline. The six USTs and underground distribution lines were inspected prior to 1998; numerous leaks were observed and severe infiltration of groundwater had occurred. The leaks were repaired and six USTs and associated underground distribution lines were cleaned, inspected and reballasted with water.
- **Aboveground Storage Tanks.** Tank Farm 1 also contains two aboveground storage tanks (ASTs), known as Tanks 11 and 12. The two ASTs and associated underground distribution lines have been cleaned, inspected and reballasted with water.
- **Munitions and Explosives of Concern.** No known munitions and explosives of concern (MEC) have been stored at the Tank Farm 1, and no MEC is known to be present.
- **Hazardous Waste.** The waste generated at Tank Farm 1 was primarily the result of UST, AST, and fuel and waste oil handling operations; waste was discharged to the the OWS's located at Tanks 9 and 10 prior to discharge into Narragansett Bay.
- **Polychlorinated Biphenyls.** Testing for polychlorinated biphenyls (PCBs) in the groundwater was conducted in 1999. According to the sampling results, PCBs were not found to be present within the groundwater. During the site reconnaissance, on July 28, 2009, an electrical substation (Building 199, Substation 15) was observed. Observations of "PCB Free" stickers were also noted on some of the transformers at Building 199.
- **Radiological Materials.** There are no known radiological materials at Tank Farm 1.
- **Pesticides.** Pesticides are applied at the NAVSTA Newport by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and for grounds maintenance activities. No pesticides have been stored in the past, or are currently stored, at Tank Farm 1.



- **Asbestos.** Due to the age of the buildings at Tank Farm 1, it is suspected that asbestos-containing materials (ACM) are present. In addition, steam, condensate, water, and fuel lines likely have asbestos-containing insulation.
- **Lead-Based Paint.** Due to the age of the buildings at Tank Farm 1, it is suspected that they contain lead-based paint (LBP). No LBP surveys have been conducted at any of the buildings at Tank Farm 1.
- **Radon.** Radon surveys have not been conducted at any of the buildings located within Tank Farm 1.
- **Air Quality.** There are currently no known air emission sources at Tank Farm 1 now that the tanks have been closed. NAVSTA Newport operates under RIDEM, Office of Air Resources Operating Permit Number RI-25-07 (RI) (RIDEM 2008). The Operating Permit was renewed in October 2007 and expires in October 2012.
- **Drinking Water.** Drinking water for NAVSTA Newport is provided by the City of Newport.
- **Groundwater.** Currently, there are no known groundwater wells for drinking water use within Tank Farm 1; however, there are over 50 monitoring wells installed. The results of the groundwater sampling determined that all of the samples collected contained levels of total petroleum hydrocarbons (TPHs), with several above the RIDEM reporting limits of 50 micrograms per liter ($\mu\text{g/L}$).
- **Stormwater.** Tank Farm 1, as a whole, is identified within the current Stormwater Pollution Prevention Plan (SWPPP) as a location of potential source of pollutants. The possibility of hazardous materials being exposed to stormwater runoff is remote and in most cases may occur only during refueling and loading operations (which no longer occur). The ring drains of Tank Farm 1 operate under RIPDES stormwater permit RI0020150. Two of the USTs (Tanks 9 and 10) act as a gross OWS prior to discharge to the third OWS that eventually discharges to Narragansett Bay.
- **Surface Water.** No freshwater surface water bodies are located within the boundaries of Tank Farm 1, although Narragansett Bay is located approximately 500 feet to the west.
- **Wastewater.** NAVSTA Newport discharges to the Newport Water Pollution Control Plant, a secondary treatment facility using traditional activated sludge and chlorination. No leach fields are known to exist at Tank Farm 1.
- **Floodplains.** Portions of Tank Farm 1 lie within a designated 500-year flood boundary; in particular the northwestern portions of the property.
- **Wetlands and Aquatic Habitats (Special Aquatic Sites).** Four wetland systems are located adjacent to NAVSTA Newport that include jurisdictional areas (perimeter wetlands) that extend into areas of the installation. These wetland systems are associated with the non-Navy owned Melville Pond complex located to the north and northeast of Tank Farm 1.
- **Coastal Zone Areas.** Under the Rhode Island Coastal Resources Management Program and the Rhode Island Coastal Resources Management Council (CRMC), Tank Farm 1 property falls within the second and third tiers of the Rhode Island's coastal zone boundary inland extent.
- **Coral Reefs.** Tank Farm 1 does not have any coral reef habitat; therefore, coral reef protection issues are not applicable.



- **Fisheries.** The Magnuson-Stevens Fishery Conservation and Management Act is not applicable to Tank Farm 1 because the property does not extend into Narragansett Bay.
- **Marine Mammals.** The Marine Mammal Protection Act is not applicable to Tank Farm 1.
- **Threatened, Endangered, and Other Sensitive Species.** There are no known federal or state-threatened, endangered, or other sensitive species identified at Tank Farm 1.
- **Geological Hazards.** Only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883. No other earthquakes have been recorded within the State of Rhode Island.
- **Historic Resources.** A 1995 cultural resources survey of the NAVSTA Newport was conducted and concluded that several of the structures of Tank Farm 1 are included within the Melville Fuel Depot and Net Depot Historic District.
- **Archaeological Resources.** A cultural resources survey was conducted between 1996 and 1998, indicating that there are no sensitive areas within Tank Farm 1.
- **Native American Graves Protection and Repatriation Act.** The Native American Graves Protection and Repatriation Act is not applicable because no known Native American graves have been identified on the installation.
- **Solid Wastes.** All solid waste that is generated at NAVSTA Newport is collected and disposed of by a licensed contractor.
- **Universal Waste.** According to the facility personnel, all universal waste generated at NAVSTA Newport, including Tank Farm 1, is collected and recycled by the NAVSTA Newport Environmental Department.
- **Medical Waste.** Currently there is no medical waste generated, stored, or disposed of at Tank Farm 1; it is not likely that medical waste was ever stored on the property.
- **Hazardous Materials.** It is unknown whether or not hazardous materials were stored at Tank Farm 1; there was no observation or documentation of hazardous material or storage at the site.



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1.0 Purpose

The Navy Base Realignment and Closure (BRAC) Program Management Office (PMO) prepared this Environmental Condition of Property (ECP) report for the Naval Station Newport, Tank Farm 1, Newport, Rhode Island.

This report used existing information to summarize the historical, cultural, and environmental conditions of Tank Farm 1 located in Portsmouth, RI. Information was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

The purposes of the ECP report are to:

- Provide the BRAC PMO with the information it may use to make disposal decisions regarding the property;
- Provide the public with information relative to the environmental condition of the property;
- Assist the local government in planning for the reuse of BRAC property;
- Assist Federal agencies during the Federal property screening process;
- Provide information for prospective buyers;
- Assist new owners in meeting their obligations under the United States (U.S.) Environmental Protection Agency's (USEPA's) "All Appropriate Inquiry" regulations, at such time as they become final; and
- Assist in determining appropriate responsibilities, asset valuation, liabilities, and liabilities with other parties to a transaction.



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2.0 Background

Naval Station Newport History

Tank Farm 1 is located at the northern end (Portsmouth, RI) of the Naval Station (NAVSTA) Newport, in Newport, Newport County, Rhode Island. The origin of the U.S. Navy's presence within Rhode Island began during the Revolutionary War, where the first Commander-in-Chief of the Continental Navy, Esek Hopkins, would use Narragansett Bay as shelter between combat engagements (Global Security 2006). In 1869, the U.S. Navy's Admiral Dixon Port assisted in the establishment of an experimental torpedo station on Goat Island, approximately less than one mile south of the current NAVSTA Newport. During World War II, the torpedo station reached its peak of importance, manufacturing 80 percent of the torpedoes used by the U.S. Navy during the war. The torpedo station was permanently closed in 1951, and Goat Island was transferred to the City of Newport. In place of the experimental torpedo station, a new research facility was created called the Naval Underwater Ordnance Station. In 1970 a merger with the naval activities at New London, Connecticut, established to what is now the Naval Underwater Warfare Center (NUWC) (Global Security 2006).

By 1973, a Shore Establishment Realignment study merged five previously independent commands and created the Naval Education and Training Center (NETC). These five former shore commands include the Naval Base Staff, Naval Station, Naval Officer Training Center, Public Works Center, and the Supply Center Annex. Additionally, NETC is also home of the U.S. Navy's most prestigious educational institution, the Naval War College, established in 1884 and is the oldest such institution in continuous existence anywhere in the world (GlobalSecurity 2006, NWC 2009). In October of 1998, Naval Station Newport (NAVSTA) was established as the primary host command, taking over base operating support responsibilities from NETC.

Currently, NAVSTA Newport is home to more than 42 naval and defense commands and activities such as training officers, officer candidates, senior enlisted personnel and midshipman candidates, as well as conducting advanced undersea warfare and development systems. Approximately 5,000 employees work at NAVSTA Newport, with an additional 9,300 students (CNIC 2009, GlobalSecurity 2006).

Tank Farm 1 History

Tank Farm 1 is located in the northwestern portion of NAVSTA Newport, adjacent to (east of) the Melville Fuel Loading Area (FLA) on the shoreline of Narragansett Bay. Tank Farm 1 occupies approximately 50 acres bordered by Melville Pond and the Melville Public Fishing and Camping Area to the north, the Melville Public Fishing and Camping Area and Tank Farm 2 to the east, Tank Farm 2 and the Navy-owned Defense Highway property to the south, and railroad tracks, the Melville FLA and Narragansett Bay to the west. Tank Farm 1 was constructed between the 1920's and the early 1940's. The Navy used the Tank Farm until 1970 (GZA 1996). In 1974, the Navy licensed to the Defense Fuel Supply Center (DFSC) (currently known as Defense Energy Supply Center (DESC)) the tank farm and associated facilities to store and distribute petroleum fuel. DESC ceased operations in 1998 (Tetra Tech 2007). Tank Farm 1 consists of ten storage tanks (Tanks 9 through 18) and a total of seven buildings (Buildings 30, 49, 77, 199, 1156, B60, and S 63) (GZA 1996, Tetra Tech 2007).



The first storage tanks located in Tank Farm 1 were built during the 1920's and consisted of partially buried concrete underground storage tanks (USTs). These tanks are currently known as Tanks 9 and 10. Tanks 11 and 12 were built in 1934. Tanks 11 and 12 are two steel aboveground storage tanks (ASTs). The buildings and remaining six storage tanks found at Tank Farm 1 were built between 1942 and 1943, including the 1,000-gallon water reservoir located at Building 30. According to facility personnel, the Community Center (Building 77) has been demolished; date unknown (Mueller 2009a). In addition to the storage tanks and the buildings located within Tank Farm 1, ring drains were also installed around each of the USTs, which functioned as a groundwater underground drainage system in order to prevent excessive hydrostatic uplift on the bottom of the tanks. The ring drains are approximately 10-inches in diameter and were installed seven feet above the bottom of the tanks. The ring drains are connected to drainage pipes that gravity discharge to the oil/water separators (OWS) located at Tanks 9 and 10 (GZA 1996). **Table 2-1** provides the building and tank descriptions, including dates of construction.



3.0 Property Description

Tank Farm 1 occupies approximately 50 acres bordered by Melville Pond and the Melville Public Fishing and Camping Area to the north, the Melville Public Fishing and Camping Area and Tank Farm 2 to the east, Tank Farm 2 and the Navy-owned Defense Highway property to the south, and railroad tracks, the Melville FLA and Narragansett Bay to the west (**Figure 3-1**). Tank Farm 1 consists of ten storage tanks (Tanks 9 through 18) and a total of seven buildings (Buildings 30, 49, 77, 199, 1156, B60, and S 63) (GZA 1996, Tetra Tech 2007).

In general, the surface area of Tank Farm 1 is covered by grassland areas, wooded areas, paved access roads, miscellaneous aboveground transfer pump and control chambers, as well as seven associated buildings (GZA 1996). The topography generally slopes downward to the northwest, toward Narragansett Bay, with a high elevation of approximately 150-feet above mean sea level (amsl) and a low elevation of approximately 25 feet amsl (GZA 1996).



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4.0 Environmental Condition Overview – Existing Environmental Information

As part of ECP report activities, extensive record reviews were conducted, and an on-site visit and personnel interviews were held to document current and historic conditions of Tank Farm 1. The on-site visits were conducted on July 28 and 29, 2009.

The BRAC PMO Northeast office, as well as site personnel located at NAVSTA Newport provided relevant information for this ECP Report. Additionally, available reports of previous environmental investigations at NAVSTA Newport were obtained and reviewed. **Appendix A** presents a list of the documents that were reviewed as part of this effort. The information presented in this report was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

Interviews were conducted with NAVSTA Newport personnel during a site visit and in subsequent telephone conversations and e-mail communications. References are presented in **Appendix A**. **Appendix B** presents a list of the people contacted during preparation of this ECP Report.

4.1 Classification of Environmental Conditions

The Community Environmental Response Facilitation Act (CERFA) of 1992 (amending the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] to add Section 120(h)(4) of CERCLA, 42 United States Code (U.S.C.) Section 9620(h)(4)) requires the identification and documentation of uncontaminated real property controlled by the Department of Defense (DoD) components where DoD plans to make excess property available for reuse pursuant to a base closure law. Uncontaminated property is defined as any "real property on which no hazardous substances and no petroleum products or their derivatives were known to have been released, or disposed of." This includes aviation fuel and motor oil. This ECP Report is not intended to identify uncontaminated property in compliance with CERFA and DoD policy.

No Environmental Baseline Survey (EBS) has been completed for Tank Farm 1.

4.2 Installation Restoration Program Sites

The NAVSTA Newport, including Tank Farm 1, was listed on the National Priorities List (NPL) in 1989 (USEPA ID# RI6170085470) (Malcolm Pirnie 2005). Prior, in 1984, Tank Farm 1 was listed as a Rhode Island Superfund Site (RI8971524790) list (USEPA 2009). There are a total of 13 areas of contamination within the installation entirety (Naval Station Newport, including Tank Farm 1; the closest areas of concern to the Tank Farm 1 site within the installation is Tank Farm 2 (RID981065956). Furthermore, three additional non-Navy Superfund Sites are located in the Tank Farm 1 vicinity, located on private properties: the Melville North Landfill (RID981064421), located off NAVSTA Newport property and southwest of the Defense Highway-Stringham Road junction; the STP Sludge Drying Beds (RID 981064306), located adjacent to the Melville North Landfill; and Structure 214 (RID 981064249), also located



adjacent to the Melville North Landfill (USEPA 2009). **Figure 4-1** provides the locations of the areas of concern in the vicinity of Tank Farm 1.

As discussed in **Sections 2.0** and **3.0**, Tank Farm 1 is located in the northwestern portion of NAVSTA Newport, adjacent to the Melville FLA. Tank Farm 1 occupies approximately 50 acres bordered by the Melville Pond and the Melville Public Fishing and the Camping Area to the north, the Melville Public Fishing and Camping Area and Tank Farm 2 to the east, Tank Farm 2 and the Navy-owned Defense Highway property to the south, and railroad tracks (owned by the RI Department of Transportation), the Melville FLA and Narragansett Bay to the west. Tank Farm 1 was constructed between 1920 and the early 1940's and remained in operation by the U.S. Navy until 1970. In 1974 DESC's took over control of the site until 1998 to store and distribute petroleum fuel (GZA 1996, Tetra Tech 2007). DESC continues to lease the property from the Navy to complete -petroleum-related clean-up work related to their usage of the Tank Farm.

Tank Farm 1 consists of ten storage tanks (Tanks 9 through 18) and a total of seven buildings (Buildings 30, 49, 77, 199, 1156, B60, and S 63) (GZA 1996, Tetra Tech 2007). **Table 4-1** describes the volume and age of Tanks 9 through 18.

The DESC has conducted site investigations at Tank Farm 1 since 1983, including soil, groundwater, surface water, and soil gas sampling, in addition to aquifer pumping tests and passive free-product removal (Tetra Tech 2007). Between 1993 and 1999, DESC installed over 50 monitoring wells within the boundaries of Tank Farm 1. Free-phase product was detected downgradient of Tanks 16 and 17; however, due to irregular fracturing and low transmissivity of the bedrock, the free-phase product is apparently immobile. In addition, it was determined that the free-phase product was not recoverable via pumping. Passive product recovery canisters were installed in five monitoring wells in May of 1996 and utilized until free-phase product was no longer present (Tetra Tech 2007). Sampling events in 1999 did not detect any free-phase product (Tetra Tech 2007).

In 1995, it was ascertained that the groundwater in areas downgradient of Tank 18 contained contamination, specifically volatile organic compounds (VOC) concentrations were determined to be elevated and the contaminated groundwater was believed to be discharging into the Melville Pond adjacent to the Navy Tank Farm (GZA 1996). In December of 1995, samples were collected from monitoring wells in the vicinity of Tank 18. One of the monitoring wells located immediately downgradient resulted in the highest aggregate groundwater VOC concentration at 239 parts per billion (ppb). In addition, the sampling event resulted in the determination that the aggregate groundwater VOC concentrations decreased significantly in the downgradient direction, with no VOCs detected approximately 170 feet downgradient of Tank 18; thus, Tank 18 was determined to be the source of the groundwater VOC concentrations within the vicinity. Currently, and during the sampling event, Tank 18 is inactive (after it was cleaned, inspected, and reballasted with water (GZA 1996, Tetra Tech 2007).

An additional sampling event of 19 monitoring wells at Tank Farm 1 took place in June of 1999. During this event, total petroleum hydrocarbons (TPHs), VOCs, semi-volatile organic compounds (SVOCs), and total metals (TAL) were analyzed, as well as pesticides and polychlorinated biphenyls (PCBs) (DESC 1999). The results indicated that no pesticides or PCBs were present in any of the wells sampled, and only minor concentrations of VOCs, SVOCs, and metals were detected, though not above the groundwater quality standards (DESC



1999). Results did indicate the presence of TPHs in all of the wells, with the highest concentrations of TPHs determined to be 16,000 micrograms per liter ($\mu\text{g/L}$) and 7,300 $\mu\text{g/L}$ (DESC 1999). Results of the 1999 sampling event at Tank Farm 1 are included in **Table 4-2**.

A groundwater gauging and sampling event was conducted at Tank Farm 2 in April and May of 2009. A total of 16 wells were gauged with an oil/water interface probe and visually inspected with a bailer to determine the presence of free product. The interface probe did not detect free product but the visual inspection detected a sheen in four wells and a sheen along with a petroleum odor was detected in two wells. Groundwater samples were collected from 13 monitoring wells and analyzed for VOCs, SVOCs, total and dissolved lead. A subset of the monitoring wells was analyzed for TPH. The laboratory analysis of the samples had three VOC detections of benzene ranging between 0.8 and 4.3 ppb, three ethylbenzene detections ranging between 0.6 and 134 ppb, three methyl-tert-butyl-ether detections ranging between 3 and 5.1 ppb, two toluene detections ranging between 1.0 and 2.6 ppb, two m & p xylenes detections ranging between 3.2 and 120 ppb, and two xylene detections ranging between 0.6 and 6.5 ppb. SVOC analysis only had two detections of naphthalene that ranged from 6.7 to 23 ppb. TPH analysis had seven detections (either gasoline or diesel range) with concentration ranging from 0.03 to 1.29 ppm. Total lead analysis had 10 detections with concentrations ranging from 0.91 to 3.1 ppb, and five detections of dissolved lead with concentrations ranging from 0.85 to 2.5 ppb. The detection during this sampling round that was above either the RIDEM GA and GB standards for groundwater was the detection of naphthalene at 23 ppb (Tetra Tech 2009). Results of the 2009 sampling event at Tank Farm 1 are included in **Table 4-3**.

Additionally, in 2000, the Tank Farm 1 associated pipeline and piping chambers, utilized to transfer various fuels including jet fuel (JP-5 and JP-8), marine diesel, Navy Special (No. 6 fuel oil) and No. 2 fuel oil from Tank Farms 1, 2, 3, 4, and 5 to various ship fueling stations at the nearby piers, were cleaned, pressure tested and abandoned in-place, along with a total of 50 concrete chambers. A ring of pipeline surrounds and connects the Tank Farm facilities and originates at one point or chamber that serves as the distribution point for the Tank Farm. The chambers provided access to valves, expansion joints, and reducers associated with the fuel pipeline. Two of these chambers are located within Tank Farm 1: Williams Hole and C166 (TetraTech 2008, Foster Wheeler 2002). During the entire pipeline closure, approximately 58,400 gallons of water was decanted from the approximate six-mile stretch of pipeline and transported and pumped into the OWS in Tank Farm 1 for water treatment. Once treatment was completed, the treated water was pumped into Tank Farm 1's cleaned USTs for reballasting (Foster Wheeler 2002).

Furthermore, in addition to the fuel pipeline, the former bottom sediment and water (BS&W) system was decommissioned and closed in the 1980s (Foster Wheeler 2002). The BS&W system was used to remove any solids or water from condensation that collected on the bottom of the tanks in Tank Farms 1 through 5. Most of the liquids for Tank Farms 1 and 2 were pumped to the OWS located between Tanks 9 and 10 in Tank Farm 1 (Foster Wheeler 2002).

4.3 Storage Tanks

4.3.1 Underground Storage Tanks

Eight USTs are located inside Tank Farm 1, as discussed in **Section 3.0**. Two of the USTs (Tanks 9 and 10) are only partially underground and were built originally to contain 2.56 million



gallons of JP-5 and later to store water collected from the ring drains and the lower FLA. These two USTs are concrete, rectangular shaped tanks that act as gross OWSs prior to discharge to a third OWS located in the adjacent FLA. The two OWS's (Tanks 9 and 10), and the third located in the FLA, discharge to Narragansett Bay (Tetra Tech 2007). The Navy monitors the discharge at the outfall for which a State wastewater permit is required. The six remaining USTs are 100 feet in diameter and 20 feet tall, each previously held approximately 1.21 million gallons of diesel, aviation gasoline, and motor gasoline (Rodgers 1999). The six USTs and underground distribution lines were cleaned and inspected prior to 1998, and numerous leaks were observed; severe infiltration of groundwater had occurred, as discussed in **Section 4.2**. The leaks were corrected and the six USTs and associated underground distribution lines were cleaned, inspected and reballasted with water (Tetra Tech 2007). The two partial USTs (Tanks 9 and 10), and associated piping and vaults, were not cleaned since their current use is for storage of water collected from the ring drains and lower FLA (Tetra Tech 2007). Refer to **Table 4-1** for the USTs' former contents, volume and location. **Figure 4-2** provides the locations of the USTs.

4.3.2 Aboveground Storage Tanks

Tank Farm 1 contains two ASTs, known as Tanks 11 and 12. The ASTs located at Tank Farm 1 are surrounded by earthen dikes and are 112 feet in diameter and 32 feet high, previously containing approximately 2.35 million gallons of No. 2, No. 5, and No. 6 fuel oil (Tetra Tech 2007, Rodgers 1999). The two ASTs and associated underground distribution lines have been cleaned, inspected and reballasted with water (Tetra Tech 2007). **Figure 4-3** provides the locations of the ASTs. Refer to **Table 4-1** for the ASTs construction material, size, and year constructed.

4.4 Munitions and Explosives of Concern

No known munitions and explosives of concern (MEC) have been stored at Tank Farm 1 (Rielly 2009), and no MEC is known to be present.

4.5 Hazardous Waste

In accordance with CERCLA 120(h)(1), Title 40 Code of Federal Regulation (CFR) Part 373 and the DoD policy of June 17, 1994, notice is required when a hazardous substance has been stored for one year or more in quantities greater than 1,000 kilograms or the substance's CERCLA reportable quantity, whichever is greater, or when hazardous substances that are also listed under 40 CFR 261.30 as acutely hazardous wastes, and that are stored for one year or more, have been stored in quantities greater than or equal to the substance's reportable quantity. Medical wastes and universal wastes are not regulated under CERCLA.

The waste generated at Tank Farm 1 was primarily related to the operations of the USTs and ASTs, and the fuel and waste oil treatment which is removed from surface and groundwater by the OWS's located at Tanks 9 and 10 prior to discharge into Narragansett Bay, as discussed in **Sections 4.2** and **4.3 (Figure 4-2)**. No other hazardous waste is currently known to be generated at Tank Farm 1. Hazardous waste generated at NAVSTA Newport is collected by NAVSTA Newport and transported to the NAVSTA Newport Public Works Central Hazardous Waste Accumulation Area, Building 15 for temporary storage, and later transfer to a hazardous



waste treatment, storage, and disposal facility (TSDF) located off-base (ENSR 1992, Navy 2004, Malcolm Pirnie 2005, Rielly 2009).

4.6 Polychlorinated Biphenyls

The Toxic Substances Control Act (TSCA) (Public Law [Pub. L.] 94-469 enacted in 1976 and effective January 1, 1977) authorizes the USEPA to secure information on all new and existing chemical substances and to control any of these substances that could cause an unreasonable risk to public health or the environment. Under earlier laws, the USEPA had authority to control toxic substances only after damage had occurred. The earlier laws did not require the screening of toxic substances before they entered the marketplace. TSCA closed the gap in the earlier laws by requiring that the health and environmental effects of all new chemicals be reviewed before they are manufactured for commercial purposes. PCBs are regulated under Title I (Control of Toxic Substances), which includes provisions for testing chemical substances and mixtures, manufacturing and processing notices, regulating hazardous chemicals substances and mixtures, managing imminent hazards, and reporting and retaining information.

As discussed in **Section 4.2**, site investigations in 1999 included the analysis of PCBs within the groundwater at Tank Farm 1. According to the sampling results, PCBs were not found to be present within the groundwater (DESC 1999). During the site reconnaissance, on July 28, 2009, an electrical substation (Building 199, Substation 15) was observed. Several used transformers on wooden pallets were observed inside the gate. Observations of “PCB Free” stickers were also noted on some the transformers at Building 199. According to facility personnel (Mueller 2009b), all the PCB transformers were removed in the 1980s.

Figure 4-4 provides the locations of the current transformers found within Tank Farm 1.

4.7 Radiological Materials

According to facility personnel, no evidence exists that radiological materials were ever present on the site (Moore 2009).

4.8 Pesticides

The USEPA regulates the use of pesticides under the authority of two federal statutes: the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA). The FIFRA provides the basis for regulation, sale, distribution and use of pesticides in the U.S., whereas the FFDCA authorizes the USEPA to set maximum residue levels, or tolerances, for pesticides used in or on foods or animal feed.

According to the 2002 *Naval Station Newport Pest Management Plan*, pesticides are applied by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and for grounds maintenance (EFA Northeast 2002). Currently, pesticides are stored at the NAVSTA Newport Pest Control Shop, Building 1298, which is not within Tank Farm 1 (EFA Northeast 2002, Malcolm Pirnie 2005). No pesticides are known to have been stored in the past, or are currently stored, at any area within Tank Farm 1 (EFA Northeast 2002).



4.9 Asbestos

Asbestos abatement is regulated under TSCA Title II, Asbestos Hazard Emergency Response, which was added by the Asbestos Hazard Emergency Response Act (AHERA) (Pub. L. 99-519), enacted by Congress on October 22, 1986. It authorizes the USEPA to amend its TSCA regulations to impose more requirements on asbestos abatement in schools. AHERA provides for the promulgation of federal regulations requiring inspection for asbestos and appropriate response actions in schools and mandates periodic reinspection. In addition, it requires the USEPA Administrator to determine "the extent of the danger to human health posed by asbestos in public and commercial buildings and the means to respond to any such danger."

According to the facility personnel and the 2008 *Closeout Report for Piping Chamber Remediation, Naval Station Newport, Middletown, Rhode Island*, a six-mile span of inactive fuel, steam, and condensate line, including a total of 50 concrete chambers, remains along Defense Highway and but is partially located within Tank Farm 1. A ring of steam lines surrounds and connects the tank farm facilities and originates at one point or chamber that serves as the distribution point for the tank farm. The steam line was been identified as containing asbestos insulation systems (Smith 2009, Navy 2004). The chambers provided access to valves, expansion joints, and reducers associated with the fuel pipeline. Two of these chambers are located within Tank Farm 1: Williams Hole and C166 (TetraTech 2008, Foster Wheeler 2002). Asbestos abatement of the steam line insulation systems within the chambers was conducted in 2000 and the asbestos-containing wastes generated during the abatement process was shipped off-site (refer to **Section 4.2** for further information) (Department of the Navy 2001, Navy 2004). The steam lines were not abated.

All of the buildings located in Tank Farm 1 are suspected to contain asbestos-containing materials (ACM) as the buildings were all built during the early 1940's, with the exception of Building 77 which has been demolished (Mueller 2009a).

Figure 4-5 provides the locations of suspected asbestos within Tank Farm 1.

4.10 Lead-Based Paint

Due to their age, Buildings 30, 49, 199, 1156, B60, and S63 likely contain lead-based paint (LBP) (with the exception of Building 77 which has been demolished) (Mueller 2009a). No LBP surveys have been conducted at any of the current or former buildings at Tank Farm 1.

4.11 Radon

Indoor radon concentrations are regulated under TSCA Title III (Indoor Radon Abatement), which was added on October 28, 1988 (Pub. L. 100-551). The purpose of this legislation is to assist states in responding to the threat to human health posed by exposure to radon. The USEPA is required to publish an updated citizens' guide to radon health risk and to perform studies of the radon levels in schools and radon contamination in federal buildings.

Radon surveys have not been conducted at any of the current or former buildings located within Tank Farm 1. According to the 2003 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island*, Newport, Rhode Island is located in



the USEPA National Radon Database Zone 2. The average indoor level for Zone 2 is greater than 2 picoCuries per liter (pCi/L) and less than 4 pCi/L. The USEPA has established an indoor air action level of 4 pCi/L for radon (Malcolm Pirnie 2003).

4.12 Air Quality

Air emissions at the NAVSTA Newport, Newport, Rhode Island are regulated under the Clean Air Act (CAA).

NAVSTA Newport operates under RIDEM, Office of Air Resources Operating Permit Number RI-25-07 (RI) (RIDEM 2008). The Operating Permit was renewed in October 2007 and expires in October 2012. The emissions-generating equipment addressed in the operating permit includes emergency diesel generators, No. 2 fuel oil and natural gas burning boilers, liquefied propane gas burners, natural gas burning space heaters and storage tanks (RIDEM 2008).

There are no known air emissions sources at Tank Farm 1 now that the tanks are inactive (Davis 2009).

4.13 Water Quality

4.13.1 Drinking Water

The Safe Drinking Water Act (SDWA) of 1974, amended in 1986 and 1996, was passed to protect public health by regulating the nation's public drinking water supply and its sources including rivers, lakes, reservoirs, springs, and groundwater. Drinking water for the installation is provided by the City of Newport. According to the 2004 *Water System Vulnerability Assessment*, the City provides approximately 1,011,000 gallons per day to the installation, operating under the Rhode Island public water system identification number 1000016 (Dorocz 2009, Woodard & Curran 2004). Approximately 14 chlorination stations are located throughout the installation, in order to feed sodium hypochlorite solution on an emergency basis to raise the chlorine residual and meet water quality standards for coliform. According to facility personnel, this is done as a result of the low chlorine residual after leaving the City of Newport and Portsmouth Water and Fire Districts water plants and traveling to NAVSTA Newport (Woodard & Curran 2004, Dorocz 2009). The 2004 *Water System Vulnerability Assessment* stated that NAVSTA Newport experienced four coliform violations between January of 1996 and December 1998, no recent violations are known to have occurred (Woodard & Curran 2004).

4.13.2 Groundwater

Currently, there are no known groundwater wells for drinking water use within Tank Farm 1; however, there are over 50 monitoring wells. Monitoring was conducted in the mid- to late-1990s to determine the impacts to groundwater, if any, as a result of the eleven USTs (Tetra Tech 2007) and another round of monitoring was conducted in 2009 (Tetra Tech 2009). The well depths ranged from 16.67 to 110.10 feet below the top of the well casing, and all of the monitoring wells are bedrock wells (DESC 1999). The results of the monitoring events are



discussed in detail in **Section 4.2**. Refer to **Table 4-2** and **Table 4-3** for the results of the 1999 and 2009 sampling events at Tank Farm 1.

Groundwater within NAVSTA Newport is relatively shallow due to the proximity to sea level. Any wells that are developed may have salt intrusion. Deeper artesian wells capture water that is trapped between bedrock and is replenished where the aquifer is near or at surface level. Groundwater in the vicinity of Tank Farm 1 is classified by the Rhode Island Department of Environmental Management (RIDEM) as “GB: groundwater not suitable for drinking water use without treatment due to known or presumed degradation” (RIDEM 2004, GZA 1996).

4.13.3 Stormwater

The Water Pollution Control Act Amendments of 1972, commonly known as the Clean Water Act (CWA), uses a variety of regulatory and nonregulatory tools to reduce pollutant discharges into waterways and to manage polluted runoff. Under the CWA, a National Pollutant Discharge Elimination System (NPDES) permit is required for facilities discharging stormwater associated with industrial activities.

According to the 2003 *Final Industrial Stormwater Pollution Prevention Plan (SWPPP) Naval Station Newport, Newport, Rhode Island*, NAVSTA is considered to be engaged in “industrial activity” by the RIDEM, Office of Water Resources (OWR). These activities include: landfills/open dumps receiving industrial waste; recycling of materials; transportation facilities; and light industry (Navy 2003). These operations meet the eligibility requirements for a Rhode Island Pollutant Discharge Elimination System (RIDES) MS4 General Permit Number RIR800126 (Moore 2009). Tank Farm 1, as a whole, is identified within the current SWPPP as a location of potential source of pollutants. The possibility of hazardous materials being exposed to stormwater runoff is remote since the site is no longer in use, and in most cases likely occurred only during refueling and loading operations in the past (Navy 2003). **Figure 4-6** provides the locations of stormwater drains within Tank Farm 1.

In addition to the general stormwater permit, the ring drains of Tank Farm 1 operate under a RIPDES stormwater permit RI0020150. Two of the USTs (Tanks 9 and 10) are only partially underground and were built to contain 2.56 million gallons of water collected from the ring drains around the tanks in Tank Farms 1 and 2. These two USTs are concrete, rectangular shaped tanks; they that act as gross OWS’s prior to discharge to the third OWS located in the adjacent FLA. The two OWS’s (Tanks 9 and 10), and the third located in the FLA, discharge to Narragansett Bay (Tetra Tech 2007). This stormwater system is tested four times per month (Moore 2009).

4.13.4 Surface Water

There are no surface water bodies within boundaries of Tank Farm 1. The closest surface water body is Melville Pond, located approximately 50 to 100 feet north of the property. Additionally, Narragansett Bay is located approximately 700 feet to the west of Tank Farm 1 (GZA 1996, DFSC 1999).



4.13.5 Wastewater

According to the 2005 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island* wastewater from NAVSTA Newport discharges to the Newport Water Pollution Control Plant, a secondary treatment facility using traditional activated sludge and chlorination (Malcolm Pirnie 2003). No leach fields are known to have existed at Tank Farm 1.

4.14 Natural Resources

4.14.1 Floodplains

Based on Federal Emergency Management Agency (FEMA) data, no portions of Tank Farm 1 lay within a designated 100-year floodplain, but portions are within the 500-year floodplain. **Figure 4-7** indicates the areas of Tank Farm 1 that are within the floodplain boundaries.

According to the 2001 *Integrated Natural Resources Management Plan* (INRMP), NAVSTA Newport contains over ten miles of shoreline on the western shore of Aquidneck Island, where low-lying natural resources at the installation are especially vulnerable to flood damage from waves with high velocity (Louis Berger 2001). The INRMP states that flooding may be expected in inundate areas up to elevation 14 feet National Geodetic Vertical Datum (NGVD) (Louis Berger 2001). There are no areas of Tank Farm 1 within the 100-year flood boundary but there are some portions within the 500-year flood boundary; in particular the western most portions, including Tanks 11 and 12 and Buildings 1158 and S63 (Louis Berger 2001).

4.14.2 Wetlands and Aquatic Habitats (Special Aquatic Sites)

According to the 2001 INRMP, four wetland systems are located adjacent to NAVSTA Newport include jurisdictional areas (perimeter wetlands) that extend into areas of the installation, including Tank Farm 1 (Louis Berger 2001). These wetland systems are mostly contributable to the non-Navy Melville Pond complex located to the north and northeast of Tank Farm 1. The National Wetland Inventory (NWI) classified the Melville Pond chain as palustrine open water, while the associated wetlands are defined as palustrine emergent wetland and palustrine forested/scrub shrub wetlands. This wetland complex discharges to Narragansett Bay north of Tank Farm 1 (Louis Berger 2001).

Additionally, the 2001 INRMP indicates that eelgrass (*Zostera marina*) and widgeon grass (*Ruppia maritima*) have been observed in areas offshore of NAVSTA Newport, including the areas west of the FLA (Louis Berger 2001). Eelgrass provides an important habitat for many species of fish within the Narragansett Bay, as both a source of food and protection. This special aquatic habitat is a valuable habitat that has recently gained a restoration initiative supported by the State of Rhode Island, Federal agencies and nonprofit groups (Louis Berger 2001). There are no areas of known or suspected wetlands or special aquatic sites within Tank Farm 1.

4.14.3 Coastal Zone Areas

The Federal Coastal Zone Management Act (CZMA) (16 USC 1451-1464) encourages states to take a leading role in the management of their coastal regions. With state participation in the



Federal coastal zone management program, Section 307 of the CZMA requires that various Federal activities which are reasonably likely to affect any land or water use, or natural resource of the coastal zone, be consistent with a state's approved coastal zone management program (CRMC 2009). In 1978, the State of Rhode Island adopted the Rhode Island Coastal Resources Management Program (RICRMP) into the Federal coastal management program established by the CZMA. The agency responsible for overseeing implementation of the RICRMP generally, and Federal consistency in particular, is the Rhode Island Coastal Resources Management Council (CRMC) (CRMC 2009).

The extent of Rhode Island's coastal zone boundary is the three mile outer limit. The CRMC's jurisdiction includes all tidal waters within state jurisdiction, while the inland extent of Rhode Island's coastal zone boundary is a tiered system which is dependent on the type and location of an activity. Policies and standards governing activities within these three tiers are contained in the RICMP and the CRMC's Special Area Management Plans (CRMC 2009).

The first tier of Rhode Island's coastal zone generally extends 200 feet inland of a coastal feature. Within this area the CRMC has authority over any development activity, including maintenance. The second tier extends inland to include Rhode Island's 21 coastal communities. Within this second tier, all Federal (as well as state) activities must be consistent with the RICMP. The final tier of the CRMC jurisdiction encompasses the entire state for certain activities which the state has predetermined may affect coastal resources or uses regardless of location within the state. These activities include: energy generation, transfer processing, or storage; chemical processing; minerals extraction; sewage treatment and disposal; and solid waste disposal (CRMC 2009).

Tank Farm 1 falls within the second and third tiers of the Rhode Island's coastal zone boundary inland extent.

4.14.4 Coral Reefs

Tank Farm 1 does not have any coral reef habitat; therefore, coral reef protection issues are not applicable (Kam 2009).

4.14.5 Fisheries

The Magnuson-Stevens Fishery Conservation and Management Act requires all federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions or proposed actions, permitted, funded or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). EFH is defined as, "those waters and substrate necessary for fish for spawning, breeding feeding or growth to maturity." "Waters" include aquatic areas and their associated physical, chemical and biological properties. According to the 2001 INRMP, the only EFH within the NAVSTA Newport vicinity are the recently designated eelgrass beds that are a key EFH for summer flounder (*Paralichthys dentatus*) (Louis Berger 2001).

The Magnuson-Stevens Fishery Conservation and Management Act is not applicable for Tank Farm 1 because there are no water bodies on the site.



4.14.6 Marine Mammal

The Marine Mammal Protection Act is not applicable to Tank Farm 1.

Harbor seals (*Phoca vitulina*) and harbor porpoises (*Phocoena phocoena*) may be seen in Narragansett Bay offshore of NAVSTA Newport. According to the 2001 INRMP, a pair of harbor seals has been observed during the winter months in Coddington Cove, approximately 3.5 miles south of Tank Farm 1 (Louis Berger 2001). No other marine mammals are known to occur within Tank Farm 1.

4.14.7 Threatened, Endangered, and Other Sensitive Species

There are no known federal or state threatened, endangered, or other sensitive species identified at Tank Farm 1 (Kam 2009, Louis Berger 2001).

4.14.8 Geological Hazards

According to the United States Geological Survey (USGS), only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883 (USGS 2009). No other earthquakes have been recorded within the State of Rhode Island. Tank Farm 1 is located within an earthquake zone where in a 50 year period, there is only a 2% chance of an earthquake occurring with peak acceleration (ground movement) of 8 to 10% acceleration due to gravity (%g). It takes a peak acceleration of 10%g to cause damage to buildings; therefore, there is minimal risk of an earthquake that would cause damage to Tank Farm 1 (USGS 2009).

According to facility personnel (Mueller 2009c), soils on Aquidneck Island, including Naval Station Newport, have levels of naturally-occurring arsenic that exceed the State of Rhode Island's standards for Industrial/Commercial property.

See **Section 4.14.1** for information on flood hazards.

4.15 Cultural Resources

Cultural resources at NAVSTA Newport are federally regulated under the National Historic Preservation Act, Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act.

4.15.1 Historic Resources

In 1995, a cultural resources survey of the NAVSTA Newport was conducted, excluding NUWC. The survey included historical research, a Phase IA archaeological investigation, and an inventory and assessment of the buildings and structures of the Naval Complex in regard to their eligibility for listing in the National Register of Historic Places (NRHP) (Louis Berger 1998). The survey concluded that three areas within NAVSTA Newport meet National Register Criteria as historic districts; portions of Tank Farm 1 are included within the Melville Fuel Depot and Net Depot Historic District (Navy 2007, Louis Berger 1998). The Melville Fuel Depot and Net Depot Historic District comprises the entire FLA and the western portion of Tank Farm 1. Seven structures within the western portion of Tank Farm 1 are defined as contributing buildings (refer



to **Table 4-4**). The designation of the Melville Fuel Depot and Net Depot Historic District results from the representation of three periods of significant historical activity – the initial construction period, World War I, and World War II. The World War I and World War II fuel storage structures and their interconnecting pipe, pumps, and controls provide a notable intact example of the technology of those systems at the time (Navy 2007). **Figure 4-8** illustrates the historic district and the historic structures identified at Tank Farm 1.

4.15.2 Archaeological Resources

A cultural resources survey of NAVSTA Newport was conducted between 1996 and 1998, including a Phase IA archaeological investigation to assess the potential for prehistoric and/or historic archaeological resources (Louis Berger 1998). According to the 2007 *Draft Integrated Cultural Resources Management Plan* (ICRMP), the historical research and archaeological reconnaissance undertaken during the 1996-1998 cultural resources survey concluded that extensive ground disturbance over large portions of NAVSTA Newport has limited the potential for preservation of archaeological sites in many areas of the installation (Navy 2007, Louis Berger 1998). Further, the survey concluded that there are no large archaeological sites within the boundaries of NAVSTA Newport; however, two local areas outside Tank Farm 1 were determined to be archaeologically sensitive. The area is located to the east of Tank Farm 1 in the Town of Portsmouth, at the intersection of West Main Road (Route 114) and the North Access Road (Navy 2007, Louis Berger 2000). This area has been determined to have a potential to contain evidence of a possible site of an eighteenth-century house; however, further studies would need to be conducted (Navy 2007, Louis Berger 2000). None of the sensitive areas identified are included within the boundaries of Tank Farm 1 (Navy 2007).

4.15.3 Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act is not applicable because no known Native American graves have been identified on the installation (Navy 2007, Kam 2009).

4.16 Solid Waste

According to facility personnel, solid waste at NAVSTA Newport was disposed of at an on-site landfill. Sometime in the 1980's, solid waste was no longer disposed of on-site but was picked up by station personnel and disposed of at a transfer station in Newport. Since 1995 or 1996, a contractor collects and disposes of solid waste (Moore 2009).

4.17 Universal Wastes

Federal universal wastes are set forth in 40 CFR Part 273, and include batteries, pesticides, thermostats, and lamps. States can modify the universal waste rule and add additional universal waste in individual state regulations.

According to the facility personnel, all universal waste generated at NAVSTA Newport is collected and recycled by the NAVSTA Newport Environmental Department (Rielly 2009).



4.18 Medical Wastes

There are no medical facilities or biohazardous wastes generated at Tank Farm 1 (Rielly 2009).

4.19 Hazardous Materials

There was no observation or documentation of hazardous material use or storage at the site.

4.20 Summary of Environmental Conditions

Environmental conditions at Tank Farm 1 consist of the following:

- The closure of the ten storage tanks within Tank Farm 1 is ongoing although tanks have been cleaned and are filled with water.
- Due to the age of the buildings at Tank Farm 1, it is likely that there is a presence of asbestos and LBP; asbestos exists on the distribution piping.
- Groundwater TPH contaminant levels at Tank Farm 1 were found to be above the RIDEM reporting limits of 50 µg/L; particularly in the vicinity of Tank 18.
- Portions of Tank Farm 1 are within the 500-year floodplain boundary.
- Portions of Tank Farm 1 are within the Melville Fuel Depot and Net Depot Historic District, with several structures classified as contributing buildings.

All environmental conditions are present at Tank Farm 1 are shown in **Figure 4-9**.



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5.0 Certification

I certify that the Environmental Conditions of Property Report for Tank Farm 1, NAVSTA Newport, RI, November 2009 and its enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained within the Environmental Conditions of Property Report for the Former Naval Hospital Complex, NAVSTA Newport, RI, November 2009 and its enclosures is, to the best of my knowledge and belief, true, accurate and complete and accurately reflects the property's condition as of November 2009 based upon my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information.

DAVID DROZD

Name

David Drozd

Signature

11/5/09

Date



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TABLES



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Table 2-1 Structures Located within Tank Farm 1

Facility No.	Facility Name/Description	Area	Unit of Measure	Year Built
30	Water Reservoir	1000000	GA	1943
49	Foam Pumphouse	896	SF	1942
77	Community Center (demolished)	7068	SF	1942
199	Electrical Distribution Bldg/Shelter	14774	SF	1943
1158	Valve House for POL	176	SF	1943
B60	Utility Bldg - Ethyl Blending Plant	880	SF	1942
S63	Pumphouse	448	SF	1942

Source: Preston 2009

Notes:

GA = Gallons

SF = Square Feet

Land: Approximately 49 acres of land



Table 4-1 Storage Tanks Located within Tank Farm 1

Facility No.	Facility Name/Description	Volume	Unit of Measure	Year Built
TANK 9	Partially buried concrete UST	60000	BL	1920
TANK 10	Partially buried concrete UST	60000	BL	1920
TANK 11	Steel AST	56000	BL	1934
TANK 12	Steel AST	55000	BL	1934
TANK 13	Steel UST	27000	BL	1942
TANK 14	Steel UST	27000	BL	1942
TANK 15	Steel UST	27000	BL	1942
TANK 16	Steel UST	27000	BL	1942
TANK 17	Steel UST	27000	BL	1942
TANK 18	Steel UST	27000	BL	1942

Source: Preston 2009

Notes:

- UST = Underground Storage Tank
- AST = Above Ground Storage Tank
- BL = Barrels



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Table 4-2. 1999 Groundwater Sampling Results Tank Farm 1

Analyte	TF1-GT-105	TF1-GT-106	TF1-GT-108	TF1-GT-10800	TF1-GT-109	TF1-GT-110	TF1-GT-111	TF1-GT-112	TF1-GT-115	TF1-GT-117	TF1-GT-119	TF1-GT-120	TF1-GT-126	TF1-GT-128	TF1-GT-129	TF1-GZ-103	TF1-GZ-104	TF1-GZ-107	TF1-MW-7
TPH (ug/L)	320	2200	92	110	350	2000	830	7300	640	620	1800	380	420	2200	170	350	1200	16,000	330
TCL VOCs (ug/L)																			
Methylene Chloride				3JB					4JB										
Acetone									6J	5J	6J	21							
Methyl tert-butyl ether												9					4J		
Benzene									6			250					4J		
Toluene									7			6					4J		
Ethylbenzene									22			34		10			98	16	
p/m-Xylene									12			43		5			130	12	
o-Xylene									2J								6		
Isopropylbenzene									6					4J				9	
N-Propylbenzene									14					9			13	24	
1,3,5-Trimethylbenzene									3J			3J		14			65	51	
Sec-Butylbenzene							8							3J				8	
N-Butylbenzene														8			3J	21	
1,2,4-Trimethylbenzene									14			3J		30			59	76	
Naphthalene									4J								9	5	
P-Isopropyltoluene														3J				6	
TCL SVOCs (ug/L)																			
Phenol			6	7						8							5J		
Naphthalene									3J					4J			7J	6	
2-Methylnaphthalene														5J			2J	6	
Acenaphthene									2J										
Dibenzofuran							1J												
Diethylphthalate		1J	1JB	2JB	1J	1J	1J	1J		2JB			2J					2JB	
Carbazole									4J										
Di-n-butyl-phthalate		1J	2JB	2JB						2JB			1J	1J		1JB	2JB		
bis-(2-Ethylhexyl) phthalate	2JB	7	2JB	9B	2J	7	6	3J	4J	4JB	5JB	4JB	2J	13	2J	2JB	3JB	8B	4J
TAL METALS (mg/L)																			
Aluminum			2.43															13.8	



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Table 4-2. 1999 Groundwater Sampling Results Tank Farm 1

Analyte	TF1-GT-105	TF1-GT-106	TF1-GT-108	TF1-GT-10800	TF1-GT-109	TF1-GT-110	TF1-GT-111	TF1-GT-112	TF1-GT-115	TF1-GT-117	TF1-GT-119	TF1-GT-120	TF1-GT-126	TF1-GT-128	TF1-GT-129	TF1-GZ-103	TF1-GZ-104	TF1-GZ-107	TF1-MW-7
Arsenic			0.03																0.4
Barium			0.0174																0.0526
Calcium			20.2																16.1
Chromium																			0.0274
Cobalt			0.0302																
Copper																			0.128
Iron			18.5																101
Lead			0.006																0.052
Magnesium			4.65																8.05
Manganese			3.78																2.44
Nickel																			0.0417
Potassium			4																2.1
Sodium			30.8																10.7
Vanadium																			0.0368
Zinc			0.0495																0.179

Source: DESC 1999

Notes:

"B" Flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

"J" Flag denotes an estimated value less than the Laboratory Practical Quantitation Level.

The Method 1 GB TPH Leachability Criteria of 2500 ppm was used to determine TPH exceedances.



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Table 4-3 2009 Groundwater Sampling Results – Tank Farm 1

Sample ID				GT-110	GT-113	GT-114	GT-115	GT-118	GT-131	GT-132	GZ-103	GZ-105	GZ-109	GZ-112	GZ-114	GZ-114D
Collection Date				6/15/09	6/17/09	6/16/09	6/16/09	6/16/09	6/15/09	6/15/09	6/17/09	6/15/09	6/15/09	6/16/09	6/16/09	6/16/09
Analyte	Unit	RIDEM GA GW Objectives	RIDEM GB GW Objectives	Concen.	Concen.											
Total Petroleum Hydrocarbons (TPH) EPA Method 8015B																
Diesel Range Organics (DRO)	mg/L					0.13		0.07		U	0.14		0.19		0.06	U
Gasoline Range Organics (GRO)	mg/L					1.29		0.09		0.01	0.63		0.15		0.24	0.03
VOCs (EPA Method 8260B)																
Benzene	ug/L	5.00	140.00	U	U	U	U	U	U	U	1.90	U	0.8 J	4.3 J	U	U
Carbon tetrachloride	ug/L	5.00	70.00	U	U	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	ug/L	100.00	3200.00	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dibromo-3-chloropropane	ug/L	0.20	2.00	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	ug/L	5.00	110.00	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	ug/L	7.00	7.00	U	U	U	U	U	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	ug/L	70.00	2400.00	U	U	U	U	U	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	ug/L	100.00	2800.00	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	ug/L	5.00	110.00	U	U	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	ug/L	700.00	1600.00	U	U	U	5.10	U	U	U	U	U	U	134.00	U	0.6 J
1,2-Dibromoethane (EDB)	ug/L	0.05		U	U	U	U	U	U	U	U	U	U	U	U	U
Methyl-tert-butyl-ether (MTB)	ug/L	40.00	5000.00	U	U	U	U	U	U	U	5.10	U	U	U	3.00	3.60
Methylene chloride	ug/L	5.00		U	U	U	U	U	U	U	U	U	U	U	U	U
Styrene	ug/L	100.00	2200.00	U	U	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	ug/L	5.00	150.00	U	U	U	U	U	U	U	U	U	U	U	U	U
Toluene	ug/L	1000.00	1700.00	U	U	U	1.0 J	U	U	U	U	U	U	2.6 J	U	U
1,1,1-Trichloroethane	ug/L	200.00	3100.00	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	ug/L	5.00		U	U	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene (TCE)	ug/L	5.00	540.00	U	U	U	U	U	U	U	U	U	U	U	U	U
Vinyl chloride	ug/L	2.00		U	U	U	U	U	U	U	U	U	U	U	U	U
m&p-Xylenes	ug/L	10000*		U	U	U	3.20	U	U	U	U	U	U	120.00	U	U
o-Xylene	ug/L	10000*		U	U	U	0.6 J	U	U	U	U	U	U	6.50	U	U
SVOCs (EPA Method 8270C)																
Benzo(a)pyrene	ug/L	0.20		U	U	U	U	U	U	U	U	U	U	U	U	U
Dimethyl phthalate	ug/L	6.00		U	U	U	U	U	U	U	U	U	U	U	U	U
Hexachlorobenzene	ug/L	1.00		U	U	U	U	U	U	U	U	U	U	U	U	U
Naphthalene	ug/L	20**		U	U	U	6.7***	U	U	U	U	U	U	23.00***	U	U
Pentachlorophenol	ug/L	1.00		U	U	U	U	U	U	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	ug/L	70.00		U	U	U	U	U	U	U	U	U	U	U	U	U
Lead (EPA Method 6010B)																
Total Pb	ug/L	15		U	1.0 J	1.6 B	1.2 B	0.99 B	3.1 B	1.5 B	2.9 B	2.8 B	U	1.0 B	0.91B	U
Dissolved Pb	ug/L	15		U	U	U	0.85 B	1.1 B	U	U	U	0.96 B	2.5 B	U	U	1.7 B

The Rhode Island Department of Environmental Management (RIDEM) criteria is for xylene (total).

** Naphthalene results were reported via EPA Methods 8260 (VOCs) and 8270 (SVOCs). The maximum of the two results are shown in the table.

J = Estimated value.

B = The result reported is less than reporting limit, but greater than instrument detection limit.

NS = Not sampled.

U = Analyte not detected above laboratory reporting limit.

Source: TetraTech 2009



Table 4-4 Contributing Buildings of the Melville Fuel Depot and Net Depot Historic Data – Tank Farm 1

Building No.	Date	Original Use	Use Status	National Register Status	Treatment Category
Tank 9	1920	Fuel Tank 9 (concrete)	Same	NRED-A,C	3
Tank 10	1920	Fuel Tank 10 (concrete)	Same	NRED-A,C	3
Tank 11	1934	Fuel Tank 11 (Steel, aboveground), Tank Farm 1	Same	NRED-A,C	3
Tank 12	1934	Fuel Tank 12 (steel, aboveground), Tank Farm 1	Same	NRED-A,C	3
Tanks 13-14	1942	Fuel Tanks 13-14 (concrete, underground), Tank Farm 1	Same	NRED-A,C	3
S-63	1942	Pumphouse	Not in use	NRED-A,C	3

Source: Navy 2007

Notes:

NRED-A: Contributing resource in National Register-eligible district under Criterion A

NRED-C: Contributing resource in National Register-eligible district under Criterion C

Criterion A: Associated with events that have made a significant contribution to the broad patterns of history.

Criterion C: The Design, Construction and Work of a Master

Treatment

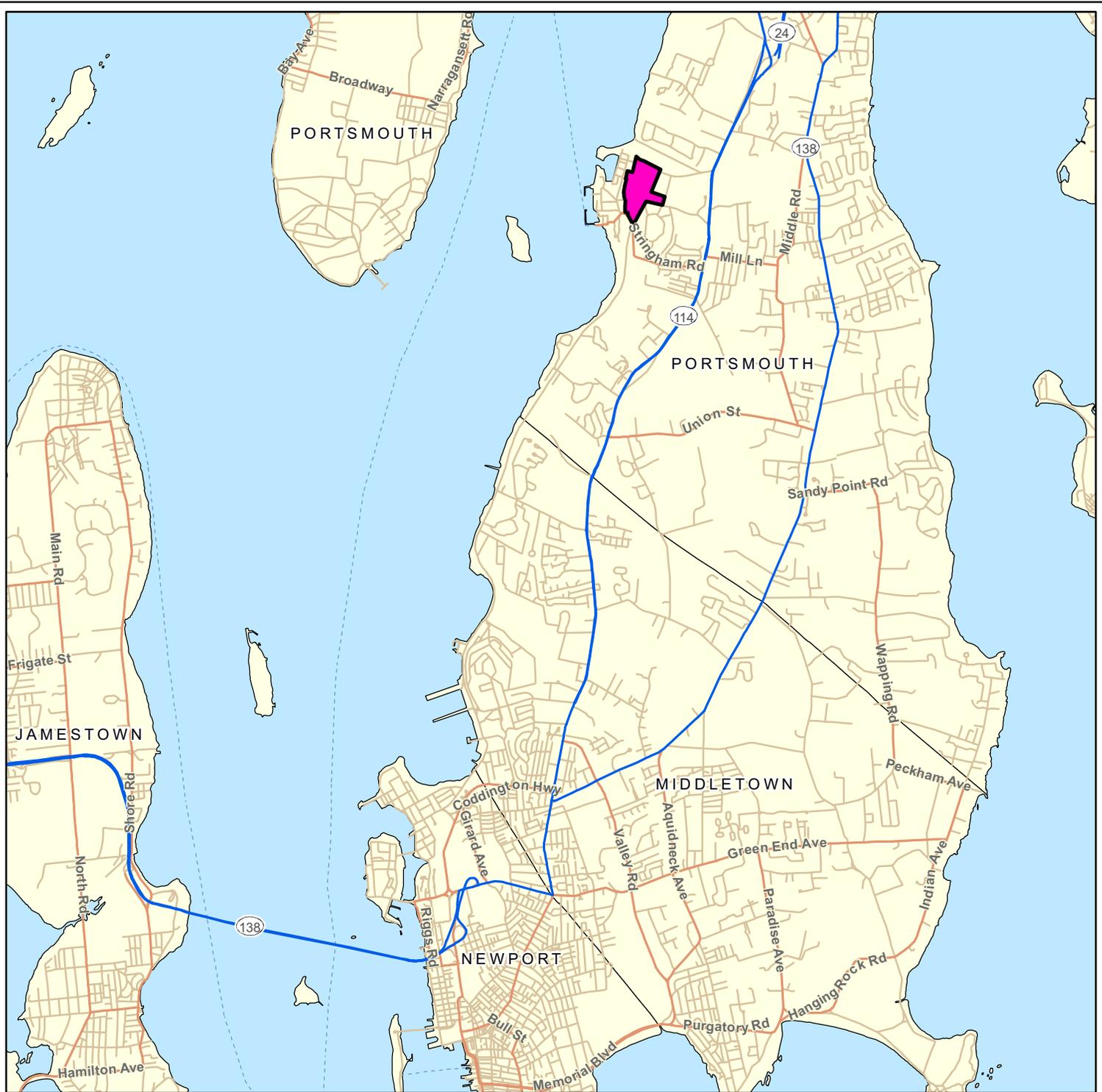
Category: On a scale form 1-4; 1 being the most valuable/significant and 4 being the least valuable/significant.



FIGURES



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LEGEND

- Primary Highway
- Secondary Highway
- Local Road
- - - Ferry
- ECP Site Boundary



NOTES & SOURCES
 Coordinate System: NAD 83, UTM Zone 19
 Data Sources: ESRI.

Tank Farm 1
 Newport, RI

N

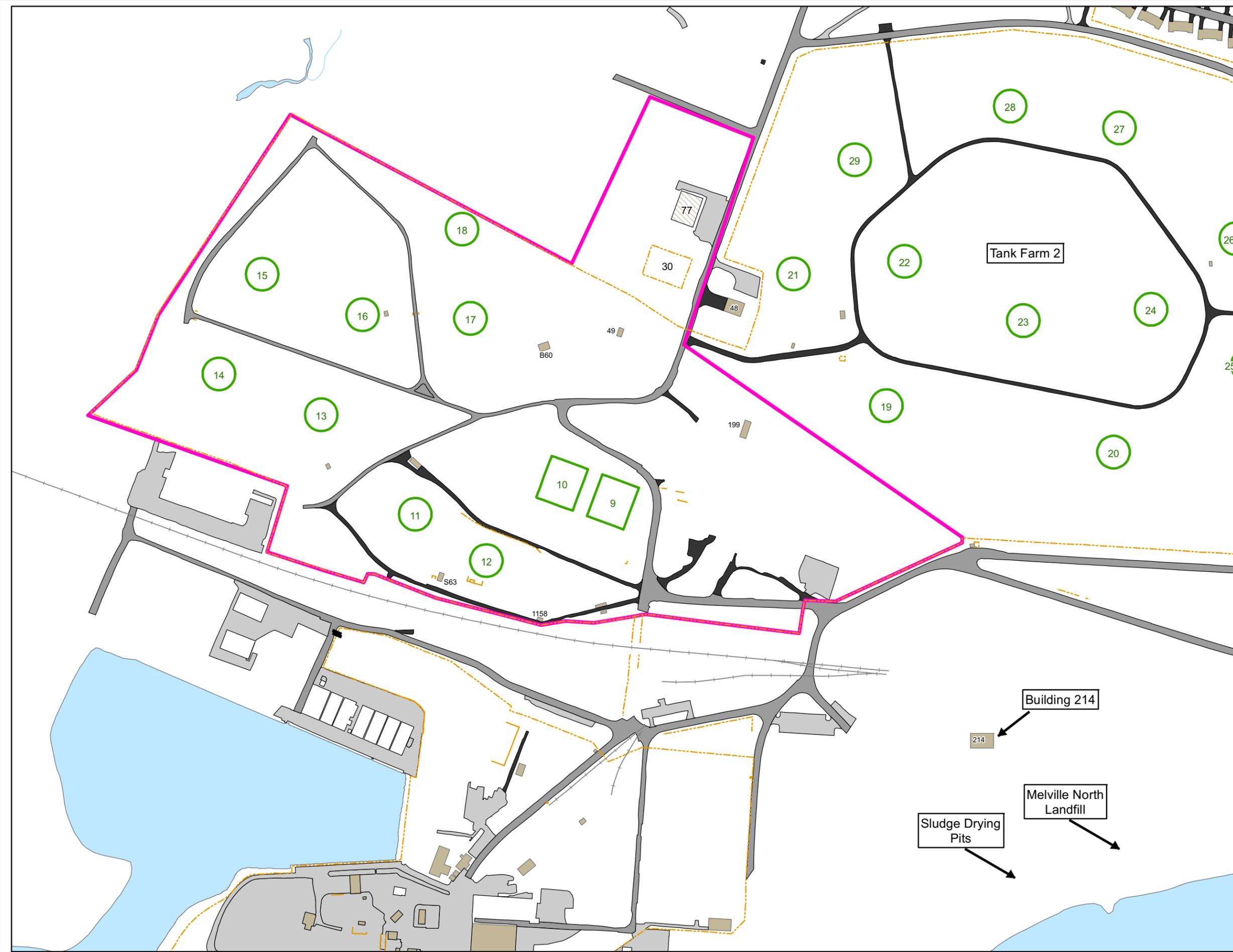
0 3,000 6,000
Feet

0 1,000 2,000
Meters

SITE LOCATION MAP

FIGURE
3-1

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 H:\NAS\Newport_RI\Task2\Export\TF1_Figure3-1.pdf
 August 27, 2009 DWN: APC CHKD: AKN



TITLE

AREAS OF CONCERN

Tank Farm 1
Newport, RI

LEGEND

	Railroad		Wall
	Gate		Fence
	ECP Site Boundary		Tank
	Paved Vehicle Parking Area		Building
	Paved Vehicle Driveway		Former Building
	Unpaved Road		Paved Road
	Surface Water Course Area		



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

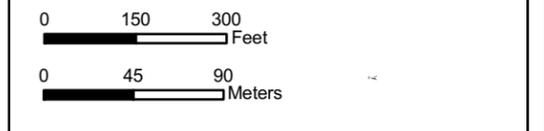


FIGURE
4-1

TITLE

UNDERGROUND STORAGE TANKS

Tank Farm 1
Newport, RI

LEGEND

Fuel Line	Wall
Fence	Gate
ECP Site Boundary	Railroad
Underground Storage Tank	
Tank	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Building	
Former Building	
Unpaved Road	
Paved Road	
Surface Water Course Area	

SITE LOCATION MAP

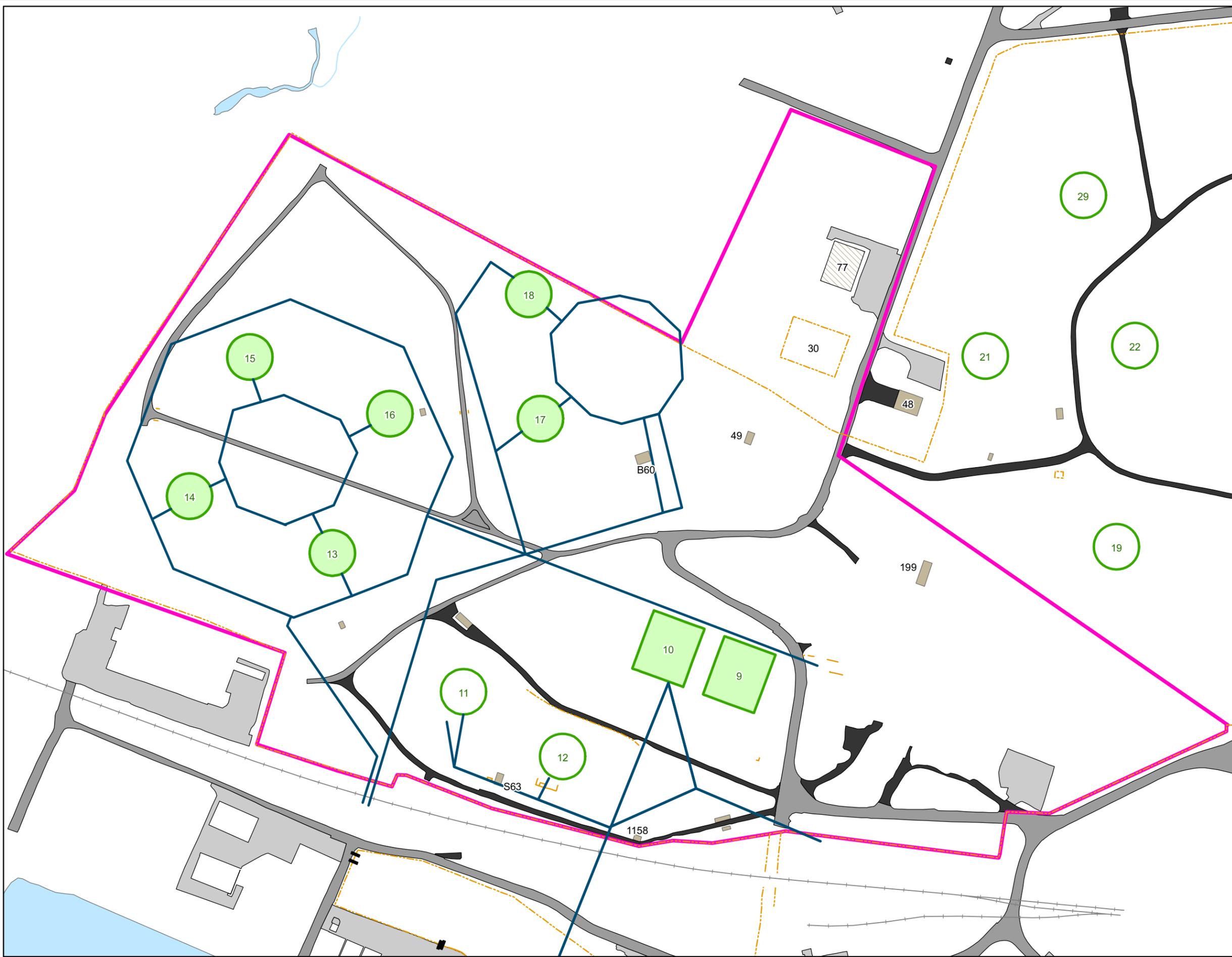
NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

0 105 210 Feet

0 35 70 Meters

FIGURE
4-2





TITLE

ABOVEGROUND STORAGE TANKS

Tank Farm 1
Newport, RI

LEGEND

Fuel Line	Wall
Fence	Railroad
ECP Site Boundary	Gate
Aboveground Storage Tank	
Tank	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Building	
Former Building	
Unpaved Road	
Paved Road	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

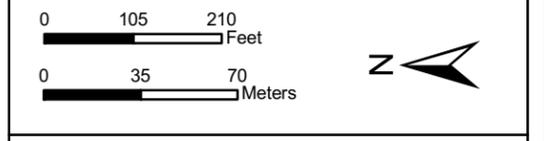


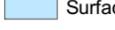
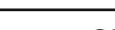
FIGURE 4-3

TITLE

TRANSFORMERS

Tank Farm 1
Newport, RI

LEGEND

-  Gate
-  Fence
-  ECP Site Boundary
-  Tank
-  Transformer Locations
-  Paved Vehicle Parking Area
-  Paved Vehicle Driveway
-  Building
-  Former Building
-  Unpaved Road
-  Paved Road
-  Surface Water Course Area
-  Wall
-  Railroad

SITE LOCATION MAP

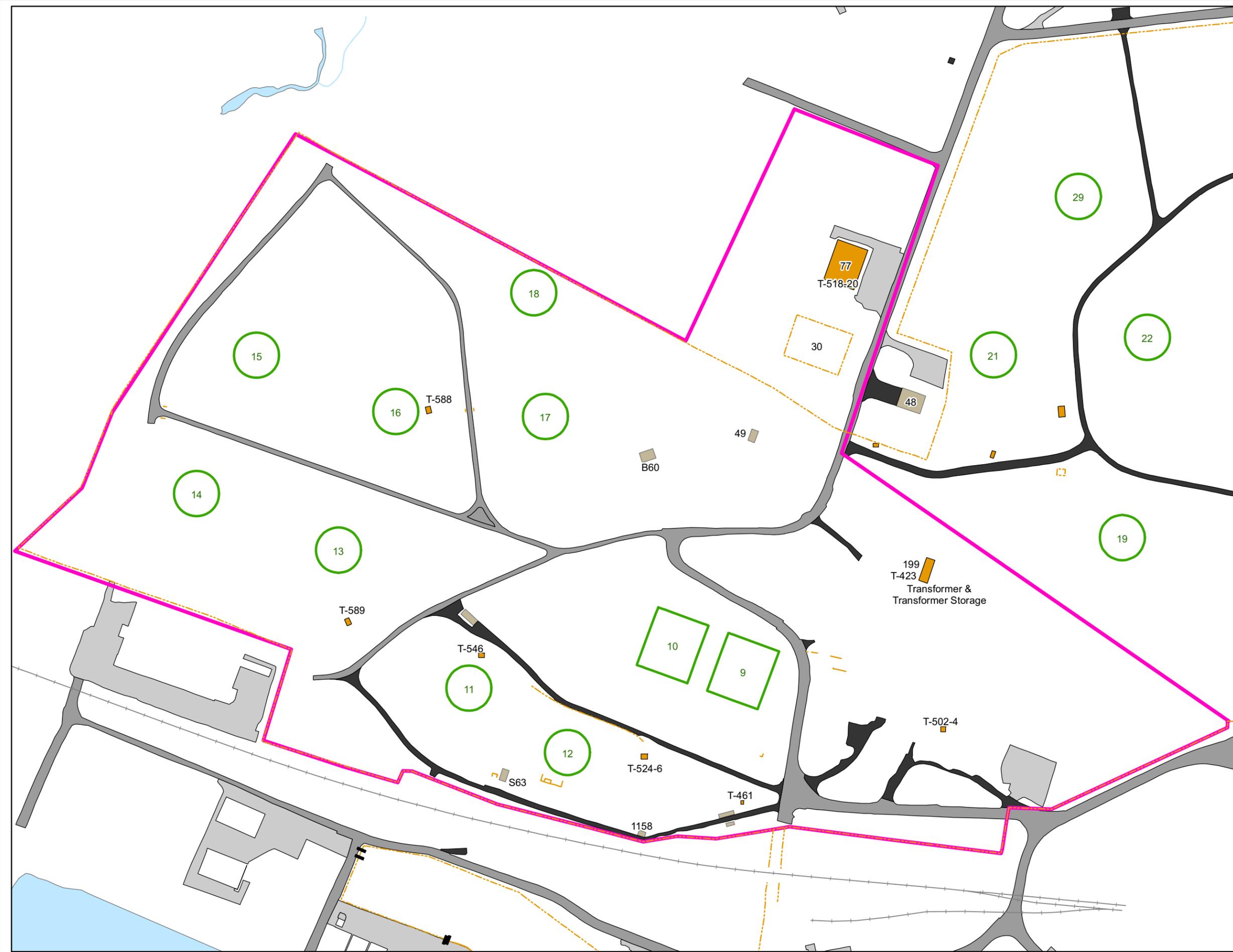


NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009



FIGURE
4-4



TITLE

ASBESTOS

Tank Farm 1
Newport, RI

LEGEND

- Confirmed ACM
- - - Fence
- ECP Site Boundary
- Tank
- Suspected ACM
- Paved Vehicle Parking Area
- Paved Vehicle Driveway
- Building
- Former Building
- Unpaved Road
- Paved Road
- Surface Water Course Area
- Wall
- Railroad
- Gate

SITE LOCATION MAP



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

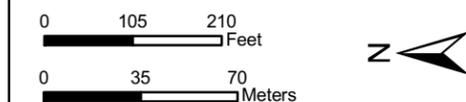


FIGURE
4-5

TITLE

STORMWATER DISTRIBUTION

Tank Farm 1
Newport, RI

LEGEND

Stormwater Line	Wall
Fence	Railroad
ECP Site Boundary	Gate
Tank	
Paved Vehicle Parking Area	
Paved Vehicle Driveway	
Building	
Former Building	
Unpaved Road	
Paved Road	
Surface Water Course Area	

SITE LOCATION MAP

NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

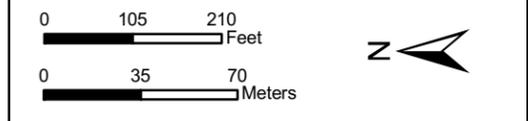
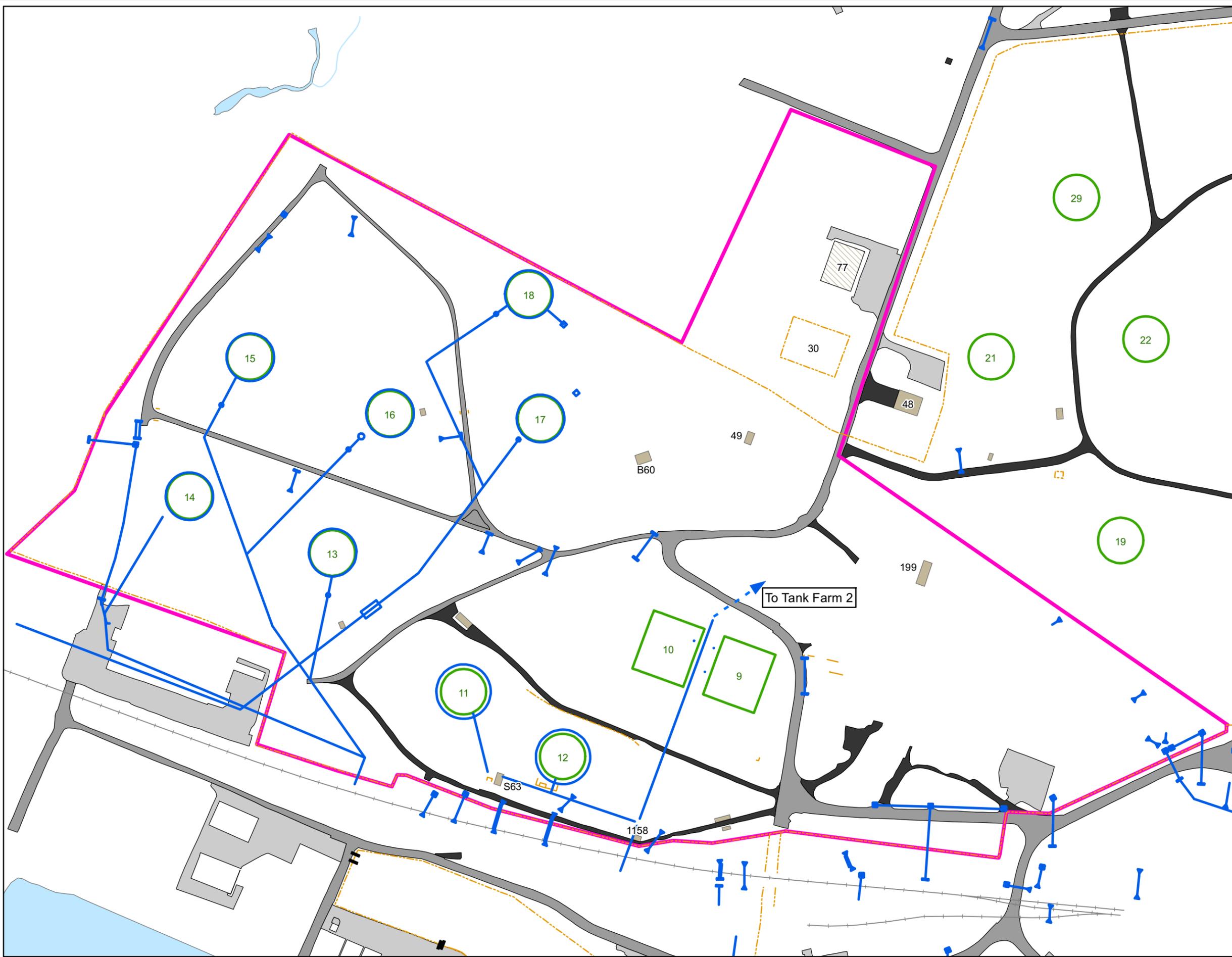
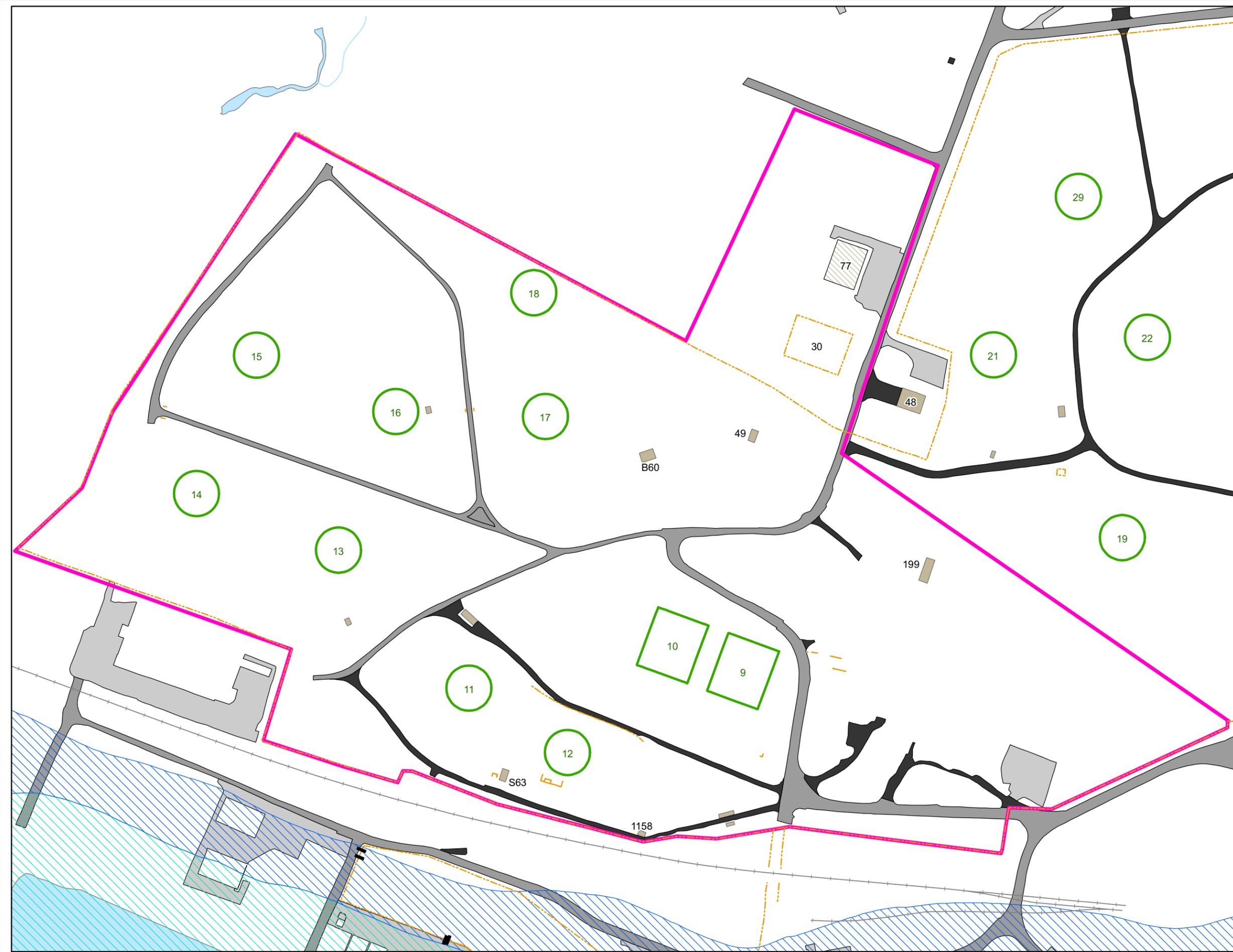


FIGURE
4-6





TITLE

FLOOD MAP

Tank Farm 1
Newport, RI

LEGEND

ECP Site Boundary	Wall
Tank	Railroad
Paved Vehicle Parking Area	Gate
100 Year VE Flood Zone	Fence
100 Year AE Flood Zone	
Paved Vehicle Driveway	
Building	
Former Building	
Unpaved Road	
Paved Road	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

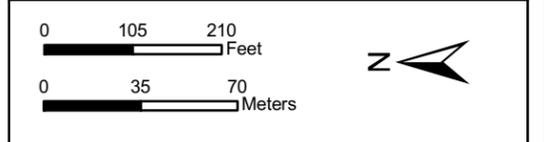


FIGURE
4-7



TITLE

HISTORIC RESOURCES

Tank Farm 1
Newport, RI

LEGEND

Fence	Wall
ECP Site Boundary	Railroad
Tank	Gate
Paved Vehicle Parking Area	
NRED-A,C	
Net Depot Historic District	
Paved Vehicle Driveway	
Building	
Former Building	
Unpaved Road	
Paved Road	
Surface Water Course Area	



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

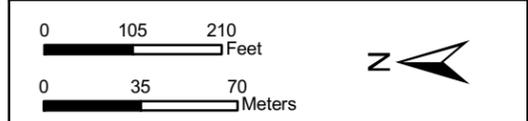
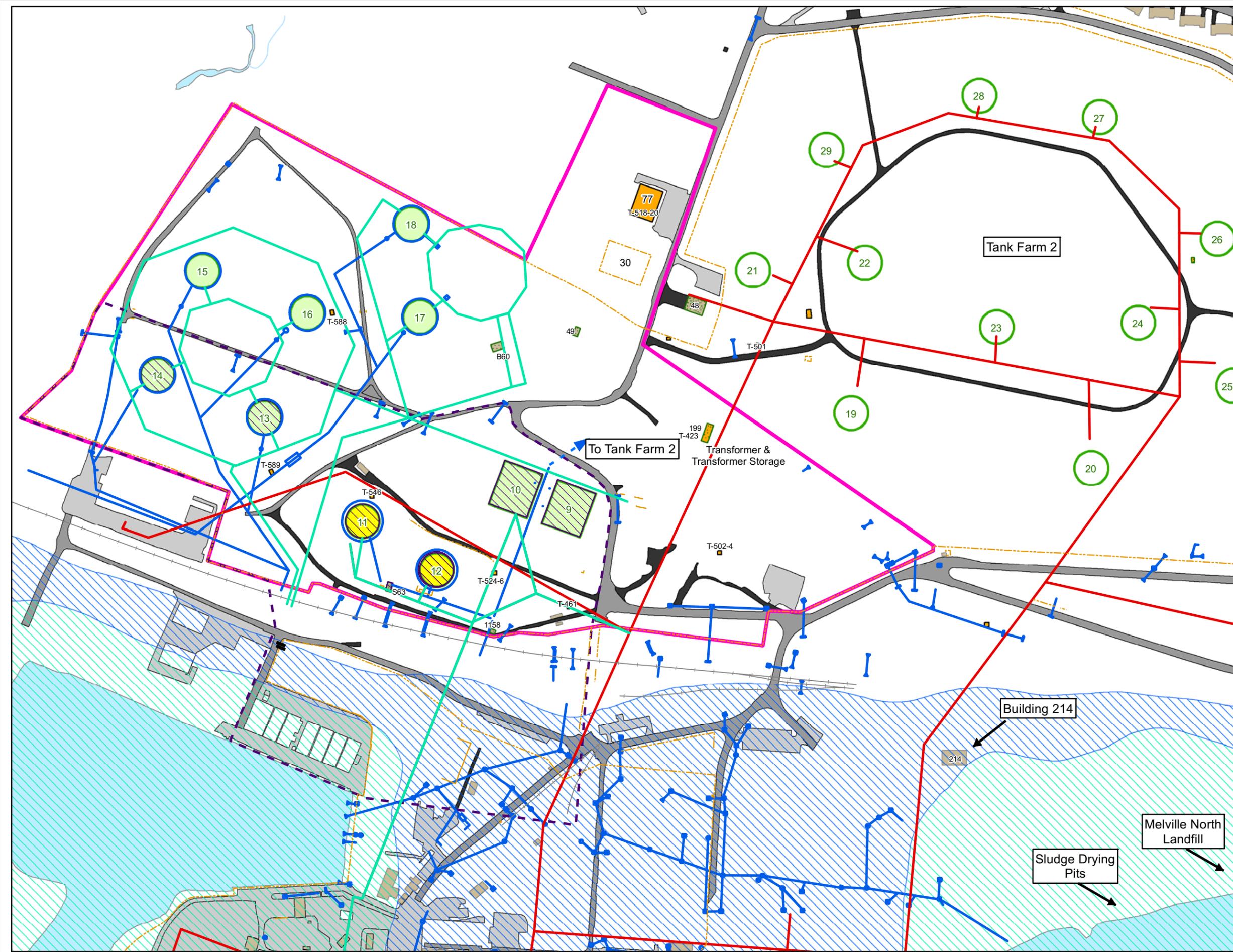


FIGURE
4-8



TITLE

SUMMARY OF ENVIRONMENTAL CONDITIONS

Tank Farm 1
Newport, RI

LEGEND

Stormwater Line	Fuel Line
NRED-A,C	Railroad
Net Depot Historic District	Wall
ECP Site Boundary	Gate
Transformer Locations	Fence
Underground Storage Tank	Confirmed ACM
Aboveground Storage Tank	Suspected ACM
100 Year VE Flood Zone	Tank
100 Year AE Flood Zone	Building
Paved Vehicle Parking Area	Former Building
Paved Vehicle Driveway	Unpaved Road
Surface Water Course Area	Paved Road



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

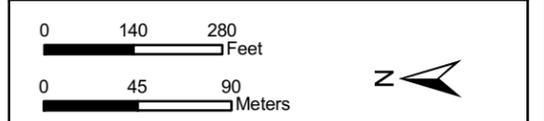


FIGURE
4-9



APPENDIX A

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Department of the Navy BRAC Program Management Office



Williams 2004. Cover Photo taken by David Williams. David M. Williams Photography, Forks, WA. <http://www.williams4pix.com>.

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APPENDIX B
List of Contacts



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APPENDIX B List of Contacts

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- FINAL -

**ENVIRONMENTAL CONDITION OF PROPERTY
REPORT**

for the

**NAVAL STATION NEWPORT
Newport, Rhode Island**

Tank Farm 2

Department of the Navy BRAC Program Management Office

Department of the Navy
Base Realignment and Closure
Program Management Office
1455 Frazee Road, Suite 900
San Diego, California 92108-4310



November 2009



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Figure 4-6. Summary of Environmental Conditions

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ABBREVIATIONS, ACRONYMS, AND SYMBOLS

%g	percent acceleration due to gravity	HARP	Historic and Archaeological Resources Protection
µg/L	micrograms per liter	ICRMP	Integrated Cultural Resources Management Plan
ACM	Asbestos Containing Material	INRMP	Integrated Natural Resources Management Plan
AHERA	Asbestos Hazard Emergency Response Act	IRP	Installation Restoration Program
amsl	above mean sea level	LBP	Lead-Based Paint
AST	aboveground storage tank	MEC	Munitions and Explosives of Concern
BRAC	Base Realignment and Closure	mg/kg	milligrams per kilogram
BS&W	Bottom Sediment and Water	NAVSTA	Naval Station
CAA	Clean Air Act	NETC	Naval Education and Training Center
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	NGVD	National Geodetic Vertical Datum
CERFA	Community Environmental Response Facilitation Act	NMFS	National Marine Fisheries Service
CFR	Code of Federal Regulations	NPDES	National Pollutant Discharge Elimination System
CRMC	Rhode Island Coastal Resources Management Council	NPL	National Priorities List
CWA	Clean Water Act	NRHP	National Register of Historic Places
CZMA	Coastal Zone Management Act	NUWC	Naval Undersea Warfare Center
DFSC	Defense Fuel Supply Center	NWI	National Wetlands Inventory
DoD	Department of Defense	OWR	Office of Water Resources
EBS	Environmental Baseline Survey	OWS	Oil/Water Separator
ECP	Environmental Condition of Property	PCB	polychlorinated biphenyls
EFH	Essential Fish Habitat	pCi/L	picocuries per liter
FEMA	Federal Emergency Management Agency	PMO	Program Management Office
FFDCA	Federal Food, Drug, and Cosmetic Act	PAH	polycyclic aromatic hydrocarbon
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act	ppb	parts per billion
FLA	Fuel Loading Area	ppm	parts per million
		Pub. L.	Public Law
		RDEC	Residential Direct Exposure Criteria



RICRMP	Rhode Island Coastal Resources Management Program
RIDEM	Rhode Island Department of Environmental Management
RIDES	Rhode Island Discharge Elimination System
SDWA	Safe Drinking Water Act
SWPPP	Stormwater Pollution Prevention Plan
SVOC	semi-volatile organic compounds
TPH	total petroleum hydrocarbon
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and Disposal Facility
VOC	volatile organic compounds
U.S.	United States
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
UST	underground storage tank



EXECUTIVE SUMMARY

This Environmental Condition of Property (ECP) report for Tank Farm 2, Naval Station (NAVSTA) Newport, Rhode Island summarizes the historical, cultural, and environmental conditions of the property as part of Base Realignment and Closure (BRAC) documentation associated with transfer of Tank Farm 2. Information was reviewed with installation points of contact to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

A brief summary of ECP findings is provided below by subject area.

- **Classifications of Environmental Conditions.** This ECP Report is not intended to identify uncontaminated property in compliance with the Community Environmental Response Facilitation Act (CERFA) and Department of Defense (DoD) policy.
- **Installation Restoration Program Sites.** The United States Environmental Protection Agency (USEPA) listed the NAVSTA Newport on the National Priorities List (NPL) in 1989 (USEPA ID# RI6170085470). Tank Farm 2 was listed as a Rhode Island Superfund Site in 1985 (RID981065956), due to the soil and groundwater contamination resulting from the underground storage tanks (USTs) within Tank Farm 2.
- **Underground Storage Tanks.** Twelve USTs were originally located within Tank Farm 2. Eleven USTs and associated underground distribution lines were cleaned and inspected between 1996 and 1997. Numerous leaks were observed and infiltration of groundwater had occurred. The associated USTs were cleaned, certified gas-free, reballasted with water, and closed in 1998. All the pumps, interior pipelines, and vaults associated with the closed USTs were also cleaned, and the fuel distribution pipelines associated with each tank as well as the transfer pipe loop were permanently decommissioned. Additionally, one former UST located at Building 48 (former Fire Station) in Tank Farm 2 was removed in January 2009.
- **Aboveground Storage Tanks.** There are no aboveground storage tanks (ASTs) located at Tank Farm 2.
- **Munitions and Explosives of Concern.** No known munitions and explosives of concern (MEC) have been stored at the Tank Farm 2, and no MEC is known to be present.
- **Hazardous Waste.** The waste generated at Tank Farm 2 was primarily associated with USTs. Approximately nine dump piles loaded with petroleum contaminated soil were observed through photographic documentation approximately 300-feet west of Tank 28. According to the report, the contaminated soil appears to have originated from another area of the installation. Sometime prior to 1970, UST bottom sediment and water (BS&W) may have been discharged directly onto the ground surface at Tank Farm 2 within the vicinity of the USTs. Since the 1970s, the BS&W has reportedly been properly disposed of at an off-site facility.
- **Polychlorinated Biphenyls.** Polychlorinated biphenyls (PCB) concentrations above the residential direct exposure criteria (RDEC) were detected within the soil adjacent to Building 219. Remediation of the PCB-contaminated soil has not been conducted. There are three transformers located in Tank Farm 2. All the PCB transformers were removed in the 1980s.



- **Radiological Materials.** There are no known radiological materials at Tank Farm 2; none are known to have existed during its operation.
- **Pesticides.** Pesticides are applied at the NAVSTA Newport by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and for grounds maintenance activities. No pesticides are known to have been stored in the past, or are currently stored, at Tank Farm 2.
- **Asbestos.** Due to the age of the buildings at Tank Farm 2, it is suspected that asbestos-containing materials (ACM) are present.
- **Lead-Based Paint.** Due to the age of the buildings at Tank Farm 2, it is suspected that they contain lead-based paint (LBP). No LBP surveys have been conducted at any of the buildings at Tank Farm 2.
- **Radon.** Radon surveys have not been conducted at any of the buildings located within Tank Farm 2.
- **Air Quality.** There are currently no known air emission sources at Tank Farm 2. NAVSTA Newport operates under RIDEM, Office of Air Resources Operating Permit Number RI-25-07 (RI). The Operating Permit was renewed in October 2007 and expires in October 2012.
- **Drinking Water.** Drinking water for NAVSTA Newport is provided by the City of Newport.
- **Groundwater.** Currently, there are no known groundwater wells for drinking water use within Tank Farm 2; however, there are over 25 monitoring wells installed. The results of the groundwater sampling determined that all of the samples collected contained levels of total petroleum hydrocarbons (TPHs).
- **Stormwater.** Tank Farm 2, as a whole, is identified within the current Stormwater Pollution Prevention Plan (SWPPP) as a location of potential source of pollutants. The possibility of hazardous materials to be exposed to stormwater runoff is remote, and in most cases occurred during refueling and loading operations. The ring drains of Tank Farm 2 discharge to an oil/water separator system that eventually discharges to Narragansett Bay. The discharge is monitored and permitted under RIPDES stormwater permit RI0020150.
- **Surface Water.** No freshwater surface water bodies are located within the boundaries of Tank Farm 2.
- **Wastewater.** A system may have existed adjacent to Building 48; otherwise, no none leach fields exist.
- **Floodplains.** No portions of Tank Farm 2 lie within a designated 100-year flood boundary.
- **Wetlands and Aquatic Habitats (Special Aquatic Sites).** Four wetland systems located adjacent to NAVSTA Newport include jurisdictional areas (perimeter wetlands) that extend into areas of the installation, not including Tank Farm 2. These wetland systems are mostly associated with the Melville Pond complex located to the north and northeast of Tank Farm 2.
- **Coastal Zone Areas.** Under the Rhode Island Coastal Resources Management Program and the Rhode Island Coastal Resources Management Council (CRMC), Tank Farm 2 falls within the second and third tiers of the Rhode Island's coastal zone boundary inland extent.



- **Coral Reefs.** Tank Farm 2 does not have any coral reef habitat; therefore, coral reef protection issues are not applicable.
- **Fisheries.** The Magnuson-Stevens Fishery Conservation and Management Act is not applicable to Tank Farm 2 because the property does not extend into Narragansett Bay.
- **Marine Mammals.** The Marine Mammal Protection Act is not applicable to Tank Farm 2.
- **Threatened, Endangered, and Other Sensitive Species.** There are no known Federal or state-threatened, endangered, or other sensitive species identified at Tank Farm 2.
- **Geological Hazards.** Only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883. No other earthquakes have been recorded within the State of Rhode Island.
- **Historic Resources.** A cultural resources survey of the NAVSTA Newport was conducted in 1995 and concluded that there are no historical resources identified at Tank Farm 2.
- **Archaeological Resources.** A cultural resources survey were conducted in 1996 through 1998, indicating that there are no sensitive areas within Tank Farm 2; however, two local areas outside Tank Farm 2 were determined to be archaeologically sensitive.
- **Native American Graves Protection and Repatriation Act.** The Native American Graves Protection and Repatriation Act is not applicable because no known Native American graves have been identified on the installation
- **Solid Wastes.** All solid waste that is generated at NAVSTA Newport is collected and disposed of by a licensed contractor.
- **Universal Waste.** According to the facility personnel, all universal waste generated at NAVSTA Newport, including Tank Farm 2, is collected and recycled by the NAVSTA Newport Environmental Department.
- **Medical Waste.** Currently there is no medical waste generated, stored, or disposed of at Tank Farm 2; no medical waste is known to have existed on the property.
- **Hazardous Materials.** It is unknown whether or not hazardous materials were stored at Tank Farm 2; there was no observation or documentation of hazardous material or storage at the site.



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1.0 Purpose

The Navy Base Realignment and Closure (BRAC) Program Management Office (PMO) prepared this Environmental Condition of Property (ECP) report for the Naval Station Newport, Tank Farm 2, Newport, Rhode Island.

This report used existing information to summarize the historical, cultural, and environmental conditions of Tank Farm 2. Information was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

The purposes of the ECP report are to:

- Provide the BRAC PMO with the information it may use to make disposal decisions regarding the property;
- Provide the public with information relative to the environmental condition of the property;
- Assist the local government in planning for the reuse of BRAC property;
- Assist Federal agencies during the Federal property screening process;
- Provide information for prospective buyers;
- Assist new owners in meeting their obligations under the United States (U.S.) Environmental Protection Agency's (USEPA's) "All Appropriate Inquiry" regulations, at such time as they become final; and
- Assist in determining appropriate responsibilities, asset valuation, liabilities, and liabilities with other parties to a transaction.



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2.0 Background

Naval Station Newport History

Tanks Farm 2 is located in Portsmouth, RI at the northern end of the Naval Station (NAVSTA) Newport, in Newport, Newport County, Rhode Island. The origin of the U.S. Navy's presence within Rhode Island began during the Revolutionary War, where the first Commander-in-Chief of the Continental Navy, Esek Hopkins, would use Narragansett Bay as shelter between combat engagements (Global Security 2006). In 1869, the U.S. Navy's Admiral Dixon Port assisted in the establishment of an experimental torpedo station on Goat Island, approximately less than one mile south of the current NAVSTA Newport. During World War II, the torpedo station reached its peak of importance, manufacturing 80 percent of the torpedoes used by the U.S. Navy during the war. The torpedo station was permanently closed in 1951, and Goat Island was transferred to the City of Newport. In place of the experimental torpedo station, a new research facility was created called the Naval Underwater Ordnance Station. In 1970 a merger with the naval activities at New London, Connecticut, established to what is now the Naval Underwater Warfare Center (NUWC) (Global Security 2006).

By 1973, a Shore Establishment Realignment study merged five previously independent commands and created the Naval Education and Training Center (NETC). These five former shore commands include the Naval Base Staff, Naval Station, Naval Officer Training Center, Public Works Center, and the Supply Center Annex. Additionally, NETC is also home of the U.S. Navy's most prestigious educational institution, the Naval War College, established in 1884 and is the oldest such institution in continuous existence anywhere in the world (Global Security 2006, NWC 2009). In October of 1998, Naval Station Newport (NAVSTA) was established as the primary host command, taking over base operating support responsibilities from NETC.

Currently, NAVSTA Newport is home to more than 42 naval and defense commands and activities such as training officers, officer candidates, senior enlisted personnel and midshipman candidates, as well as conducting advanced undersea warfare and development systems. Approximately 5,000 employees work at NAVSTA Newport, with an additional 9,300 students (CNIC 2009, Global Security 2006).

Tank Farm 2 History

Tank Farm 2 occupies approximately 96 acres of land in the northeastern portion of NAVSTA Newport, bordered by Melville Pond and the Melville Public Fishing and Camping Area to the north-northeast, the Melville Housing area to the east, Newport Naval Cable Television and the Defense Highway property (Stringham Road) to the south, and undeveloped woodland and Tank Farm 1 to the west. Tank Farm 2 consists of eleven underground storage tanks (USTs) (Tanks 19 through 29), two buildings (Buildings 48 and 219), and a former UST associated with Building 48, removed on January 6, 2009. Construction of the Tank Farm was started in 1941 and completed in 1943. The Navy used the Tank Farm until 1970. In 1974, the Navy licensed to the Defense Fuel Supply Center (DFSC) (currently known as Defense Energy Supply Center (DESC)) the tank farm and associated facilities to store and distribute petroleum fuel. DESC ceased operations in 1998. Tank 22 was taken out-of-service and cleaned for use as a slop tank in the mid-1970s. In 1996, over a two year period, the remaining ten tanks were taken out



of service. Between 1996 and 1997, all 11 tanks (including Tank 22) were cleaned and refilled with water for balance (GZA 1998b, Tetra Tech 2007, GZA 1996).

In addition to the storage tanks and the buildings located within Tank Farm 2, ring drains were also installed around each of the USTs; they functioned as a groundwater underground drainage system in order to prevent excessive hydrostatic uplift on the bottom of the tanks. The ring drains are approximately 10-inches in diameter and were installed seven feet above the bottom of the tanks. The ring drains are connected to drainage pipes with gravity discharge to the oil/water separators (OWS) located at adjacent Tank Farm 1 (Tanks 9 and 10) and the Fuel Loading Area (FLA) for final discharge to Narragansett Bay (GZA 1996). **Table 2-1** provides the building and tank descriptions, including dates of construction.



3.0 Property Description

Tank Farm 2, located in Portsmouth, RI occupies approximately 96 acres of land in the northeastern portion of NAVSTA Newport, bordered by non-Navy Melville Pond and the Melville Public Fishing and Camping Area to the north-northeast, the Melville Housing area (Navy privatized housing) to the east, Newport Naval Cable Television and the Defense Highway property (Stringham Road) to the south, and undeveloped woodland and Tank Farm 1 to the west (**Figure 3-1**). Tank Farm 2 consists of eleven underground storage tanks (USTs) (Tanks 19 through 29) and two buildings (Buildings 48 and 219) (GZA 1998b, Tetra Tech 2007, GZA 1996).

In general, the surface area of Tank Farm 2 is covered by grassland areas, wooded areas, paved access roads, miscellaneous access chambers, as well as two associated buildings (Buildings 48 and 219) (DESC 1999). The topography generally slopes downward to the northwest, toward Narragansett Bay, with a high elevation of approximately 160-feet above mean sea level (amsl) and a low elevation of approximately 145-feet amsl (DESC 1999).



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4.0 Environmental Condition Overview – Existing Environmental Information

As part of ECP report activities, extensive record reviews were conducted, and an on-site visit and personnel interviews were held to document current and historic conditions of Tank Farm 2. The on-site visits were conducted on July 28 and 29, 2009.

The BRAC PMO Northeast office, as well as site personnel located at NAVSTA Newport, provided relevant information for this ECP report. Additionally, available reports of previous environmental investigations at NAVSTA Newport were obtained and reviewed. **Appendix A** presents a list of the documents that were reviewed as part of this effort. The information presented in this report was reviewed with installation personnel to ensure all data are current and accurate. Where information was not available, the sources contacted and reference materials sought were documented.

Interviews were conducted with NAVSTA Newport personnel during a site visit and in subsequent telephone conversations and e-mail communications. References are presented in **Appendix A**. **Appendix B** presents a list of the people contacted during preparation of this ECP report.

4.1 Classification of Environmental Conditions

The Community Environmental Response Facilitation Act (CERFA) of 1992 (amending the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] to add Section 120(h)(4) of CERCLA, 42 United States Code (U.S.C.) Section 9620(h)(4)) requires the identification and documentation of uncontaminated real property controlled by the Department of Defense (DoD) components where DoD plans to make excess property available for reuse pursuant to a base closure law. Uncontaminated property is defined as any "real property on which no hazardous substances and no petroleum products or their derivatives were known to have been released, or disposed of." This includes aviation fuel and motor oil. This ECP Report is not intended to identify uncontaminated property in compliance with CERFA and DoD policy.

No Environmental Baseline Survey's (EBS) have been completed for Tank Farm 2.

4.2 Installation Restoration Program Sites

NAVSTA Newport, including Tank Farm 2, was listed on the National Priorities List (NPL) in 1989 (USEPA ID# RI6170085470) (Malcolm Pirnie 2005). Prior to its listing on the NPL, Tank Farm 2 was listed as a Rhode Island Superfund Site (RID981065956) (USEPA 2009) in 1985. There are a total of 13 areas of contamination within NAVSTA Newport., including Tank Farm 2. The closest area of contamination to the Tank Farm 2 is Tank Farm 1 (RI8971524790). There are three additional CERCLA Sites located in the vicinity of Tank Farm 2; these are located on private properties to the southwest of the site. These sites include the Melville North Landfill (RID981064421), the STP Sludge Drying Beds (RID 981064306), and Structure 214 (RID 981064249) (USEPA 2009). **Figure 4-1** provides the locations of the areas of contamination in the vicinity of Tank Farm 2.



As discussed in **Sections 2.0** and **3.0**, Tank Farm 2 is located in the northwestern portion of NAVSTA Newport, adjacent to Tank Farm 1. Tank Farm 2 occupies approximately 96 acres of land bordered by Melville Pond and the Melville Public Fishing and Camping Area to the northeast, the Melville Housing area to the east, the Defense Highway property to the south, and undeveloped woodland and Tank Farm 1 to the west. Cox Communication has an agreement with the Navy and uses a portion of the southeast corner of the Tank Farm 2 property for their antenna and associated buildings. Tank Farm 2 was constructed between 1941 and 1943 and remained in operation by the U.S. Navy until 1970; DESC leased the tank farms from the Navy starting in 1974; DESC stored and distributed petroleum fuel on the property until 1998. Tank 22 was taken out of service and cleaned for the usage as a slop tank in the mid-1970s. The remaining ten tanks were taken out of service during the 1990s (GZA 1998b, Tetra Tech 2007, GZA 1996). DESC continues to lease the property from the Navy to fulfill its petroleum cleanup requirements specified in the lease agreement with the Navy.

Tank Farm 2 consists of eleven large storage tanks (Tanks 19 through 29) and a total of two buildings (Buildings 48 and 219) (GZA 1998a, GZA 1998b, Tetra Tech 2007, GZA 1996). **Table 2-1** describes the volume and contents of Tanks 19 through 29.

The DESC has conducted site investigations at Tank Farm 2 since 1983, including soil and groundwater investigations (GZA 1998b). Between the mid-1990s and 1999, DESC installed over 28 monitoring wells within the boundaries of Tank Farm 2. Free-phase product was detected in four separate areas of Tank Farm 2; which included the areas around Tank 19, Tank 20, Tank 26, and downgradient of Tank 29. The maximum product thickness was determined to range from less than 0.01 feet to 0.03 feet (GZA 1998b). In addition, during the groundwater monitoring events, total petroleum hydrocarbons (TPHs) were also analyzed and detected in 12 of the 28 monitoring wells, with concentrations ranging from 0.4 parts per million (ppm) to 1,600 ppm. Further, low levels of volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs) were detected at concentrations of less than 7 parts per billion (ppb) and less than 200 ppb, respectively (GZA 1998b).

A groundwater gauging and sampling event was conducted at Tank Farm 2 in April and May of 2009. A total of 24 wells were gauged with an oil/water interface probe and visually inspected with a bailer to determine the presence of free product. Free product was measured in two wells with thicknesses of 0.42 and 1.66 feet. Groundwater samples were collected from 15 monitoring wells and analyzed for VOCs, SVOCs, and total and dissolved lead. A subset of the monitoring wells was analyzed for TPH. The laboratory analysis of the samples had a single VOC detection of benzene at 0.6 ppb, a single SVOC detection of naphthalene at 3.1 ppb, six detections of TPH with concentration ranging from 0.06 to 0.17 ppb, seven detections of total lead with concentrations ranging from 0.09 to 2.5 ppb, and seven detections of dissolved lead with concentrations ranging from 1.3 to 3.2 ppb. All the detections during this sampling round were below the RIDEM GA and GB standards for groundwater (Tetra Tech 2009).

The soil investigation, conducted by DESC, included 35 shallow soil borings located along the underground fuel oil lines. TPH concentrations above the Rhode Island Department of Environmental Management (RIDEM) residential direct exposure criteria (RDEC) were detected in six of total 57 samples collected, and one soil sample was determined to exceed the leachability criteria for TPH set by the RIDEM. Site groundwater has been classified as GB, which is defined as “groundwater not suitable for drinking water use without treatment due to known or presumed degradation” (GZA 1998b, RIDEM 2004).



In 1996, tank cleaning and repairs began on all the tanks located at Tank Farm 2. The waste materials generated as a result of the tank cleaning were transported from the site for disposal at an approved facility, with an approximate volume of 256,407 gallons and 111 drums disposed of off-site (GZA 1998a). In addition, associated pumps, interior pipelines and vaults were cleaned. According to the 1998 *Draft Tank Closure Assessment Report Tank Farm 2 Defense Energy Support Center Portsmouth, Rhode Island*, a total of 4,730,000-gallons of petroleum-contaminated water was consolidated in Tanks 21, 24, and 27 for treatment on-site using the OWS found on Tank Farm 1 and the FLA (GZA 1998a). Upon completion of the cleaning process, each tank was inspected for structural damage. After the tanks were emptied and cleaned, the inspection reports indicated that all of the tanks contained cracks in the floor, which resulted in oil/water seeping into Tanks 19 through 24 and Tank 27 during the inspection process. Groundwater was also observed to be seeping into Tanks 26 and 28 (GZA 1998a). The tank cleaning process was completed in May 1997, and the USTs at Tank Farm 2 were certified gas-free, reballasted with water, and administratively closed in 1998 (Tetra Tech 2007). All the pumps, interior pipelines, and vaults associated with the closed USTs were also cleaned, and the fuel distribution pipelines associated with each tank were decommissioned (Tetra Tech 2007). To date, the permanent closure (i.e. closure certification from the State of Rhode Island) of the tanks in Tank Farm 2 has not been completed (GZA 1998a).

In addition, according to the 2007 *Tank Farms 1, 2 and 3 Summary of Environmental Investigations Conducted by DESC, Portsmouth, Rhode Island*, PCB concentrations above the RDEC were detected in soil adjacent to Building 219. Refer to **Figure 4-1** for the location of Building 219. It is further noted that the PCB-contaminated soil is not a direct result of the DESC's operations; thus, remediation has not occurred (Tetra Tech 2007). According to the 1998 *Draft Tank Closure Assessment Report, Tank Farm 2, Defense Energy Support Center Portsmouth, Rhode Island*, approximately nine dump piles loaded with petroleum contaminated soil were observed through photographic documentation (dated June 1981 and labeled "JP-5 Saturated Soil"), approximately 300-feet west of Tank 28 (**Figure 4-1**). According to the report, the contaminated soil appears to have originated from another area of the installation, as there is no documentation of JP-5 having been stored at Tank Farm 2 in the past (GZA 1998a). The report notes that at some time prior to 1970, the tank bottom sediment and water (BS&W) may have been discharged directly onto the ground surface of Tank Farm 2 within the vicinity of the USTs. Since the 1970s, BS&W has reportedly been properly disposed of at an off-site facility (GZA 1998a, GZA 1998b).

4.3 Storage Tanks

4.3.1 Underground Storage Tanks

Eleven USTs (Tanks 19 through 29) are located within Tank Farm 2, as discussed in **Section 3.0**. Each of the eleven USTs has a capacity of approximately 2.5 million-gallons. The USTs held No. 5 fuel oil from the 1940s to 1975, distillate fuel (transition from No. 5 fuel oil to No. 2 fuel oil) between 1975 and 1985, and marine diesel fuel from 1985 to the mid-1990s (Tetra Tech 2007, Rodgers 1999). Tank 22 was taken out of service and cleaned in the mid-1970s for use as a slop tank, and the remaining ten USTs were taken out of service in the mid-1990s (Tetra Tech 2007). The USTs were cleaned, certified gas-free, reballasted with water, and closed (but not certified closed) in 1998 (Tetra Tech 2007). All the pumps, interior pipelines, and vaults associated with the closed USTs were cleaned, and the fuel distribution pipelines associated



with each tank were decommissioned (Tetra Tech 2007). The ring drain system, discussed in **Section 2.0**, was not cleaned or decommissioned as it is still in operation today (Tetra Tech 2007). Further discussion of the USTs located within Tank Farm 2 is detailed in **Section 4.2**. **Figure 4-2** provides the locations of the USTs.

A 1,000-gallon UST was formerly located adjacent to the southeastern side of Building 48 until its closure on January 6, 2009 (GRA 2009). The UST and all associated piping were removed on January 6, 2009 and soil samples were collected and screened for the presence of TPH. As discussed in more detail in **Section 4.2**, the samples collected from the south sidewall of the UST were determined to have a TPH concentration level of 583 mg/kg. This TPH concentration exceeds the RIDEM leachability criteria of 500 mg/kg; thus, additional remedial investigation as part of the adjacent Tank Farm 2 investigation was recommended in the closure report (GRA 2009).

In January 2009, the UST and associated piping was removed from an area adjacent to the southeast side of Building 48 (former Navy Fire Station). The former 1,000-gallon UST contained No. 2 fuel oil and was utilized to heat the associated building (GRA 2009). According to the 2009 *Underground Storage Tank Closure Report Building 48 Melville, Chelsea Drive, Newport, Rhode Island*, the UST was approximately eight years old at the time of the removal and had not been in use since May 2005 when the building was abandoned (GRA 2009). During the closure process, no staining or significant odors were observed in the excavation soils. The excavation was a total of 8 feet deep and groundwater was not encountered. Soil samples from the eastern and southern sidewalls of the UST were collected and analyzed to determine if TPH was present in the soil. The soil samples collected contained TPH concentration levels of 583 milligrams per kilogram (mg/kg), which exceeds the RIDEM Remediation Regulations TPH leachability criteria of 500 mg/kg (GRA 2009). Additional investigations and remediation has been recommended.

4.3.2 Aboveground Storage Tanks

There are no aboveground storage tanks (AST) located at Tank Farm 2.

4.4 Munitions and Explosives of Concern

No known munitions and explosives of concern (MEC) have been stored at Tank Farm 2, and no MEC is known to be present (Rielly 2009).

4.5 Hazardous Waste

In accordance with CERCLA 120(h)(1), Title 40 Code of Federal Regulation (CFR) Part 373 and the DoD policy of June 17, 1994, notice is required when a hazardous substance has been stored for one year or more in quantities greater than 1,000 kilograms or the substance's CERCLA reportable quantity, whichever is greater, or when hazardous substances that are also listed under 40 CFR 261.30 as acutely hazardous wastes, and that are stored for one year or more, have been stored in quantities greater than or equal to the substance's reportable quantity. Medical wastes and universal wastes are not regulated under CERCLA.



Hazardous waste generated at NAVSTA Newport is collected and transported to the NAVSTA Newport Public Works Central Hazardous Waste Accumulation Area, Building 15, for temporary storage, and later transfer to a hazardous waste treatment, storage, and disposal facility (TSDF) located off-base (ENSR 1992, Malcolm Pirnie 2005, Rielly 2009). The wastes were accumulated and disposed of by a licensed contractor (Rielly 2009).

According to the 1998 *Draft Tank Closure Assessment Report, Tank Farm 2, Defense Energy Support Center Portsmouth, Rhode Island*, approximately nine dump piles containing petroleum contaminated soil were observed through photographic documentation (dated June 1981 and labeled “JP-5 Saturated Soil”) approximately 300-feet west of Tank 28 (refer to **Figure 4-1** for the location of Tank 28). According to the report, the contaminated soil appears to have originated from another area of the installation, as there is no documentation of JP-5 having been stored at Tank Farm 2 in the past (GZA 1998a). Further, the report notes that at some time prior to 1998, the USTs BS&W may have been discharged directly onto the ground surface of Tank Farm 2 within the vicinity of the USTs. Since the 1970s, the BS&W have reportedly been properly disposed of at an off-site facility (GZA 1998a, GZA 1998b).

4.6 Polychlorinated Biphenyls

The Toxic Substances Control Act (TSCA) (Public Law [Pub. L.] 94-469 enacted in 1976 and effective January 1, 1977) authorizes the USEPA to secure information on all new and existing chemical substances and to control any of these substances that could cause an unreasonable risk to public health or the environment. Under earlier laws, the USEPA had authority to control toxic substances only after damage had occurred. The earlier laws did not require the screening of toxic substances before they entered the marketplace. TSCA closed the gap in the earlier laws by requiring that the health and environmental effects of all new chemicals be reviewed before they are manufactured for commercial purposes. PCBs are regulated under Title I (Control of Toxic Substances), which includes provisions for testing chemical substances and mixtures, manufacturing and processing notices, regulating hazardous chemical substances and mixtures, managing imminent hazards, and reporting and retaining information.

According to the 2007 *Tank Farms 1, 2 and 3 Summary of Environmental Investigations Conducted by DESC*, PCB concentrations above the RDEC was detected in soil adjacent to Building 219 (**Figure 4-1**). The report indicated that the PCB-contaminated soil was not a direct result of the DESC’s operations; thus, remediation had not occurred (Tetra Tech 2007).

Figure 4-3 provides the locations of the current transformers found within Tank Farm 2. Three “In-Use” pad-mounted transformers are located on Tank Farm 2. According to facility personnel (Mueller 2009a), all the PCB transformers were removed in the 1980s.

4.7 Radiological Materials

According to facility personnel, there are no known radiological materials at Tank Farm 2 nor is their evidence that they ever existed on the property (Moore 2009).



4.8 Pesticides

The USEPA regulates the use of pesticides under the authority of two federal statutes: the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA). The FIFRA provides the basis for regulation, sale, distribution and use of pesticides in the U.S., whereas the FFDCA authorizes the USEPA to set maximum residue levels, or tolerances, for pesticides used in or on foods or animal feed.

According to the 2002 *Naval Station Newport Pest Management Plan*, pesticides are applied by trained and certified DoD personnel and by Rhode Island state certified contractors at family housing areas and for grounds maintenance activities (EFA Northeast 2002). Currently, pesticides are stored at the NAVSTA Newport Pest Control Shop, Building 1298, which is not within the Tank Farm 2 site (EFA Northeast 2002, Malcolm Pirnie 2005). No pesticides are known have been stored in the past, or are currently stored, at any area within Tank Farm 2 (EFA Northeast 2002).

4.9 Asbestos

Asbestos abatement is regulated under TSCA Title II, Asbestos Hazard Emergency Response, which was added by the Asbestos Hazard Emergency Response Act (AHERA) (Pub. L. 99-519), enacted by Congress on October 22, 1986. It authorizes the USEPA to amend its TSCA regulations to impose more requirements on asbestos abatement in schools. AHERA provides for the promulgation of federal regulations requiring inspection for asbestos and appropriate response actions in schools and mandates periodic reinspection. In addition, it requires the USEPA Administrator to determine "the extent of the danger to human health posed by asbestos in public and commercial buildings and the means to respond to any such danger."

According to the facility personnel and the 2008 *Closeout Report for Piping Chamber Remediation, Naval Station Newport, Middletown, Rhode Island*, a six-mile span of inactive fuel and steam line and 50 concrete chambers exists along Defense Highway and Tank Farm 2. A ring of steam line surrounds and connects the tank farm facilities. This steam line system was used to heat the oil in the tanks and distribution lines. The steam line has been identified as containing asbestos insulation (Smith 2009). Two of the chambers are located within Tank Farm 2: C 12 and C 13. Asbestos abatement of the steam line insulation systems within the chambers was conducted in 2000 and the asbestos-containing wastes generated during the abatement process was shipped off-site for disposal (refer to **Section 4.2** for further information) (Tetra Tech 2008, Navy 2004).

The two buildings located in Tank Farm 2 (Buildings 48 and 219) are suspected of having asbestos-containing materials (ACM) as the buildings were constructed in 1942. **Figure 4-4** provides the locations of suspected and confirmed ACM within Tank Farm 2.

4.10 Lead-Based Paint

Due to the age of Buildings 48 and 219, lead-based paint (LBP) is suspected to be present. No LBP surveys have been conducted at any of the current or former buildings at Tank Farm 2.



4.11 Radon

Indoor radon concentrations are regulated under TSCA Title III (Indoor Radon Abatement), which was added on October 28, 1988 (Pub. L. 100-551). The purpose of this legislation is to assist states in responding to the threat to human health posed by exposure to radon. The USEPA is required to publish an updated citizens' guide to radon health risk and to perform studies of the radon levels in schools and radon contamination in federal buildings.

Radon surveys have not been conducted at any of the current or former buildings located within Tank Farm 2. According to the 2003 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island*, Newport, Rhode Island is located in the USEPA National Radon Database Zone 2. The average indoor level for Zone 2 is greater than 2 picoCuries per liter (pCi/L) and less than 4 pCi/L. The USEPA has established an indoor air action level of 4 pCi/L for radon (Malcolm Pirnie 2003).

4.12 Air Quality

Air emissions at the NAVSTA Newport are regulated under the Clean Air Act (CAA).

NAVSTA Newport operates under RIDEM, Office of Air Resources Operating Permit Number RI-25-07 (RI) (RIDEM 2008). The Operating Permit was renewed in October 2007 and expires in October 2012. The emissions-generating equipment addressed in the operating permit includes emergency diesel generators, No. 2 fuel oil and natural gas burning boilers, liquefied propane gas burners, natural gas burning space heaters and storage tanks (RIDEM 2008). Now that the tanks have been closed, they are no longer on the air inventory list (Davis 2009).

4.13 Water Quality

4.13.1 Drinking Water

The Safe Drinking Water Act (SDWA) of 1974, amended in 1986 and 1996, was passed to protect public health by regulating the nation's public drinking water supply and its sources including rivers, lakes, reservoirs, springs, and groundwater. Drinking water for the installation is provided by the City of Newport. According to the 2004 *Water System Vulnerability Assessment*, the City provides approximately 1,011,000 gallons per day to the installation, operating under the Rhode Island public water system identification number 1000016 (Dorocz 2009, Woodard & Curran 2004). Approximately 14 chlorination stations are located throughout the installation, in order to feed sodium hypochlorite solution on an emergency basis to raise the chlorine residual and meet water quality standards for coliform. According to facility personnel, this is done as a result of the low chlorine residual after leaving the City of Newport and Portsmouth Water and Fire Districts water plants and traveling to NAVSTA Newport (Woodard & Curran 2004, Dorocz 2009). The 2004 *Water System Vulnerability Assessment* stated that NAVSTA Newport experienced four coliform violations between January of 1996 and December 1998, no recent violations are known to have occurred (Woodard & Curran 2004).



4.13.2 Groundwater

Currently, there are no known groundwater wells for drinking water use within Tank Farm 2; however, there are over 28 monitoring wells. Monitoring was conducted in the mid- to late-1990s to determine the impacts to groundwater, if any, as a result of the eleven USTs (Tetra Tech 2007) and another round of monitoring was conducted in 2009 (Tetra Tech 2009). The well depths ranged from 17.87 to 29.90 feet below the top of the well casing, and all of the monitoring wells are bedrock wells (DESC 1999). The results of the monitoring events are discussed in detail in **Section 4.2**. Refer to **Table 4-1** and **Table 4-2** for the results of the 1999 and 2009 sampling events at Tank Farm 2.

Groundwater within NAVSTA Newport is relatively shallow due to the proximity to sea level. Any wells that are developed may have salt intrusion. Deeper artesian wells capture water that is trapped between bedrock and is replenished where the aquifer is near or at surface level. Groundwater in the vicinity of Tank Farm 2 is classified by the RIDEM as “GB: groundwater not suitable for drinking water use without treatment due to known or presumed degradation” (RIDEM 2004, GZA 1998a).

4.13.3 Stormwater

The Water Pollution Control Act Amendments of 1972, commonly known as the Clean Water Act (CWA), uses a variety of regulatory and nonregulatory tools to reduce pollutant discharges into waterways and to manage polluted runoff. Under the CWA, a National Pollutant Discharge Elimination System (NPDES) permit is required for facilities discharging stormwater associated with industrial activities.

According to the 2003 *Final Industrial Stormwater Pollution Prevention Plan (SWPPP) Naval Station Newport, Newport, Rhode Island*, NAVSTA is considered to be engaged in “industrial activity” by the RIDEM, Office of Water Resources (OWR). These activities include: landfills/open dumps receiving industrial waste; recycling of materials; transportation facilities; and light industry (Navy 2003). These operations meet the eligibility requirements for a Rhode Island Pollutant Discharge Elimination System (RIDES) MS4 General Permit Number RIR800126 (Moore 2009). Tank Farm 2 is identified within the current SWPPP as a potential source of pollutants. The possibility of hazardous materials being exposed to stormwater runoff is remote and likely occurred only during refueling and loading operations which are no longer performed. As discussed in **Section 3.0**, and further noted in the current SWPPP, the storage tanks located within Tank Farm 2 are no longer in use (Navy 2003). **Figure 4-5** provides the locations of stormwater drains within Tank Farm 2.

All stormwater drains, as discussed in **Section 4.13.3**, located in Tank Farm 2 have been included in RIDEM Permit Number RIR800126 for the NAVSTA Newport, discharging stormwater into Narragansett Bay (GZA 2003, Malcolm Pirnie 2003, Moore 2009).

In addition to the general stormwater permit, the ring drains of Tank Farm 2 operate under RIPDES stormwater permit RI0020150. The Tank Farm 2 stormwater system discharges to the OWS system located in Tank Farm 1 and eventually discharges to Narragansett Bay (Tetra Tech 2007). This stormwater system is sampled and tested four times per month (Moore 2009).



4.13.4 Surface Water

There are no surface water bodies within the boundaries of Tank Farm 2. The closest surface water body is the non-Navy owned Melville Pond, located northwest of the property. Additionally, Narragansett Bay is located approximately 1000-feet to the west of Tank Farm 2 (GZA 1998a, DESC 1999).

4.13.5 Wastewater

According to the 2003 *Final Environmental Baseline Survey Naval Station Newport, Newport Family Housing, Newport, Rhode Island* wastewater from NAVSTA Newport discharges to the Newport Water Pollution Control Plant, a secondary treatment facility using traditional activated sludge and chlorination (Malcolm Pirnie 2003). No leach fields are known to have existed at Tank Farm 2. A leach field may have existed adjacent to BLDG 48.

4.14 Natural Resources

4.14.1 Floodplains

Based on Federal Emergency Management Agency (FEMA) data in the NAVSTA Newport GIS System, no portion of Tank Farm 2 lies within a designated 100-year. The nearest 100-year flood boundary is less than approximately one half mile west of the adjacent Tank Farm 1.

According to the 2001 *Integrated Natural Resources Management Plan* (INRMP), NAVSTA Newport contains over ten miles of shoreline on the western shore of Aquidneck Island, where low-lying natural resources at the installation are especially vulnerable to flood damage from waves with high velocity (Louis Berger 2001). The INRMP states that flooding may be expected to inundate areas up to elevation 14 feet National Geodetic Vertical Datum (NGVD), which does not include Tank Farm 2 (Louis Berger 2001).

4.14.2 Wetlands and Aquatic Habitats (Special Aquatic Sites)

According to the 2001 INRMP, four wetland systems are located adjacent to NAVSTA Newport, and include jurisdictional areas (perimeter wetlands) that extend into areas of the installation. None are located within Tank Farm 2 (Louis Berger 2001). These wetland systems are mostly associated to the non-Navy owned Melville Pond complex located to the north and northeast of Tank Farm 2. The National Wetland Inventory (NWI) classified the Melville Pond chain as palustrine open water, while the associated wetlands are defined as palustrine emergent wetland and palustrine forested/scrub shrub wetlands. This wetland complex discharges to Narragansett Bay north of Tank Farm 1 (Louis Berger 2001).

4.14.3 Coastal Zone Areas

The Federal Coastal Zone Management Act (CZMA) (16 USC 1451-1464) encourages states to take a leading role in the management of their coastal regions. With state participation in the Federal coastal zone management program, Section 307 of the CZMA requires that various Federal activities which are reasonably likely to affect any land or water use, or natural resource of the coastal zone, be consistent with a state's approved coastal zone management program



(CRMC 2009). In 1978, the State of Rhode Island adopted the Rhode Island Coastal Resources Management Program (RICRMP) into the Federal coastal management program established by the CZMA. The agency responsible for overseeing implementation of the RICRMP generally and federal consistency in particular, is the Rhode Island Coastal Resources Management Council (CRMC) (CRMC 2009).

The extent of Rhode Island's coastal zone boundary is the three mile outer limit. The CRMC's jurisdiction includes all tidal waters within state jurisdiction, while the inland extent of Rhode Island's coastal zone boundary is a tiered system which is dependent on the type and location of an activity. Policies and standards governing activities within these three tiers are contained in the RICMP and the CRMC's Special Area Management Plans (CRMC 2009).

The first tier of Rhode Island's coastal zone generally extends 200 feet inland of a coastal feature. Within this area the CRMC has authority over any development activity, including maintenance. The second tier extends inland to include Rhode Island's 21 coastal communities. Within this second tier, all federal (as well as state) activities must be consistent with the RICMP. The final tier of the CRMC jurisdiction encompasses the entire state for certain activities which the state has predetermined may affect coastal resources or uses regardless of location within the state. These activities include: energy generation, transfer processing, or storage; chemical processing; minerals extraction; sewage treatment and disposal; and solid waste disposal (CRMC 2009).

Tank Farm 2 falls within the second and third tiers of the Rhode Island's coastal zone boundary inland extent.

4.14.4 Coral Reefs

Tank Farm 2 does not have any coral reef habitat; therefore, coral reef protection issues are not applicable (Kam 2009).

4.14.5 Fisheries

The Magnuson-Stevens Fishery Conservation and Management Act requires all Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions or proposed actions, permitted, funded or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). EFH is defined as, "those waters and substrate necessary for fish for spawning, breeding feeding or growth to maturity." "Waters" include aquatic areas and their associated physical, chemical and biological properties. According to the 2001 INRMP, the only EFH within the NAVSTA Newport vicinity are the recently designated eelgrass beds that are a key EFH for summer flounder (*Paralichthys dentatus*) (Louis Berger 2001).

The Magnuson-Stevens Fishery Conservation and Management Act is not applicable for Tank Farm 2 because there are no water bodies on the site.

4.14.6 Marine Mammal

The Marine Mammal Protection Act is not applicable to Tank Farm 2.



Harbor seals (*Phoca vitulina*) and harbor porpoises (*Phocoena phocoena*) may be seen in Narragansett Bay offshore of NAVSTA Newport. According to the 2001 INRMP, a pair of harbor seals has been observed during the winter months in Coddington Cove, approximately 4 miles south of Tank Farm 2 (Louis Berger 2001). No other marine mammals are known to occur within Tank Farm 2.

4.14.7 Threatened, Endangered, and Other Sensitive Species

There are no known federal or state threatened, endangered, or other sensitive species identified at Tank Farm 2 (Kam 2009, Louis Berger 2001).

4.14.8 Geological Hazards

According to the United States Geological Survey (USGS), only one earthquake has ever been recorded as possibly being centered within the State of Rhode Island. This earthquake was recorded on February 27, 1883 (USGS 2009). No other earthquakes have been recorded within the State of Rhode Island. Tank Farm 2 is located within an earthquake zone where in a 50 year period, there is only a 2% chance of an earthquake occurring with peak acceleration (ground movement) of 8 to 10% acceleration due to gravity (%g). It takes a peak acceleration of 10%g to cause damage to buildings; therefore, there is minimal risk of an earthquake that would cause damage to Tank Farm 2 (USGS 2009).

According to facility personnel (Mueller 2009b), soils on Aquidneck Island, including Naval Station Newport, have levels of naturally-occurring arsenic that exceed the State of Rhode Island's standards for Industrial/Commercial property.

See **Section 4.14.1** for information on flood hazards.

4.15 Cultural Resources

Cultural resources at NAVSTA Newport are federally regulated under the National Historic Preservation Act, Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act.

4.15.1 Historic Resources

In 1995, a cultural resources survey of the NAVSTA Newport was conducted, excluding NUWC. The survey included historical research, a Phase IA archaeological investigation, and an inventory and assessment of the buildings and structures of the Naval Complex in regard to their eligibility for listing in the National Register of Historic Places (NRHP) (Louis Berger 1998). The survey concluded that three areas within NAVSTA Newport meet National Register Criteria as historic districts. None of the areas identified include Tank Farm 2 (Navy 2007, Louis Berger 1998).

Under the provisions of the Department of the Navy's Environmental and Natural Resources Program Manual (OPNAVINST 5090.1B), the NAVSTA Newport developed a Historic and Archaeological Resources Protection (HARP) Plan for the identification, protection, and management of significant cultural resources on the installation (Louis Berger 2000, Louis Berger 2001). During the development of the HARP, several locations were considered to have



a strong potential to contain prehistoric or historic period archaeological resources. One of the areas identified is located to the east of Tank Farm 2 in the Town of Portsmouth, at the intersection of West Main Road (Route 114) and the North Access Road (Navy 2007, Louis Berger 2000). This area has been determined to have a potential to contain evidence of a possible site of an eighteenth-century house; however, further studies would need to be conducted (Navy 2007, Louis Berger 2000).

Further, the 2001 INRMP notes that two National Historic Landmarks are located within the boundaries of NAVSTA Newport. These landmarks are located on Coasters Harbor Island and at Fort Adams (Louis Berger 2001). Neither of these National Historic Landmarks is located within Tank Farm 2 boundaries.

4.15.2 Archaeological Resources

A cultural resources survey of NAVSTA Newport was conducted in 1996 through 1998, including a Phase IA archaeological investigation to assess the potential for prehistoric and/or historic archaeological resources (Louis Berger 1998). According to the 2007 *Draft Integrated Cultural Resources Management Plan* (ICRMP), the historical research and archaeological reconnaissance undertaken during the 1996-1998 cultural resources survey concluded that extensive ground disturbance over large portions of NAVSTA Newport has limited the potential for preservation of archaeological sites in many areas of the installation (Navy 2007, Louis Berger 1998). Further, the survey concluded that there are no large archaeological sites within the boundaries of NAVSTA Newport; however, two local areas outside Tank Farm 2 were determined to be archaeologically sensitive. Refer to **Section 4.15.1** for further information.

4.15.3 Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act is not applicable because no known Native American graves have been identified on the installation (Navy 2007, Kam 2009).

4.16 Solid Waste

According to facility personnel, solid waste at NAVSTA Newport was disposed of at an on-site landfill, not located within Tank Farm 2. Sometime in the 1980's, solid waste was no longer disposed of on-site but was picked up by station personnel and disposed of at a transfer station in Newport. Since 1995 or 1996, a contractor collects and disposes of solid waste (Moore 2009).

4.17 Universal Wastes

Federal universal wastes are set forth in 40 CFR Part 273, and include batteries, pesticides, thermostats, and lamps. States can modify the universal waste rule and add additional universal waste in individual state regulations.

According to the facility personnel, all universal waste generated at NAVSTA Newport is collected and recycled by the NAVSTA Newport Environmental Department (Rielly 2009).



4.18 Medical Wastes

There are no medical facilities or biohazardous wastes generated at Tank Farm 2 nor is there evidence that any ever existed on the property (Rielly 2009).

4.19 Hazardous Materials

There was no observation or documentation of hazardous material use or storage at the site.

4.20 Summary of Environmental Conditions

Environmental conditions at Tank Farm 2 consist of the following:

- The closure of the eleven storage tanks within Tank Farm 2 has not been finalized, and remediation of the twelfth UST is recommended.
- Remediation of the PCB-contaminated soil adjacent to Building 219 has not been conducted.
- Due to the age of the buildings at Tank Farm 2, it is likely that asbestos and LBP is present; asbestos is likely present on underground pipelines that once serviced the tanks.
- Groundwater at Tank Farm 2 was determined to contain levels of TPH above the RIDEM reporting limits of 50 µg/L.

All environmental conditions are present at Tank Farm 2 are shown in **Figure 4-6**.



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5.0 Certification

I certify that the Environmental Conditions of Property Report for Tank Farm 2, NAVSTA Newport, RI, November 2009 and its enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained within the Environmental Conditions of Property Report for Tank Farm 2, NAVSTA Newport, RI, November 2009 and its enclosures is, to the best of my knowledge and belief, true, accurate and complete and accurately reflects the property's condition as of November 2009 based upon my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information.

DAVID DROZD

Name

David Drozd

Signature

11-5-09

Date



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TABLES



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Table 2-1. Structures of Tank Farm 2

Facility No.	Facility Name/Description	Capacity	Year Built	Recent Contents	Historic Contents
48	Fire Station Facility	5604 ft ²	1942	NA	NA
219	Utility Bldg - Electrical Distribution	144 ft ²	1942	NA	NA
A105	Public Works Maintenance Storage	560 ft ²	1943	NA	NA
TANK 19	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 20	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 21	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 22	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 23	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 24	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 25	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 26	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 27	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 28	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil
TANK 29	Concrete UST	2.5 Million Gallons	1943	No. 6 Fuel Oil	Marine Diesel and No. 5 Fuel Oil

Source: DESC 1999, Preston 2009

Note:

UST = Underground Storage Tank



Table 4-1. 1999 Groundwater Sampling Results

Analyte	GZ 223	GZ 210	GZ 203	GZ 206	**GZ 202	RW4	RW3	RW 3D	RW2	*GZ 205	*GZ 201	*GZ 211	*GZ 211D
TPH (ug/L)													
Diesel Range Organics (mg/L)	0.23	0.3	2.8	0.35		0.45	0.54	0.55	0.35	13	15	1200	910
Fuel Oil #2 (mg/L)					790								
VOCs (ug/L)													
Methylene Chloride													
Acetone													
1,2,4-Trimethylbenzene												47	42
Naphthalene													
m&p-Xylenes													
o-Xylene													
Isopropylbenzene				1.4			0.57	0.57					
n-Propylbenzene													
sec-Butylbenzene				4.5			0.95	0.94					
n-Butylbenzene													
SVOCs (ug/L)													
Phenol													
Naphthalene										6.4			
2-Methylnaphthalene										35		1500	950
Diethylphthalate													
Flourene										6		500	350
Phenanthrene										11		900	630
Di-n-butylphthalate													
bis-(2-Ethylhexyl) phthalate													
Acenaphthene										3.6			
Pyrene												120	

Sources: DESC 1999, Tetra Tech 2006

Notes:

"J" Flag denotes an estimated value less than the Laboratory Practical Quantitation Level.

"B" Flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

*GZ218 was analyzed at 100x dilution for VOCs

*GZ205 was analyzed at 50x dilution for VOCs

*GZ201 and was analyzed at 10x dilution for VOCs

*GZ201 and *GZ201D were analyzed at 25x dilution for VOCs, and 20x for SVOCs

**GZ208 and **GZ202 were sampled as oil-water mixture. Oil finger printing was performed on these samples. The samples were not analyzed for VOCs and SVOCs.



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Table 4-1. 1999 Groundwater Sampling Results

Analyte	TF2-GZ-207	TF2-GZ-208	TF2-GZ-212	TF2-GZ-213	TF2-GZ-214	TF2-GZ-218	TF2-GZ-221	TF2-GZ-22100	TF2-GZ-225	TF2-GZ-227	GZ 216	GZ 228	GZ 217	GZ 224
TPH (ug/L)	3500	37,000	450	340	1400	3700	700	300	730	1600				
Diesel Range Organics (mg/L)	0.79			0.14		13	4.9		0.15	3.1	0.35	0.22	0.2	0.16
Fuel Oil #2 (mg/L)		740												
VOCs (ug/L)														
Methylene Chloride	4J					3J			3J					
Acetone	9J							8J						
1,2,4-Trimethylbenzene	ND	16				7								
Naphthalene	3J	20				8								
m&p-Xylenes	0.95													
o-Xylene	2.4													
Isopropylbenzene	1.3													
n-Propylbenzene	1.4													
sec-Butylbenzene	ND			0.65										
n-Butylbenzene	0.58													
SVOCs (ug/L)														
Phenol	ND				3J									
Naphthalene		8						5J		1J				
2-Methylnaphthalene		6						2J		3.5				
Diethylphthalate	1J				1J	2J			2J					
Flourene		2J				4								
Phenanthrene		3J				8.1				2.9				
Di-n-butylphthalate	1J				1J				1J					
bis-(2-Ethylhexyl) phthalate	4J	2JB	2JB	4JB	10JB	9	2J	2J	6	4J				
Acenaphthene														
Pyrene														

Sources: DESC 1999, Tetra Tech 2006

"J" Flag denotes an estimated value less than the Laboratory Practical Quantitation Level.

"B" Flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

*GZ218 was analyzed at 100x dilution for VOCs

*GZ205 was analyzed at 50x dilution for VOCs

*GZ201 and was analyzed at 10x dilution for VOCs

*GZ201 and *GZ201D were analyzed at 25x dilution for VOCs, and 20x for SVOCs

**GZ208 and **GZ202 were sampled as oil-water mixture. Oil finger printing was performed on these samples. The samples were not analyzed for VOCs and SVOCs.



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Table 4-2 2009 Groundwater Sampling Results

Analyte	Unit	RIDEM GA Groundwater Objectives	RIDEM GB Groundwater Objectives	Sample ID												
				GZ-203	GZ-205	GZ-210	GZ-211	GZ-212	GZ-215	GZ-219	GZ-220	GZ-222	GZ-223	GZ-223D	GZ-225	
				Collection Date												
				5/19/09	5/20/09	5/20/09	5/20/09	5/21/09	5/21/09	5/20/09	5/20/09	5/20/09	5/20/09	5/20/09	5/21/09	
Total Petroleum Hydrocarbons (TPH) (EPA Method 8015B)																
Diesel Range Organics (DRO)	mg/L	NA	NA	NS	0.16	NS	NS	NS	NS	0.06	0.06	NS	NS	0.10	0.12	0.13
Gasoline Range Organics (GRO)	mg/L	NA	NA	NS	0.01	NS	NS	NS	NS	U	U	NS	NS	U	U	U
VOCs (EPA Method 8260B)																
Benzene	ug/L	5	140	U	U	0.6 J	NS	U	U	U	U	U	U	U	U	U
Carbon tetrachloride	ug/L	5	70	U	U	U	NS	U	U	U	U	U	U	U	U	U
Chlorobenzene	ug/L	100	3200	U	U	U	NS	U	U	U	U	U	U	U	U	U
1,2-Dibromo-3-chloropropane	ug/L	0.20	2	U	U	U	NS	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	ug/L	5	110	U	U	U	NS	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	ug/L	7	7	U	U	U	NS	U	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	ug/L	70	2400	U	U	U	NS	U	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	ug/L	100	2800	U	U	U	NS	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	ug/L	5	110	U	U	U	NS	U	U	U	U	U	U	U	U	U
Ethylbenzene	ug/L	700	1600	U	U	U	NS	U	U	U	U	U	U	U	U	U
1,2-Dibromoethane (EDB)	ug/L	0.05	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
Methyl-tert-butyl-ether (MTBE)	ug/L	40	5000	U	U	U	NS	U	U	U	U	U	U	U	U	U
Methylene chloride	ug/L	5	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
Styrene	ug/L	100	2200	U	U	U	NS	U	U	U	U	U	U	U	U	U
Tetrachloroethene	ug/L	5	150	U	U	U	NS	U	U	U	U	U	U	U	U	U
Toluene	ug/L	1000	1700	U	U	U	NS	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	ug/L	200	3100	U	U	U	NS	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	ug/L	5	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
Trichloroethene (TCE)	ug/L	5	540	U	U	U	NS	U	U	U	U	U	U	U	U	U
Vinyl chloride	ug/L	2	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
m&p-Xylenes*	ug/L	10000	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
o-Xylene*	ug/L	10000	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
SVOCs (EPA Method 8270C)																
Benzo(a)pyrene	ug/L	0.20	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
Dimethyl phthalate	ug/L	6	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
Hexachlorobenzene	ug/L	1	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
Naphthalene**	ug/L	20	NA	U	U	3.10	NS	U	U	U	U	U	U	U	U	U
Pentachlorophenol	ug/L	1	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	ug/L	70	NA	U	U	U	NS	U	U	U	U	U	U	U	U	U
Lead (EPA Method 6010B)																
Total lead	ug/L	15	NA	1.9 B	1.7 B	U	NS	U	0.9 B	1.6 B	U	1.5 B	2.5 B	U	1.5 B	
Dissolved lead	ug/L	15	NA	3.2 B	U	1.3 B	NS	U	2.1 B	2.1 B	2.0 B	U	1.6 B	U	2.3 B	

The Rhode Island Department of Environmental Management (RIDEM) criteria is for xylene (total).

** Naphthalene results were reported via EPA Methods 8260 (VOCs) and 8270 (SVOCs). The maximum of the two results are shown in the table.

J = Estimated value.

B = The result reported is less than reporting limit, but greater than instrument detection limit.

NS = Not sampled.

NA = Not applicable.

U = Analyte not detected above laboratory reporting limit.

GZ-211 - Not sampled due to presence of measurable product. GZ-223D - Duplicate sample.

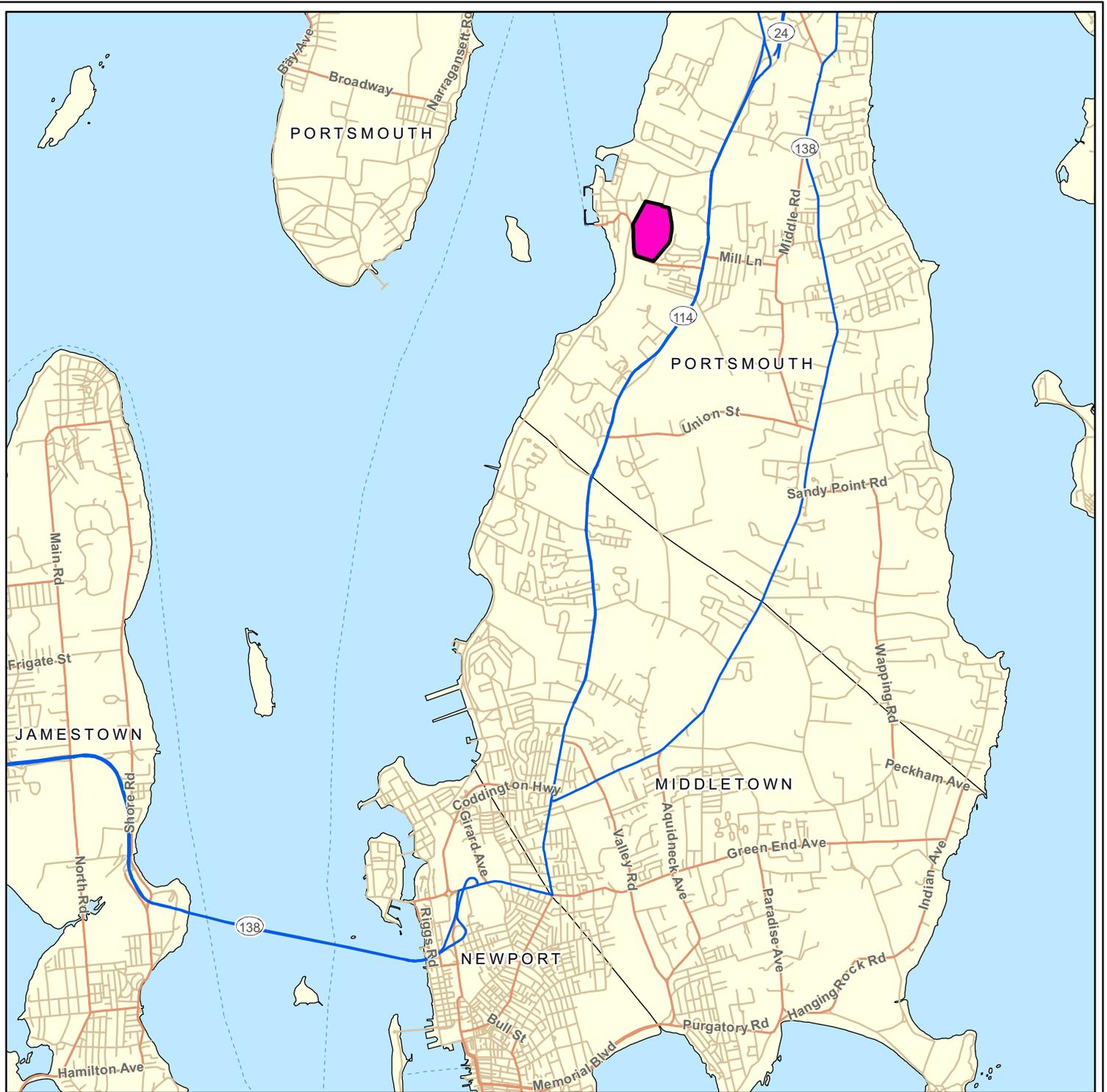
Source: TetraTech 2009



FIGURES



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LEGEND

- Primary Highway
- Secondary Highway
- Local Road
- Ferry
- ECP Site Boundary



NOTES & SOURCES
 Coordinate System: NAD 83, UTM Zone 19
 Data Sources: ESRI.

Tank Farm 2
 Newport, RI

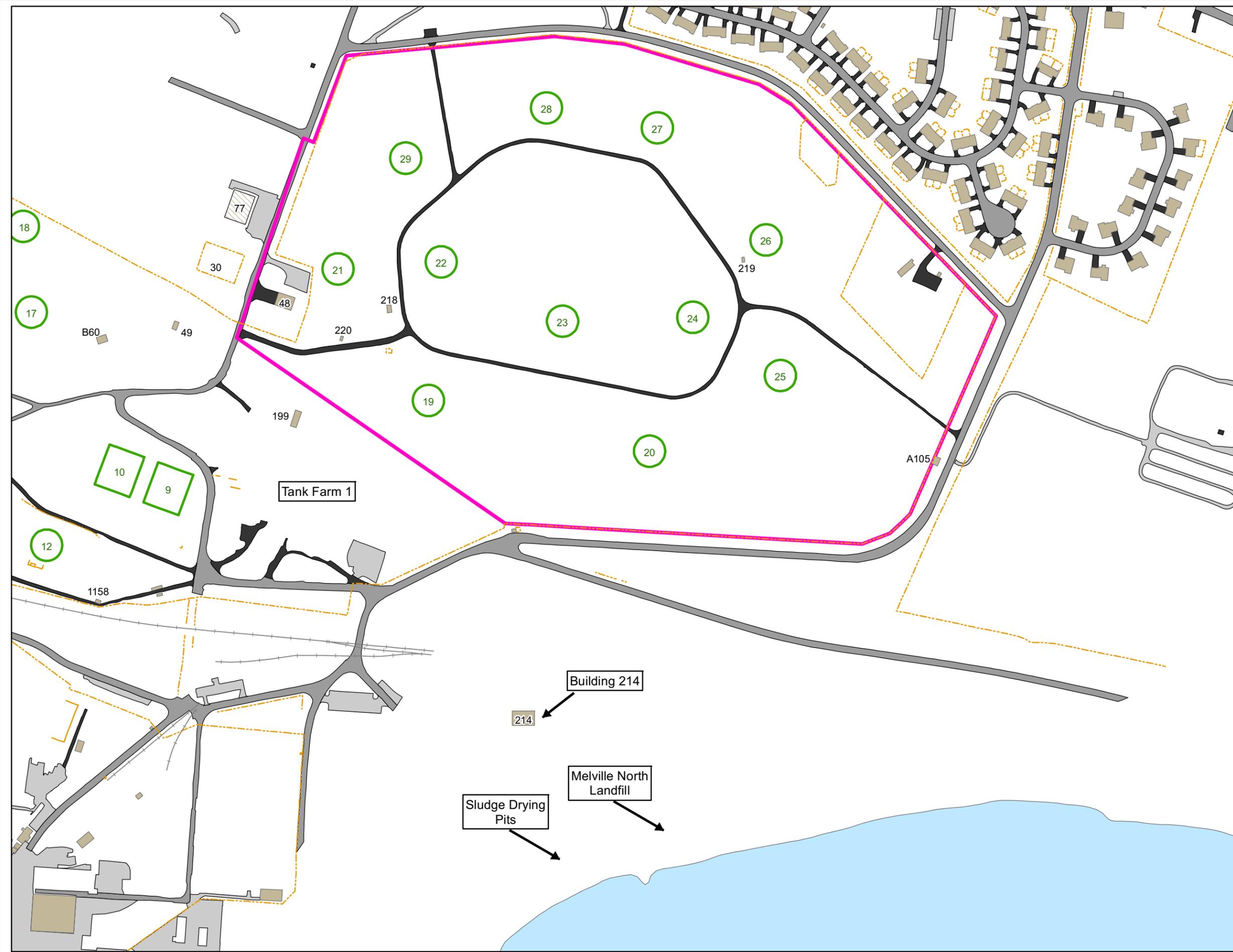
0 3,000 6,000 Feet

0 1,000 2,000 Meters

SITE LOCATION MAP

FIGURE
 3-1

H:\NAS\Newport_RI\Task2\MXD\TF2_Figure3-1.mxd
 H:\NAS\Newport_RI\Task2\Export\TF2_Figure3-1.pdf
 August 28, 2009 DWN: APC CHKD: AKN



TITLE

AREAS OF CONCERN

Tank Farm 2
Newport, RI

LEGEND



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

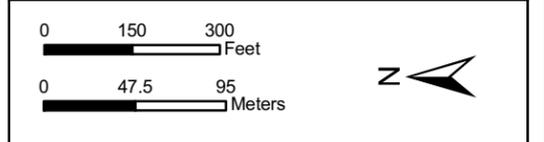
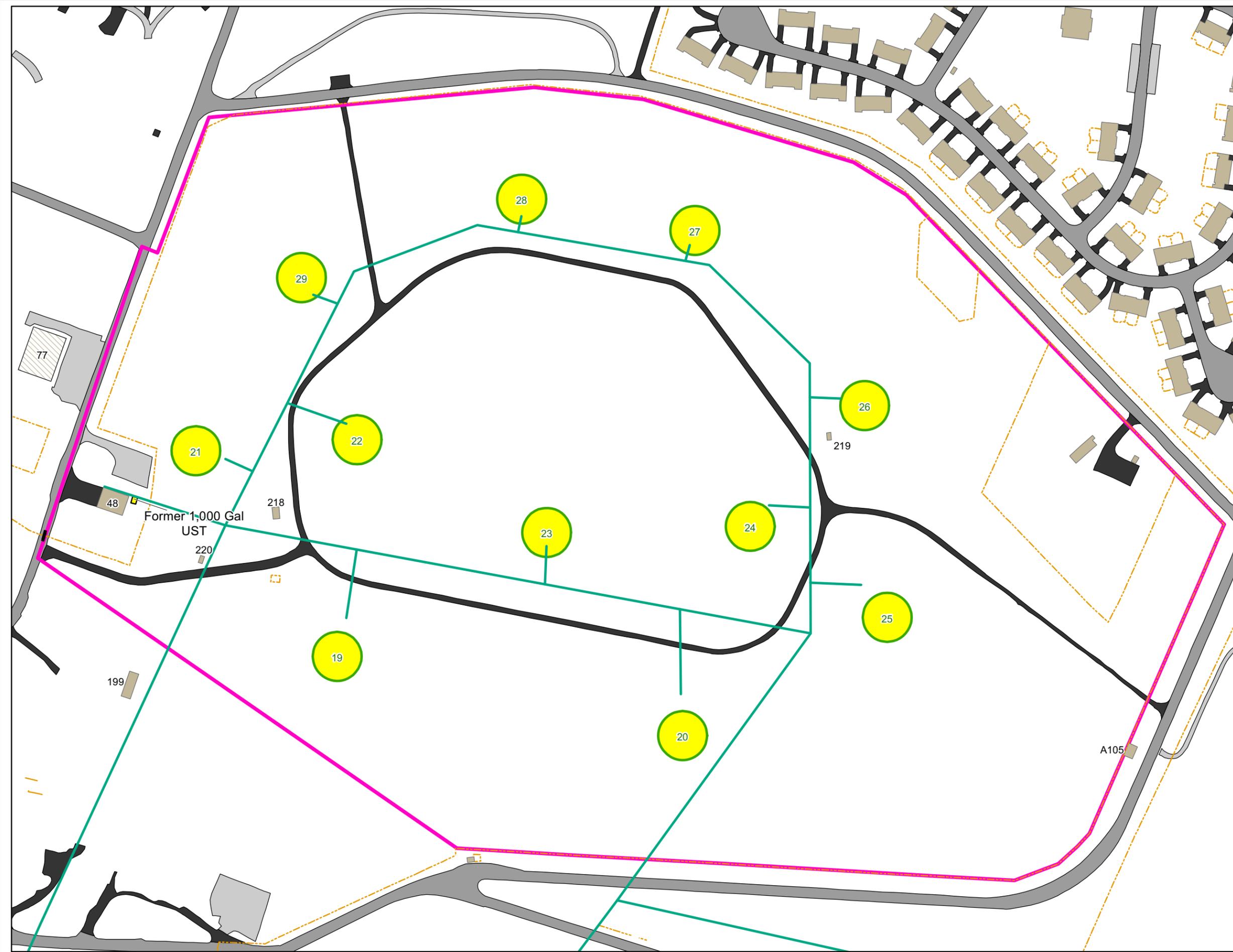


FIGURE
4-1



TITLE

UNDERGROUND STORAGE TANKS

Tank Farm 2
Newport, RI

LEGEND

- Fuel Line
- Wall
- Gate
- - - Fence
- Tank
- Underground Storage Tank
- Building
- ECP Site Boundary
- Paved Vehicle Parking Area
- Paved Vehicle Driveway
- Former Building
- Unpaved Road
- Paved Road



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

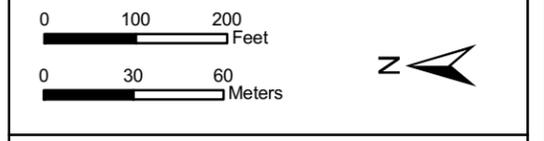
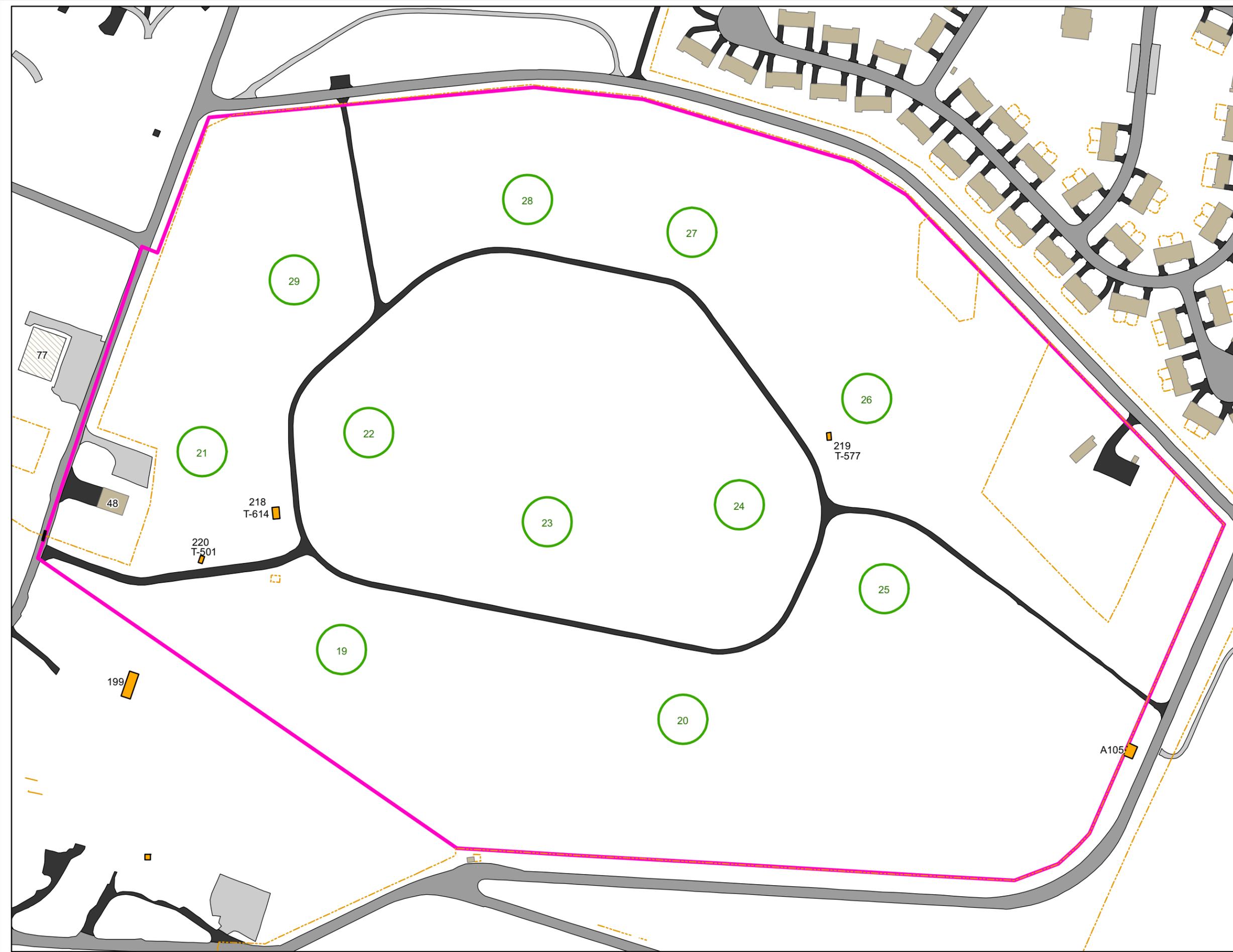


FIGURE 4-2



TITLE

TRANSFORMER LOCATIONS

Tank Farm 2
Newport, RI

LEGEND

- Wall
- Gate
- Fence
- Transformer Location
- Building
- ECP Site Boundary
- Tank
- Paved Vehicle Parking Area
- Paved Vehicle Driveway
- Former Building
- Unpaved Road
- Paved Road



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

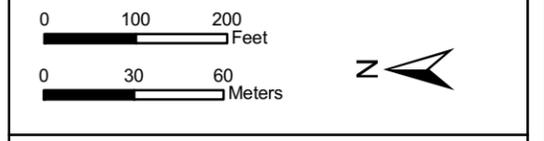
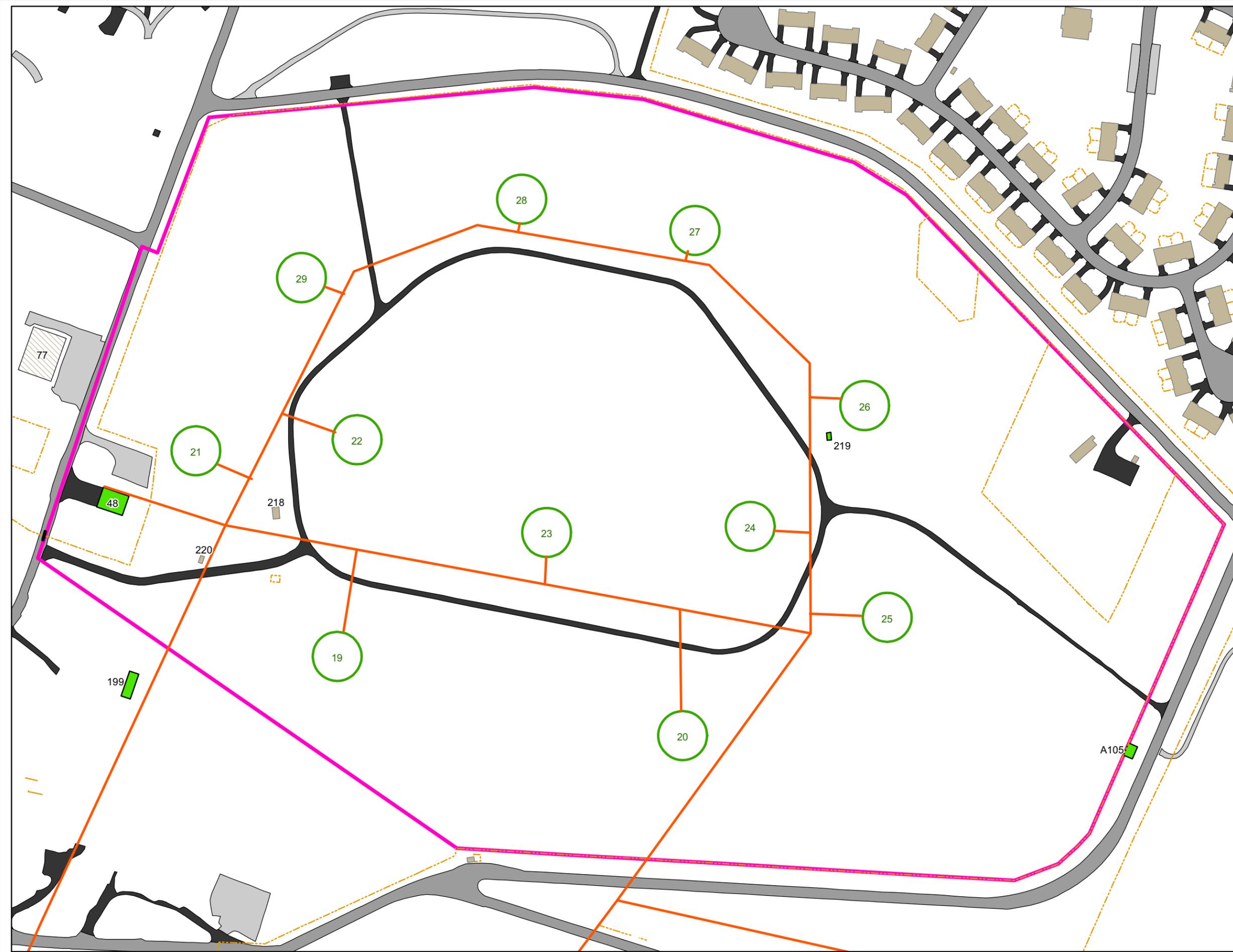


FIGURE
4-3



TITLE

ASBESTOS

Tank Farm 2
Newport, RI

- LEGEND**
- Confirmed ACM
 - Suspected ACM
 - ECP Site Boundary
 - Tank
 - Paved Vehicle Parking Area
 - Paved Vehicle Driveway
 - Former Building
 - Unpaved Road
 - Paved Road
 - Gate
 - Fence
 - Building
 - Wall



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

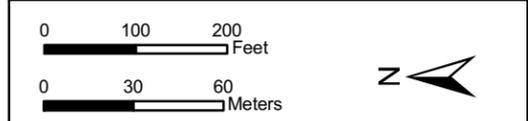
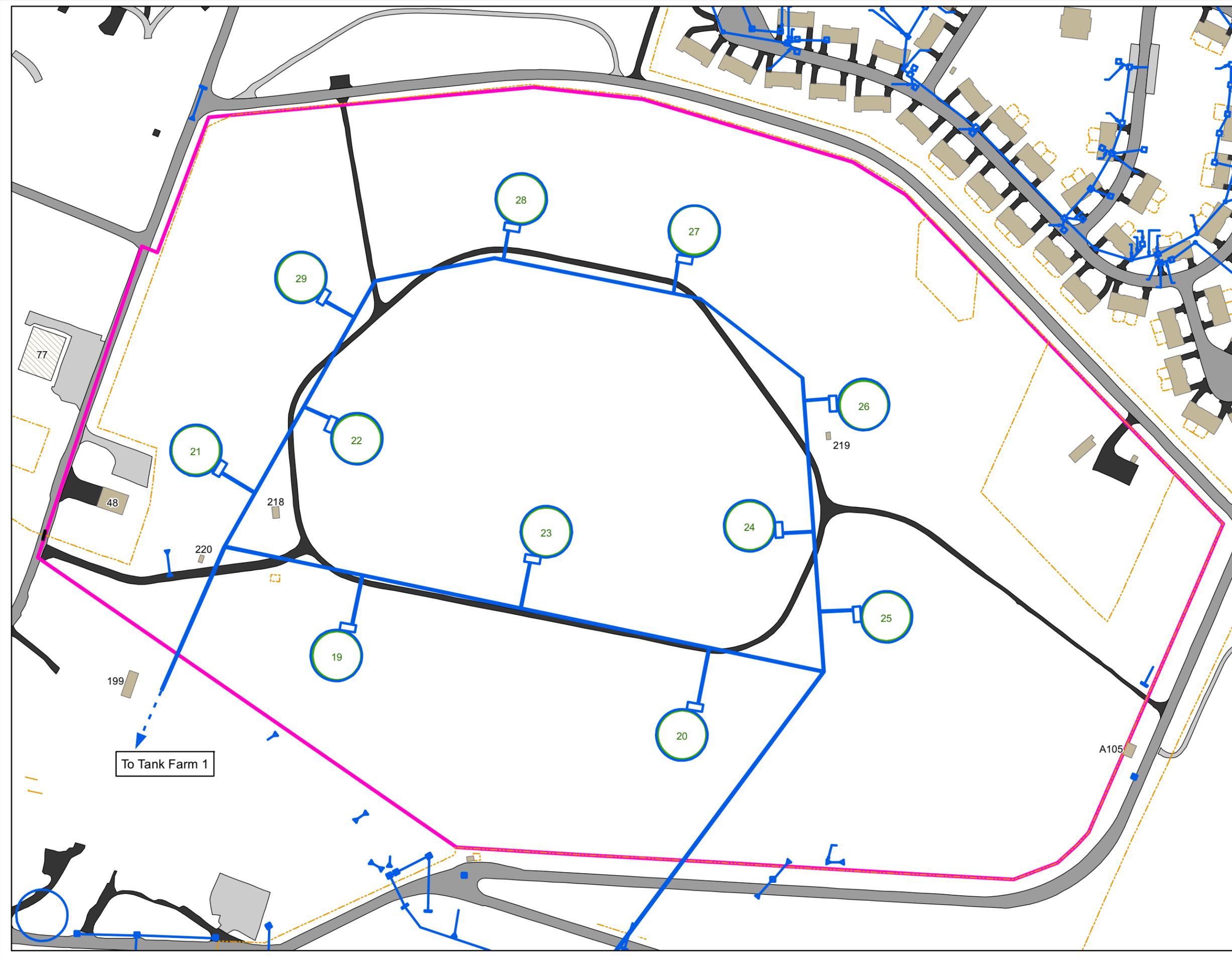


FIGURE
4-4



TITLE

STORMWATER DISTRIBUTION

Tank Farm 2
Newport, RI

- LEGEND**
- Stormwater Line
 - Wall
 - Gate
 - Fence
 - Building
 - ECP Site Boundary
 - Tank
 - Paved Vehicle Parking Area
 - Paved Vehicle Driveway
 - Former Building
 - Unpaved Road
 - Paved Road

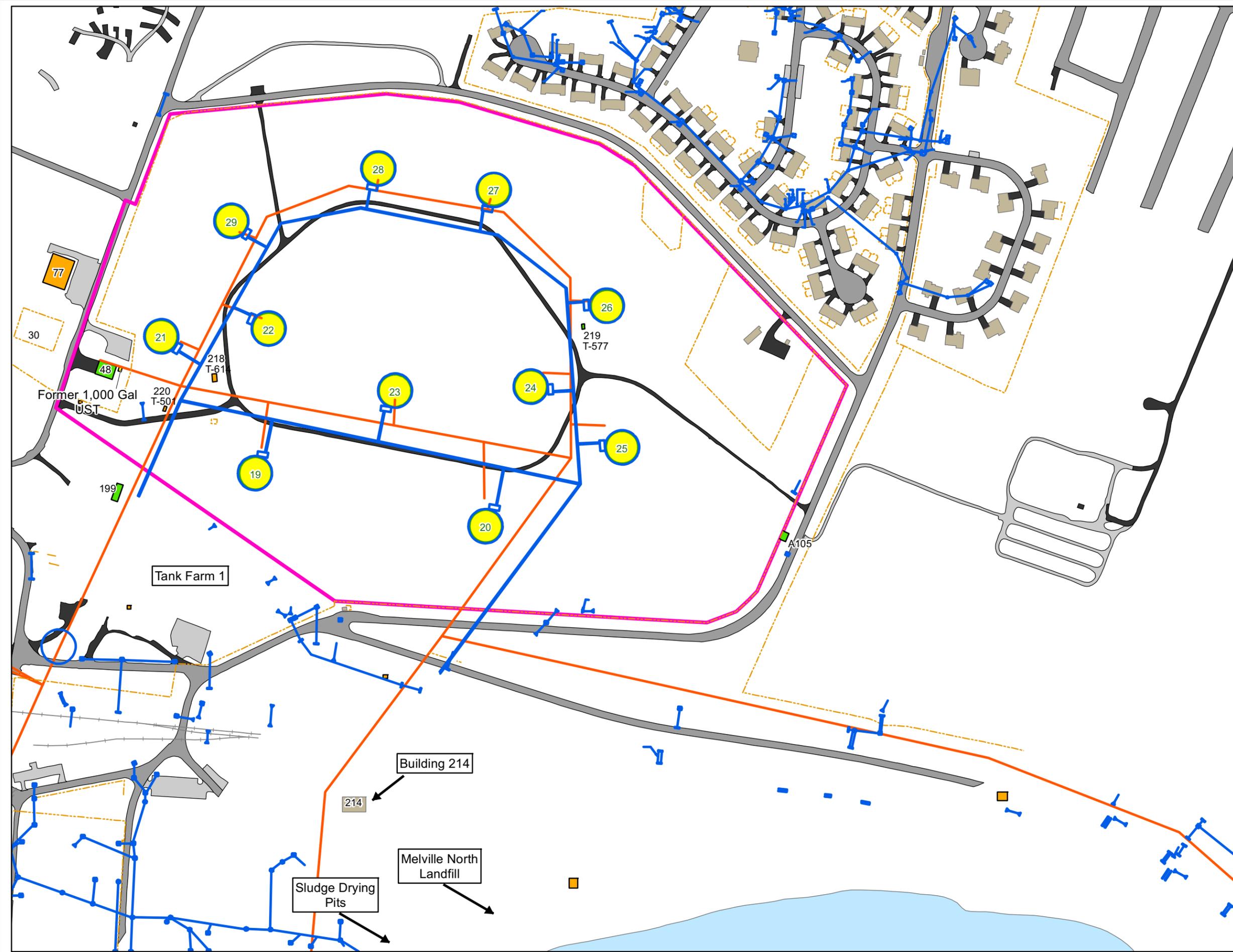


NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009



FIGURE 4-5



TITLE

SUMMARY OF ENVIRONMENTAL CONDITIONS

Tank Farm 2
Newport, RI

LEGEND

Stormwater Line	Confirmed ACM/ Fuel Line	Suspected ACM	Transformer Location	Tank	Underground Storage Tank	Building	ECP Site Boundary	Paved Vehicle Parking Area	Paved Vehicle Driveway	Former Building	Surface Water Course Area
Wall	Railroad	Gate	Fence	Unpaved Road	Paved Road						



NOTES & SOURCES

Coordinate System: NAD 83, UTM Zone 19
Data Sources: Naval Station Newport, 2009

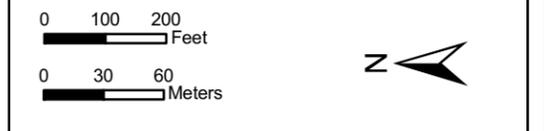


FIGURE
4-6



APPENDIX A

References



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APPENDIX B
List of Contacts



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APPENDIX B List of Contacts

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