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## **1.0 INTRODUCTION**

Base Realignment and Closure (BRAC) Walter Reed Field Activity Caretaker Staff, has prepared this Environmental Condition of Property (ECP) Update Report for the Assistant Chief of Staff Installation Management, Office of Base Realignment and Closure. This report updates a previous ECP that was completed for Walter Reed Army Medical Center (WRAMC) in December 2006. The facility is located at Walter Reed Field Activity, 6900 Georgia Ave NW, Washington District of Columbia (DC), 20307, hereafter referred to as the “Site” or “Property”. In support of the ECP Update Report, a visual reconnaissance of the Site was conducted on October 17, 2014. The purpose of the visit was to visually obtain information indicating the environmental condition of the Property.

### **1.1 PURPOSE OF ENVIRONMENTAL CONDITION OF PROPERTY (ECP) UPDATE REPORT**

The primary purpose of this ECP Update Report is to identify any environmental conditions that may have changed materially since the completion of the original ECP Report conducted in 2006 and to identify any Recognized Environmental Conditions (RECs) at the Property prior to the scheduled disposal. A recognized environmental condition is defined as the presence or likely presence of any hazardous substances or petroleum products on any federal real property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into the environment.

According to Section §4.6.1 of ASTM D 6008-96 (Reapproved 2014) *Standard Practice for Conducting Environmental Baseline Surveys*, “users and environmental professionals may use information in prior Environmental Baseline Surveys (EBSs) provided such information was generated as a result of procedures that meet or exceed the requirements of this practice or accurately state the limitations of the information presented”. The original ECP Report was reviewed and found to meet the requirements set forth in §4.6.2 of ASTM D 6008-96(2005) and the narrative discussion and findings of that report are incorporated by reference into this ECP Update Report as if contained here in its entirety.

### **1.2 SCOPE OF SERVICES**

This ECP Update Report has been performed for the Walter Reed Field Activity in accordance with Army Regulation (AR) 200-1 and ASTM D 6008-96 (2005), *Standard Practice for Conducting Environmental Baseline Surveys* (for excess properties). Under ASTM D 6008-96 (2005), the following components were completed: interviews, government record reviews, visual inspection of the Property and adjoining properties, and a declaration by the environmental professional responsible for the assessment.

## **2.0 BACKGROUND**

### **2.1 PHYSICAL DESCRIPTION**

The property is located at 6900 Georgia Ave NW, Washington, DC, 2030, and is approximately 1 mile south of the DC and Maryland state line. The property is roughly rectangular in shape and encompasses approximately 110.3 acres (in 2006 ECP was 113 acres). It is bordered by Rock Creek Park to the west, and bordered mainly residential on the south, east and west. The property has 47 buildings (not including guard shacks, gazebos, fountains, landmarks and pergolas.). Of the 47 buildings, 28 buildings are contributing resources to the historic district, and 12 of which are individually eligible historic structures. Included in the property is Building 18, formerly known as the Walter Reed Inn. In accordance with 2005 BRAC law, WRAMC ceased all operations on September 15, 2011. Prior to closure, WRAMC's primary activity was medical care and treatment. Some of the operations on the property included: hospital functions, housing, administrative functions, medical research and heating/cooling operations. Most research operations ceased in early 2011, while all other operations ceased in September 2011. Since closure, the property has been in a caretaker status. Some buildings have been decommissioned, while others are maintained at a minimal level (due to historical status). The boiler plant is operational 24 hours a day, 7 days a week. The chiller plant is operational 12 hours a day, 7 days a week. Figure 1 shows the proposed parcel division for property conveyance.

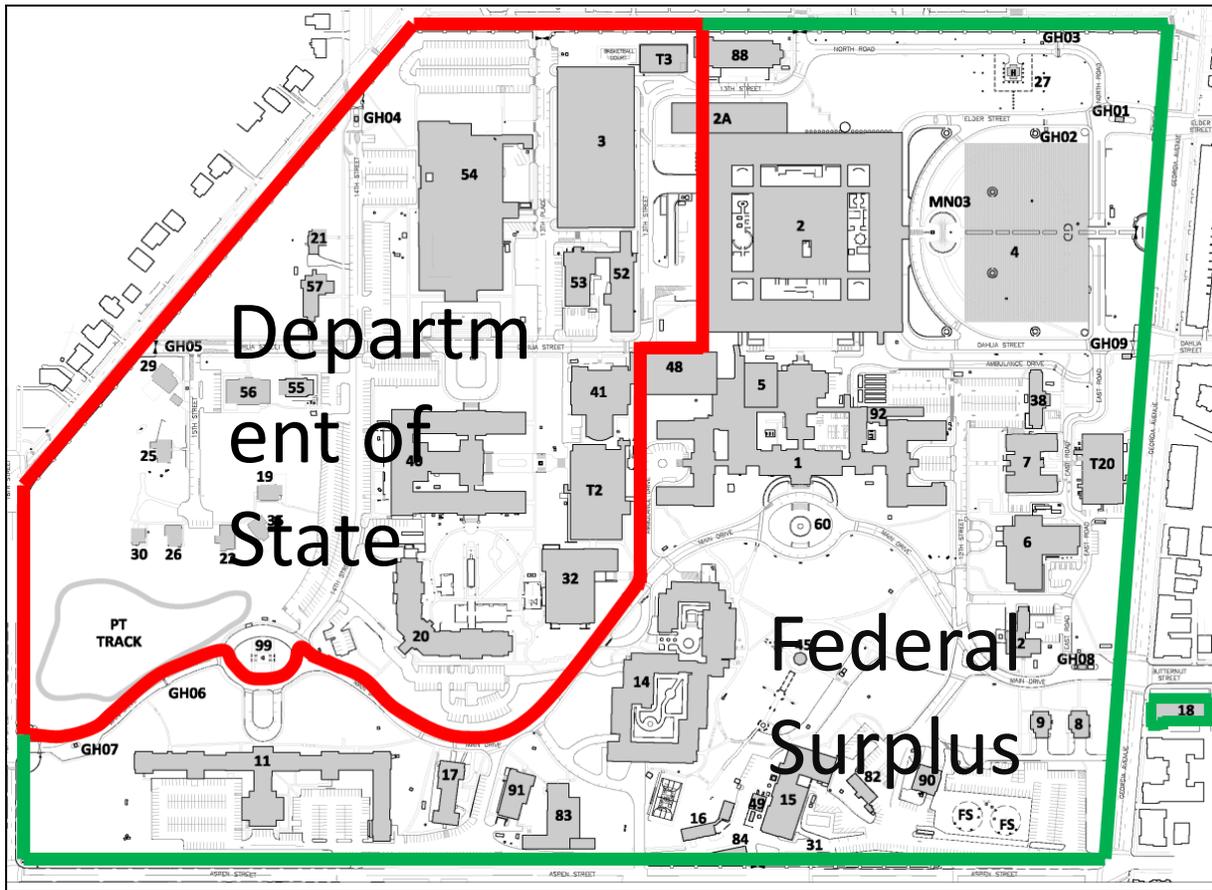


Figure 1. Proposed Parcel Division After BRAC 2005 Closure.

## 2.2 PREVIOUS ECP FINDINGS

In December 2006, Shaw Environmental, Inc. completed an ECP at the Property in accordance with ASTM D 6008. The text portion of the previous ECP is included in Appendix A. Section 6.1 of the 2006 ECP listed and summarized these areas of concern as stated below:

### **Wastewater:**

*Although previous assessment reports have listed areas of use on the Property that have discharged to the sanitary and storm sewers (further detailed in Sections 4.4.2 and 4.4.3 of the 2006 ECP), these practices were discontinued in the 1970s. Based upon the age of the sewer systems and the documentation of past discharges, there may be environmental concerns related to past sewer system discharges; however, there is no assessment documentation to support this concern. Waste streams involving recalcitrant chemicals, such as chlorinated solvents, and mercury are of the greatest concern. WRAMC has received NOVs with regard to wastewater discharges at the Property in the past, primarily for mercury. The Property is currently in compliance and no RECs have been identified.*

### **Permits:**

*The Property has the following Federal and local permits. The Property is currently in compliance and no RECs have been identified with regard to the permits:*

*Clean Air Act (CAA). Title V CAA permit (#004) has been issued from the D.C. Department of Health to operate the boilers for Building 15 and generators throughout the Property.*

*Underground Storage Tank (UST). UST permits have been issued by the D.C. Department of Health, UST Division for eight USTs. Eighteen ASTs are on the Property; however, there are no permitting requirements for ASTs. All of the known USTs on the Property are registered.*

*Wastewater. A wastewater discharge permit (#045-5) was issued by D.C. WASA and it covers general discharges to the sanitary sewer system. A Semi-Annual Self Monitoring program is conducted at the Property to measure and report compliance. As of the reporting period ending June 2006, the Property is in compliance.*

### **NOVs:**

*All listed NOVs have been resolved or administratively resolved. The most recent NOV was issued on 1 July 2005 under RCRA Hazardous Waste and was related to a USEPA inspection that found multiple hazardous waste and universal waste violations at the point of generation. To resolve this NOV, the Installation Commander approved an Environmental Compliance Campaign Action Plan to improve training and accountability. Although this NOV is still listed as open, according to WRAMC GEO staff, it has since been resolved with the EPA. Prior resolved NOVs include those issued under the CAA*

(2), TSCA (1), RCRA Hazardous Waste (3), RCRA Solid Waste (1), RCRA UST (3), and the CWA (8).

The majority of the CWA NOVs were due to exceedances of mercury in the wastewater, which has been an ongoing problem at the Property. As mentioned above, the Property is conducting a Semi-Annual Self Monitoring program to measure and report compliance and as of June 2006, the Property is in compliance.

**Cleanups:**

All designated cleanups are complete. There are no MMRP sites or identified CC sites on the Property. The only reported programmatic cleanups on the Property were the three IRP sites (WRAMC-01, WRAMC-03, and WRAMC-06) and they are currently either designated as or considered "response complete," and are therefore not considered a current REC.

**Hazardous Substances & Hazardous Waste:**

Substances designated as hazardous under Section 102 of CERCLA have been used and stored at the Property in quantities exceeding their corresponding CERCLA reportable quantities; however, there is no evidence that these chemicals were improperly handled, released, or disposed at the Property except for the NOVs listed above. Additionally, the Property is an LQG of hazardous waste; however, there is no evidence that these wastes were improperly handled, released, or disposed at the Property except for the NOVs listed above. Therefore, no RECs have been identified with regard to hazardous substances or hazardous waste.

**Petroleum UST/AST Incidents:**

Three separate minor spills were reported in 1987, 1988, and 1994 during filling operations; however, none of these incidents were reported to have caused impairment or impact that required remediation.

*Boiler Plant (Building 15).* An environmental investigation is ongoing for an area adjacent to the Boiler Plant (Building 15). During the construction of a replacement electrical switching station (Building 95) in spring of 2006, an oily substance, determined to be DRO constituents, was encountered in the subsurface. The source was assumed to have been from past operations. Further investigation at this location is ongoing. This site constitutes a REC.

*Underground Storage Tanks (USTs).* A review of available records identified 24 former USTs that have been removed from the property. Closure documentation was not identified for 23 of these USTs. While it is likely that all of these USTs were removed from the Property, available documentation did not indicate the condition of the tanks at removal or provide any post-excavation sampling results. Therefore, these 23 USTs constitute a REC.

**PCBs:**

*According to recent interviews with WRAMC personnel and from a 1985 letter submitted to the USEPA, all of the PCB-containing transformers on the Property have been removed and replaced with non-PCB transformers. However, a data gap exists in reconciling the transformer removal documents, resulting in four units without documentation of replacement.*

*There have been six areas of documented PCB impact on the Property:*

*Building 40 (Vault). An underground transformer vault north of Building 40 has documented PCB contamination in the soils surrounding the vault and remediation via excavation is planned for the near future. This site constitutes a REC.*

*Building 40 (Basement). The former machine shop in the basement of Building 40 had a limited area on the concrete basement floor that was cleaned and low levels of PCBs are remaining. An occupancy restriction is required to be listed on the buildings deed to address the residual PCB impact as an institutional control.*

*Rumbaugh Garage (Vault). The former underground transformer vault near the Rumbaugh Garage (IRP site WRAMC-06) has had PCB contamination in the soil and low levels of PCBs in the groundwater. However, following remediation via excavation, a period of groundwater monitoring and submittal of a risk assessment, the USEPA issued an NFA in August 2006. A use restriction is required to be listed on the property deed to address the residual PCB impact as an institutional control.*

*Building 54 (Basement). PCBs were cleaned up from the concrete floor surrounding a transformer in the basement of Building 54. Residual levels of PCBs were documented. Recommendation was made to encapsulate the floor with epoxy paint; however, no further documentation was found to confirm if the area was encapsulated. Current WRAMC personnel have no further information on this incident. Although the basement floor was noted to have been painted during the VSI, it is unknown if this particular area was encapsulated. This site constitutes a REC, unless documentation supporting encapsulation can be found.*

*Building 1 (Manhole #29). Following a transformer explosion in manhole #29 near Building 1 in November 1992, recommendation was made to clean up all visible oil and remove an area of soil adjacent to the manhole approximately 5 feet wide by 10- or 12- inches deep and to conduct sampling. No details have been found regarding any testing or cleanup activities. No other details have been found on this issue. This site constitutes a REC, unless further documentation supporting cleanup can be found.*

*Building 14. A transformer was documented to have exploded Building 14 in 1992. The unit was replaced and PCBs were cleaned up at Building 14 used for enlisted barracks. No further documents were discovered during the ECP research. This site constitutes a REC, unless further documentation supporting cleanup can be found.*

*Eight Transformer Vaults. Due to the PCB findings at the Building 40 transformer vault (described above), a sampling program was conducted in late 2005 through early 2006 to evaluate existing in-ground transformer vaults and transformer pads across the Property. Sampling concluded that that eight of the sampled vaults/pads had PCB levels that would need to be disposed of as PCB waste when the units are removed from service and the water in seven vaults had PCBs, but at levels less than the regulatory requirement of 200 µg/L for PCB containing waste for non-contact use in a closed system. Since these vaults are in low contact areas, the PCB containing water can remain in place provided that it is not disturbed. Should the water be disturbed, it would need to be disposed of as PCB waste.*

*Light ballasts. Due to the age of many of the buildings on the property, it is known that some PCB containing light ballasts remain in older light fixtures. As these light fixtures are routinely changed, they are replaced with non-PCB containing ballasts and the old PCB ballasts are disposed of in accordance with all applicable Federal, state, and Army regulations through the DRMO.*

**ACM:**

*There are building specific asbestos O&M Plans and a Post-wide Asbestos Management Plan in place. There are 48 buildings on the property.*

*ACM surveys have been performed at 34 buildings and the steam tunnel network based upon the age of their construction.*

*ACM surveys were not required at 13 buildings (new construction, already renovated or under renovation, scheduled for demolition, or used for equipment storage).*

*Twenty-seven of the 34 buildings surveyed for ACM were found to have friable & non-friable asbestos.*

*The remaining building is the Red Cross Building (Building 41), which has been renovated; however, ACM abatement documentation could not be located.*

**Lead and LBP:**

*Currently, there is not a comprehensive or programmatic report for the residential housing units on the Property. Many of the buildings at the Property were constructed before the DoD ban on the use of LBP in 1978 and are likely to contain one or more coats of such paint. There are 48 buildings on the Property.*

*LBP surveys have been performed at all housing quarters (Buildings 8, 9, 19, 21, 22, 26, 30, and 35). For the residential buildings, the sampling contractors recommended that the component types that tested positive for lead be abated in accordance with HUD Guidelines, 29 CFR 1910.1025 and 29 CFR 1926.62.*

*LBP surveys have also been performed at Buildings 1, 4, 11, and 12.*

*Renovations or abatement activities have been performed on some of the structures where LBP positive components have been identified. However, documentation of renovations or abatement activities are not always maintained on file or annotated on drawings. Thus, the number of buildings and building components containing LBP may be less than identified.*

**Radioactive Material:**

*Buildings 1, 2, 7, 41, 54, 91, and 92 (now considered part of Building 1) are classified as being “impacted” by RAM. Within these seven buildings, 102 rooms or laboratories are classified as “impacted.” Based upon the found radiological impacts, these areas constitute a REC.*

**Radon:**

*The Property has a Radon Management Plan (U.S. Army Center for Public Works, 1999) that lists the Army’s policies for identifying, assessing, and mitigating indoor levels of radon at U.S. Army facilities.*

*The radon surveys conducted in 1991 and follow-ups from 1998 and 2001 indicate that elevated radon is not an issue on the Property. Therefore, no RECs have been identified with regard to radon.*

**Pesticides:**

*The Property has an Integrated Pest Management Plan (WRAMC-GEO, 2004), which outlines maintenance activities and materials related to pesticides. Currently, all pesticide mixing/storage has been moved off-Property to the Forest Glen Annex.*

*The Property historically had three known areas of pesticide mixing and storage prior to 1975 - Building 50 and Building 51 (former greenhouses, now deconstructed) and Building 16 (DPW Storehouse). Documentation indicates that pesticide disposal possibly occurred under benches in the greenhouses, and in the sanitary sewer.*

*Other documentation indicates that there were two areas where residual pesticides were discharged to the ground; however, there was no description where these disposal areas were located, and the possibility exists that this may have occurred off-Property at another WRAMC facility such as Forest Glen Annex.*

*Also, per a historic site map, an apple orchard was near the far northwestern extent of the Property. Apple orchards were historically treated with arsenic containing pesticides that are resistant to degradation and persist in the environment; however, the AFIP Building (54) and the associated parking areas were constructed over the former orchard.*

*With consideration that pesticide mixing and storage was discontinued on the Property in the mid-seventies, and the handling and use of these products were likely to have been seasonal and used as needed, wide-scale pesticide use and possible disposal is*

*assumed to be unlikely. Therefore, no RECs have been identified with regard to pesticides.*

The December 2006 ECP classified the Site as an ECP Types: 1 (107.1\* Acres); 2 (2.6 acres); 4 (0.17 acres); 5 (0.05 acres); 7 (0.19 acres)., See Appendix E-Figure 2 for the map of these locations (formally referred to Figure 8 in the 2006 ECP). In accordance with ASTM Designation D 5746-98 (2002), are defined as:

- Type 1: An area or parcel of real property where no release, or disposal of hazardous substances or petroleum products or their derivatives has occurred (including no migration of these substances from adjacent properties);
- Type 2: An area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred;
- Type 4: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken;
- Type 5: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred and removal or remedial actions, or both, are under way, but all required actions have not yet been taken;
- Type 7: An area or parcel of real property that is unevaluated or requires additional evaluation.

\*Due to a property survey completed in 2011, the acreage was found to be inaccurate in the 2006 ECP. The property is a total of 110.1 acres. The 2006 ECP incorrectly states the property as 113.1 acres. Therefore the 2006 ECP stated that the total acreage for Type 1 as 110.1 acres, when it should be 107.1 acres.

### **3.0 INTERVIEWS**

#### **3.1 INTERVIEW WITH TODD FLETCHER, CARETAKER SENIOR FACILITIES MANAGER:**

Mr. Fletcher has been the Senior Facilities Manager since 2008 (prior to closure). He has responsible for all public work related activity for all buildings on the property. He provided information to all environmental program areas. He also provided information related to the following RECs: Building 15 Fuel #6 Corrective Action Plan (CAP), Building 82 CAP, Building 1 underground storage tank (UST) removal (MP-1), Building 4 UST removal (MP-2), Building 2 USTs removal (MP-8 and MP-9), and the Building 18 Leaking Underground Storage Tank (LUST) case.

### **3.2 INTERVIEW WITH BRIAN ROEBUCK, PROJECT MANAGER FOR CARETAKER CONTRACT**

Mr. Roebuck has been on site since late 2007 (prior to closure). Starting in 2007, he was an environmental consultant, specializing in the Hazardous Materials/Hazardous Waste (HM/HW), air emissions and tank programs. He also served as the Base Operations (Baseops) contractor's safety and quality control manager, and then became the operations manager around the time of closure. Since closure, he has become the Project/General manager for the Caretaker contractor. He provided information to all environmental program areas. He also provided information related to the following RECs: Building 15 Fuel #6 CAP, Building 82 CAP, Building 1 UST removal (MP-1), Building 4 UST removal (MP-2), Building 2 USTs removal (MP-8 and MP-9), and the Building 18 LUST case.

### **3.3 INTERVIEW WITH JAMIE PIERCE, ENVIRONMENTAL TEAM LEAD FOR CARETAKER CONTRACT**

Ms. Pierce has been on site since May 2008 (prior to closure). Prior to closure she was responsible for all actions related to the Air Emissions Program. After closure, she became the environmental team lead for the contractors, becoming responsible for all environmental programs. She provided information related to all program areas. She also provided information related to the following RECs: Building 15 Fuel #6 CAP, Building 82 CAP, Building 1 UST removal (MP-1), and Building 2 USTs removal (MP-8 and MP-9).

### **3.4 INTERVIEW WITH JONATHAN STURGILL, ENVIRONMENTAL PROTECTION SPECIALIST**

MR. Sturgill has been on site since early 2009 (prior to closure). Prior to closure he was responsible for all actions related to the HM/HW. After closure, he became responsible for the storage tank, HM/HW, ACM, air and, Lead and LBP programs. He provided information related to the following program areas: Storage Tanks, Hazardous Substances, HM, PCBs and Regulated Medical Waste (RMW). He also provided information on the RECs related to Building 15 Fuel #6 CAP and USTs.

## **4.0 REVIEW OF REGULATORY DATABASE INFORMATION**

An electronic database search of environmental records for the Property and surrounding sites was finalized by Environmental Data Resources, Inc. (EDR) on October 28, 2014. EDR focused on searching federal, state, local, and tribal environmental databases and historical and current land uses to identify sites of potential environmental concern with addresses in the areas immediately surrounding the Property. Full documentation of the EDR database review is provided in Appendix B.

Potential environmental sites of concern, located within corresponding ASTM search radius distances from the Property, were evaluated. Based on the information provided in the database report, previous and/or current conditions, regulatory status, distance, and location relative to the Site, one of the regulated facilities identified within the ASTM search radius of the Site has a probability to affect the environmental condition of the Property.

The area is listed as a DC Brownfield Site. See below for details. A summary of the EDR is below.

**Federal Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) list:**

- WRAMC (the Property): Last CERCLIS action listed was a preliminary assessment in May 1994.
- Belair Cleaners (0.482 miles away, at higher elevation, no hydrogeological relationship to the property): Last CERCLIS Action listed was a preliminary assessment, completed in September 2012. Further assessment was recommended. This site was not listed in the 2006 ECP. This site poses no risk to the property.

**Federal RCRA generators list - Large Quantity Generators:**

- CVS Pharmacy (0.220 miles away, higher elevation no hydrogeological relationship to the property): Listed as a Small Quantity Generator (SQG) until 2012. No violations reported. This site poses no risk to the property.

**Federal RCRA generators list - Small Quantity Generators:**

- WRAMC (the Property): Listed as a large quantity generator until June 2012. All violations have been closed. The most recent violation was in July 2010 (informal). The most recent evaluation was a non-financial record review in February 2014, and the last on-site inspection was in March 2013.
- Titos Contractors Inc (0.029 miles away, at higher elevation, has a hydrogeological relationship to the property): Been listed as a SQG since April 2001. All violations have been closed. The most recent violation was in March 2009. The most recent evaluation was a non-financial record review in February 2014, and the last on-site inspection was in March 2013. This site poses a low risk to the property.

**RCRA Non-generators:** There are 5 RCRA Non-generators listed within 0.25 miles of the property. Of those 5, only 1 had a reported violation (Walter Reed Exxon, located 0.099 miles away from the Property, has a hydrogeological relationship to the property):. That violation is now closed. This site poses a low risk to the property.

**LUST Sites (other than at the Property):** 32 Total LUST cases listed within 0.5 miles (29 at higher elevation, and 3 at lower elevation).

- Closed/No Further Action LUST cases: 31 out of the 32 LUST cases are closed or listed as having no further actions. The closed sites pose little to no risk to the property.
- Open LUST cases: 1 LUST case is listed as open. It is located at the Amoco gas station, approximately 0.323 miles away, at equal or higher elevation, and with a hydrogeological relationship to the property. The site was open in December 2009, and lists contaminant as gasoline, and the contaminated media listed as soil. This site poses a low risk to the property.

**Registered USTs (other than at the Property):** The EDR lists 26 registered USTs within 0.25 miles of the Property.

- Permanently Closed: 23 of the 26 registered USTs are permanently closed.
- Active: 3 registered USTs remain active. All three are located at the Walter Reed Exxon (approximately 0.099 miles away, at higher elevation, with a hydrogeological relationship to the property). There are 2 10,000-gallon USTs, and 1 12,000-gallon UST. All three store gasoline. These pose a low risk to the property.
- Historical USTs: 9 USTs could not be confirmed within 0.25 miles of the property (7 at higher elevation, and 2 at lower elevation). Five of these USTs have listed capacities and product. Three of those 5 have a hydrogeologic relationship to the property. These pose a low risk to the property.

**Registered Above Ground Storage Tanks (ASTs):** There is one active AST, located approximately 0.004 miles away (at lower elevation, and has a hydrogeological relationship to the property) from the property. It contains heating oil, and has a 5,000-gallon capacity.

**Voluntary Clean-up Sites:** There is one voluntary clean-up site. The site is located approximately 0.398 miles away (higher elevation, but no hydrogeologic relationship to the property). All actions were completed in 2009. The soil and groundwater was contaminated with Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), Total Petroleum Hydrocarbons (TPH) and Methyl ter-butyl ether (MTBE). This site was not listed in the 2006 ECP. This site poses no risk to the property

**Brownfield Sites:** There is one site listed as a DC Brownfield, located approximately 0.002 miles away (higher elevation, and with a hydrogeologic relationship to the property). The area is now a vacant lot. This site was residential from 1922 through 1964. A portion of this site was formally an auto repair shop. This site is not listed on other federal databases indicative of releases to the environment, e.g. LUST, CECLIS. This poses a low risk to the property.

**Formerly Used Defense Site Properties (FUDS):** Fort Derussy is the only site listed. It was in use from 1861 to 1866. The area is now part of the Rock Creek Park.

**Hazardous Waste Manifests:**

- New Jersey Manifest list: The Property is the only site listed.
- New York Manifest list: The Property is the only site listed.
- Pennsylvania Manifest list: 4 sites are listed. One is the Property, the other 3 are the located within 0.25 miles of the property.

**EDR Exclusive Records – Historical Automotive Stations:** There are 4 sites listed as historical automotive service stations. Three stations have been closed and the sites are now used for commercial and residential purposes. The 4<sup>th</sup> site, is currently an Exxon gas station. These sites pose low to no risk to the property.

**EDR Exclusive Records – Historical Cleaners:** There are 9 sites listed as historical cleaners. Of those 9 sites, 6 are no longer there. The addresses associated with 6 sites are now law firms, hair salons or pawn shops. The remaining 3 addresses account for space currently used as cleaners. All sites are listed below.

Addresses associated with closed cleaners:

- Lee's Laundry – 7301 Georgia Ave NW: Space used as a Pawn Shop (has a hydrogeological relationship to the property). This site poses a low risk to the property.
- Bell Tailor's and Cleaners – 7305 Georgia Ave NW: Space used as a hair salon (has a hydrogeological relationship to the property). This site poses a low risk to the property.
- Lee Jimmie – 7306 Georgia Ave, NW: Space used as a law firm (has a hydrogeological relationship to the property). This site poses a low risk to the property.
- Elite Service Dry Cleaning Co – 7309 Georgia Ave, NW: Space used as a law firm (has a hydrogeological relationship to the property). This site poses a low risk to the property.
- Launderaide – 7329 Georgia Ave, NW: Space used as a hair salon. (has a hydrogeological relationship to the property). This site poses a low risk to the property.
- Launder-brite co – 7231/2th St NW: Address could not be found (based on the map location in the EDR, this site has a hydrogeological relationship to the property). This site poses a low risk to the property.

Addresses associated with active cleaners:

- Executive Dry Cleaners Inc – 7344 Georgia Ave, NW: Now called Rex Cleaners (has a hydrogeological relationship to the property). This site poses a low risk to the property.
- Not Reported – 7346 Georgia Ave, NW: Now called Rex Cleaners (does not have a hydrogeological relationship to the property). This site poses a low risk to the property.
- Sylvan Cleaners – 1206 Underwood Pl, NW: Now called Underwood cleaners (does not have a hydrogeological relationship to the property). This site poses no risk to the property.

**Orphan Sites:** The EDR lists 20 orphan sites. Some information was gained through research. Out of the 20 Orphan sites, 13 are LUST sites. All are closed. The remaining sites pose no issues to the property, because they are located over 3.5 miles away and have no violations listed. See below for information on the orphan sites.

Located within 1 mile of the property:

- Butternut and Blair Roads: LUST case closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.

Located within 1 to 5 miles of the property:

- Walter Reed Annex: Includes 25 registered historical USTs, 20 of which are currently active and 5 have been permanently closed. No information on brownfields. (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- Walter Reed AMC Forest Glen Annex: Unidentified contaminated hazardous waste site. (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- Ideal Academy Charter School: Listed as a RCRA non-generator. No current or previous violations listed. (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- RBD Inc: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- 1200 and 1212 East West highway: Volunteer cleanup program withdrawn in 2008. (does not have a hydrogeological relationship to the property). This site poses no risk to the property.

Located between 5 to 10 miles from the property:

- Federal Triangle: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- Stewart Car Co.: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- WMATA: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- General Services Administration: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- 1018 E. Capitol Condominium: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- US Government Printing Office: LUST case listed as no further actions required (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- US Govt Printing Office: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- Square 669 LTD: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- Manulife Real Estate: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.

Located 10 – 15 miles from the property:

- US Navy Marine Barracks: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.
- Marine Barracks: LUST case listed as closed (does not have a hydrogeological relationship to the property). This site poses no risk to the property.

Located over 200 miles from the property:

- 37 Obre Place (New Jersey): potentially contaminated hazardous waste site closed, and no information on the volunteer clean-up program. (does not have a hydrogeological relationship to the property). This site poses no risk to the property.

Unknown: Walter Reed Emergency – no information provided.

**SUMMARY OF PROPERTIES EVALUATED TO DETERMINE RISK TO THE PROPERTY**

To summarize section 4.0 separate properties, in addition to the Walter Reed Army Medical Center, were evaluated as potential risk properties to the Property. The properties evaluated were identified as a result of information obtained during area reconnaissance and regulatory database searches and are listed below in Table 4.0-1.

<b>TABLE 4.0 - 1. PROPERTIES EVALUATED FOR POTENTIAL ENVIRONMENTAL RISKS</b>						
Company/ Site Name	Database	Hydrogeologic Relationship to the Property	Elevation Relative to Property	Direction/ Distance from Property (miles)	Potential Risk to Property	Comment
Belair Cleaners	• CERCLIS	No	Equal/ Higher	SSE/ 0.482	Low Risk	Not listed in 2006 ECP A preliminary assessment was completed in 2012, and is listed as a low priority for further assessment. The assessment was based on the location's history. No information on contaminants of concern Over .025 miles from the property
CVS Pharmacy #1364	• RCRA-LQG • PA Manifest	No	Equal/ Higher	SSE/ 0.220	No Risk	Not listed in 2006 ECP. No Violations have been reported.
Tito's Contractors Inc	• RCRA-SQG • PA Manifest • FINDS	Yes	Equal/ Higher	NNE/ 0.029	Low Risk	Several reported violations, however all have been closed. Most recent violation was in 2009 and was administrative.  No releases have been reported from this site, and all violations are closed, this is a low risk.
Walter Reed Apt	• DC LUST • DC UST LIST	Yes	Equal/ Higher	E/ 0.002	Low Risk	LUST Case is listed as Closed

**TABLE 4.0 - 1.**  
**PROPERTIES EVALUATED FOR POTENTIAL ENVIRONMENTAL RISKS**

Company/ Site Name	Database	Hydrogeologic Relationship to the Property	Elevation Relative to Property	Direction/ Distance from Property (miles)	Potential Risk to Property	Comment
Dahlia Apartments	•DC LUST •DC UST	Yes	Equal/ Higher	ENE/ 0.003	Low Risk	LUST Case is listed as Closed
Aspen Investment Company	•DC LUST •DC UST •DC HIST UST	Yes	Equal/ Higher	SE/ 0.047	Low Risk	LUST Case is listed as Closed
EXXON MOBIL Corp #25363	•DC LUST •RCRA - NonGen/NLR •AIRS	Yes	Equal/ Higher	NNE/ 0.099	Low Risk	LUST Case is listed as Closed
Lightview Cooperative Inc	•DC LUST •DC UST	Yes	Equal/ Higher	SSE/ 0.116	Low Risk	LUST Case is listed as Closed
Lightview Cooperative Associates	•DC LUST •DC UST	Yes	Equal/ Higher	SSE/ 0.132	Low Risk	LUST Case is listed as Closed
Lightview Cooperative Inc.	•DC LUST	Yes	Equal/ Higher	SSE/ 0.150	Low Risk	LUST Case is listed as Closed
Safeway Stores, Inc.	•DC LUST	No	Equal/ Higher	SSE/ 0.229	No Risk	LUST Case is listed as Closed
Sunoco Service Station	•DC LUST	No	Equal/ Higher	SSE/ 0.251	No Risk	LUST Case is listed as Closed
Former - BP Oil Station	•DC LUST	No	Equal/ Higher	SSE/ 0.274	No Risk	LUST Case is listed as Closed
Amoco	•DC LUST	No	Equal/ Higher	NNE/ 0.285	No Risk	LUST Case is listed as Closed
Piney Branch Shell	•DC LUST	No	Equal/ Higher	SSE/ 0.296	No Risk	1 LUST Case is listed as Closed 1 LUST listed as NFA
Amoco	•DC LUST	Yes	Equal/ Higher	SSE/ 0.323	Low Risk	OPEN
BBS Associates	•DC LUST	Yes	Equal/ Higher	NNE/ 0.327	Low Risk	LUST Case is listed as Closed
William J. Davies, Inc.	•DC LUST	Yes	Equal/ Higher	NNE/ 0.327	Low Risk	LUST Case is listed as Closed
EXXON	•DC LUST	No	Equal/ Higher	SSE/ 0.365	No Risk	2 LUST Cases listed as Closed
Gateway Cohen	•DC LUST	Yes	Equal/ Higher	NNE/ 0.388	Low Risk	LUST Case is listed as Closed
EXXON S/S #2-1357	•DC LUST •DC UST LIST	Yes	Equal/ Higher	NNE/ 0.391	Low Risk	LUST Case is listed as Closed
Gables Residential	•DC LUST •DC VCP	No	Equal/ Higher	E/ 0.398	No Risk	LUST Case is listed as Closed
Former District Glass Co. Inc	•DC LUST	No	Equal/ Higher	ENE/ 0.398	No Risk	LUST Case is listed as Closed

**TABLE 4.0 - 1.**  
**PROPERTIES EVALUATED FOR POTENTIAL ENVIRONMENTAL RISKS**

Company/ Site Name	Database	Hydrogeologic Relationship to the Property	Elevation Relative to Property	Direction/ Distance from Property (miles)	Potential Risk to Property	Comment
Metropolitan Health Group	•DC LUST	No	Equal/Higher	SSE/ 0.406	No Risk	LUST Case is listed as NFA
Clearview 6300 LLC	•DC LUST	No	Equal/Higher	S/ 0.406	No Risk	LUST Case is listed as NFA
Berry Mullendre	•DC LUST	No	Equal/Higher	SSW/ 0.429	No Risk	LUST Case is listed as Closed
Ron Eichner, Inc.	•DC LUST	No	Equal/Higher	E/ 0.439	No Risk	LUST Case is listed as Closed
E & Z Takoma BP	•DC LUST	No	Equal/Higher	E/ 0.461	No Risk	LUST Case is listed as NFA
Winchester Luzon	•DC LUST	No	Lower	SSW/ 0.164	No Risk	LUST Case is listed as Closed
Takoma Metro Center	•DC LUST	No	Lower	ENE/ 0.494	No Risk	LUST Case is listed as Closed
Tacoma Metro Cntr 6840 Eastern	•DC LUST	No	Lower	ENE/ 0.494	No Risk	LUST Case is listed as Closed
Aspen Court Assoc LLC	•DC UST List	Yes	Equal/Higher	SE/ 0.034	Low Risk	No issues listed. Not a large tank.
Robert B Byrne	•DC UST List	Yes	Equal/Higher	NNE/ 0.055	Low Risk	No issues listed. Not a large tank.
EXXON S/S #2-5363	•DC UST List	Yes	Equal/Higher	NNE/ 0.099	Low Risk	No issues listed. Not a large tank.
Lightview Cooperative Assoc	•DC UST List	Yes	Equal/Higher	SSE/ 0.150	Low Risk	No issues listed. Not a large tank.
Lightview Cooperative Inc	•DC UST List	Yes	Equal/Higher	SSE/ 0.164	Low Risk	No relationship to the property.
Apartment	•DC UST List	No	Equal/Higher	SSE/ 0.165	No Risk	No relationship to the property.
Former Roy Rogers	•DC UST List	No	Equal/Higher	SSE/ 0.220	No Risk	No relationship to the property.
Safeway Store #1276	•DC UST List	No	Equal/Higher	SSE/ 0.229	No Risk	No relationship to the property.
Aldon Properties	•DC UST List	No	Lower	SW/ 0.056	No Risk	No relationship to the property..
Unknown (6601 14 <sup>th</sup> PI NW)	•DC UST List	No	Lower	SW/ 0.104	No Risk	No relationship to the property.
Winchester Luzon Apts	•DC UST List	No	Lower	SSW/ 0.164	No Risk	No relationship to the property.
Unknown (6601 Luzon Ave NW)	•DC UST List	No	Lower	SSW/ 0.165	No Risk	No relationship to the property.
Residential (6505 14 <sup>th</sup> St NW)	•DC UST List	No	Lower	SSW/ 0.227	No Risk	No relationship to the property.

**TABLE 4.0 - 1.**  
**PROPERTIES EVALUATED FOR POTENTIAL ENVIRONMENTAL RISKS**

Company/ Site Name	Database	Hydrogeologic Relationship to the Property	Elevation Relative to Property	Direction/ Distance from Property (miles)	Potential Risk to Property	Comment
Normandie LP	• DC AST List	Yes	Equal/ Higher	ESE/ 0.004	Low Risk	No issues listed. Not a large tank.
7201 Georgia Ave Property	• DC Brownfields • Local Brownfields	Yes	Equal/ Higher	SES/ 0.002	Low Risk	Many factors are unknown at this point, and is related to the property. This was not assessed in the 2006 ECP.
Herbert Pilzer	• DC HIST UST	Yes	Equal/ Higher	E/ 0.002	Low Risk	No issues were listed for this property.
Unknown (6817 Georgia Ave)	• DC HIST UST	Yes	Equal/ Higher	ESE/ 0.004	Low Risk	No issues were listed for this property
Unknown (6630 Georgia Ave)	• DC HIST UST	Yes	Equal/ Higher	SSE/ 0.109	Low Risk	No issues were listed for this property
Unknown (1447 Georgia Ave)	• DC HIST UST	No	Equal/ Higher	NW/ 0.131	No Risk	No relationship to the property.
Unknown (6545 Georgia Ave)	• DC HIST UST	No	Equal/ Higher	SSE/ 0.201	No Risk	No relationship to the property.
Unknown (6503 Georgia Ave)	• DC HIST UST	No	Equal/ Higher	SSE/ 0.227	No Risk	No relationship to the property.
Unknown (6713 14 <sup>th</sup> PI)	• DC HIST UST	No	Lower	SW/ 0.045	No Risk	No relationship to the property.
Unknown (6501 14 <sup>th</sup> PI)	• DC HIST UST	No	Lower	SSW/ 0.229	No Risk	No relationship to the property.
Poretsky Building Group	• RCRA - NonGen/NLR • PA Manifest	Yes	Equal/ Higher	E/ 0.002	Low Risk	No violations listed.
Rex Cleaners	• RCRA - NonGen/NLR • FINDS • USAIRS	Yes	Equal/ Higher	NNE/ 0.057	Low Risk	No violations listed.
Pep Boys Manny Moe Jack No 408	• RCRA - NonGen/NLR	No	Equal/ Higher	SSE/ 0.229	No Risk	No relationship to the property.
The Estate of Antoine Kawam	• RCRA - NonGen/NLR	No	Lower	WSW/ 0.091	No Risk	No relationship to the property.
Fort Derussy	• FUDS	No	Lower	SW/ 0.928	No Risk	No relationship to the property.
Not Reported	• EDR Hist Auto Stat List	Yes	Equal/ Higher	NNE/ 0.099	Low Risk	No longer there. Unknown contaminants.

**TABLE 4.0 - 1.**  
**PROPERTIES EVALUATED FOR POTENTIAL ENVIRONMENTAL RISKS**

Company/ Site Name	Database	Hydrogeologic Relationship to the Property	Elevation Relative to Property	Direction/ Distance from Property (miles)	Potential Risk to Property	Comment
(7401 Georgia Ave)						
Major S Texaco Service	•EDR Hist Auto Stat List	No	Equal/ Higher	SSE/ 0.201	No Risk	No relationship to the property.
Robinson Earl J	•EDR Hist Auto Stat List	No	Equal/ Higher	SSE/ 0.227	No Risk	No relationship to the property.
Galloway & Conner	•EDR Hist Auto Stat List	Yes	Equal/ Higher	E/ 0.236	Low Risk	No longer there. Unknown contaminants.
Lee S Laundry	•EDR Hist Cleaners List	Yes	Equal/ Higher	NNE/ 0.023	Low Risk	No longer a cleaner. Unknown status of contaminants, if any.
Bell Tailor's & Cleaners	•EDR Hist Cleaners List	Yes	Equal/ Higher	NNE/ 0.026	Low Risk	No longer a cleaner. Unknown status of contaminants, if any.
Lee Jimmie	•EDR Hist Cleaners List	Yes	Equal/ Higher	NNE/ 0.028	Low Risk	No longer a cleaner. Unknown status of contaminants, if any.
Elite Service Dry Cleaning Co	•EDR Hist Cleaners List	Yes	Equal/ Higher	NNE/ 0.029	Low Risk	No longer a cleaner. Unknown status of contaminants, if any.
Launderaide	•EDR Hist Cleaners List	Yes	Equal/ Higher	NNE/ 0.044	Low Risk	No longer a cleaner. Unknown status of contaminants, if any.
Executive Dry Cleaners Inc	•EDR Hist Cleaners List	Yes	Equal/ Higher	NNE/ 0.055	Low Risk	Unknown status of contaminants, if any.
Not Reported (7346 Georgia Ave)	•EDR Hist Cleaners List	No	Equal/ Higher	NNE/ 0.057	No Risk	No relationship to the property.
Launder- Brite Co	•EDR Hist Cleaners List	Yes	Equal/ Higher	NE/ 0.110	Low Risk	No longer a cleaner. Unknown status of contaminants, if any.
Sylvan Cleaners The	•EDR Hist Cleaners List	No	Equal/ Higher	SSE/ 0.231	No Risk	No relationship to the property.
Walter Reed AMC Forest Glen Annex	Orphan Site •SHWS	No	Equal/ Higher	2 – 5	No Risk	Listed as having unidentified contaminated hazardous waste site. No relationship to the property.
37 Obre Place	Orphan Site •SHWS •VCP	No	Equal/ Higher	>200	No Risk	No relationship to the property.
1200 and 1212 East West Highway	Orphan Site •VCP •LRP	No	Equal/ Higher	1.2	No Risk	VCP withdrawn in 2008. No other information provided. No relationship to the property.
Walter Reed Annex	Orphan Site •HIST UST	No	Equal/ Higher	2 – 5	No Risk	No relationship to the property.
Federal Triangle	Orphan Site •LUST	No	Equal/ Higher	5 - 10	No Risk	LUST case listed as Closed No relationship to the property.
Stewart Car Co.	Orphan Site •LUST	No	Equal/ Higher	5 – 10	No Risk	LUST Case listed as closed No relationship to the property.

**TABLE 4.0 - 1.**  
**PROPERTIES EVALUATED FOR POTENTIAL ENVIRONMENTAL RISKS**

Company/ Site Name	Database	Hydrogeologic Relationship to the Property	Elevation Relative to Property	Direction/ Distance from Property (miles)	Potential Risk to Property	Comment
WMATA	Orphan Site •LUST	No	Equal/ Higher	5 – 10	No Risk	LUST case listed as closed No relationship to the property.
General Services Admin	Orphan Site •LUST	No	Equal/ Higher	5 – 10	No Risk	LUST case listed as closed No relationship to the property.
US Navy Marine Barracks	Orphan Site •LUST	No	Equal/ Higher	10 – 15	No Risk	LUST Case listed as closed No relationship to the property.
Marine Barracks, U.S.	Orphan Site •LUST	No	Equal/ Higher	10 – 15	No Risk	LUST Case listed as closed No relationship to the property.
RBD, INC.	Orphan Site •LUST	No	Equal/ Higher	1 – 5	No Risk	LUST Case listed as closed No relationship to the property.
Butternut & Blair Rds	Orphan Site •LUST	No	Equal/ Higher	< 1	No Risk	LUST Case listed as closed No relationship to the property.
1018 E. Capitol Condo.	Orphan Site •LUST	No	Equal/ Higher	5 – 10	No Risk	LUST Case listed as closed No relationship to the property.
US Government Printing Office	Orphan Site •LUST	No	Equal/ Higher	5 – 10	No Risk	LUST Case listed as NFA required No relationship to the property.
US Govt Printing Office	Orphan Site •LUST	No	Equal/ Higher	5 – 10	No Risk	LUST Case listed as closed No relationship to the property.
Square 669 LTD	Orphan Site •LUST	No	Equal/ Higher	5 - 10	No Risk	LUST Case listed as closed No relationship to the property.
Ideal Academy Charter School	Orphan Site •RCRA NonGen/NLR	No	Equal/ Higher	1 – 5	No Risk	Listed as a RCRA Non- Generator. No current or previous violations No relationship to the property.
Manulife Real Estate	Orphan Site •LUST	No	Equal/ Higher	5 – 10	No Risk	LUST Case listed as closed No relationship to the property.
Walter Reed Emergency	Orphan Site •FINDS	Unknown	Equal/ Higher	Unknown	No Risk	No relationship to the property.

Acronyms are defined in detail in the attached EDR Report, Appendix E

Based on an evaluation of available site information and details concerning the properties listed in Table 4.0-1 none of the facilities evaluated are classified as “High Risk”. “High Risk” properties are those that exhibit environmental conditions that are likely to adversely affect the environmental conditions of the Property.

## 5.0 SITE RECONNAISSANCE

A site reconnaissance was performed to characterize on-site conditions and assess surrounding property uses and natural surface features that may have affected the condition of the Property. In addition, a reconnaissance was conducted of the surrounding roads and readily accessible adjacent properties to identify obvious potential

environmental conditions. Photographs taken as part of the site reconnaissance are provided in Appendix C. The site visit was conducted on October 17, 2014 by Joe Fromal, Caretaker Team Lead and Erin Mauer, BRAC Environmental Coordinator. Weather conditions were sunny and clear, and the outside temperature was approximately 65 degrees Fahrenheit. Erin Mauer and Joe Fromal conducted the site reconnaissance in a systematic manner focusing initially on the Property boundaries and exterior areas, which were surveyed in a grid pattern. They also surveyed all interior spaces of existing improvements, focusing on areas of potential environmental concern (i.e., chemical storage areas, mechanical rooms, etc). In addition, they conducted a reconnaissance of the surrounding roads and readily accessible adjacent properties to identify obvious potential environmental conditions on neighboring properties.

During the site reconnaissance, no obvious potential environmental issues were observed on the adjacent properties. DC is completing electrical upgrades on the corner of Georgia Ave and Fern street. The site conditions during the reconnaissance inside the property reflect the conditions described in Section 6 below.

## **6.0 FINDINGS SINCE PREVIOUS ECP**

**THIS SECTION DOCUMENTS SUPPLEMENTAL INVESTIGATIONS AND/OR FINDINGS ASSOCIATED WITH THE PROPERTY SINCE THE DECEMBER 2006 ECP. COPIES OF ALL SUPPORTING DOCUMENTATION ARE INCLUDED IN APPENDIX D. IN ADDITION TO THE SUPPORTING DOCUMENTATION THE FOLLOWING APPENDICES ARE INCLUDED:**

- Appendix D-6.0-1: List of All Supporting Documents/Appendices
- Appendix D-6.0-2: List of Acronyms
- Appendix D-6.0-3: List of Tables
- Appendix D-6.0-4: Remaining Materials, locations and descriptions (organized by Building)

### **6.01 AIR EMISSIONS:**

There are no RECs associated with Air Emissions.

### **SUPPLEMENTAL ENVIRONMENTAL PROJECTS (SEP)**

The 1999 Notice of Violation (NOV) mentioned in the 2006 ECP was administratively resolved through the implementation of a Supplemental Environmental Project (SEP) with the Environmental Protection Agency (EPA) and District of Columbia Department of the Environment (DDOE). WRAMC completed the implementation of the SEP by installing low nitrogen oxides (NOx) burners on boilers 1, 2, and 4, in 2005, 2008 and 2010 respectively. WRAMC submitted the SEP implementation completion report on December 22, 2010.

### **TITLE V PERMIT INFORMATION**

Under current, low load conditions, low NOx burners are not efficient at reducing NOx emissions. To address NOx limit provisions when operating below the burner capability, WRAMC submitted new permit applications for boilers 1, 2, and 4 on May 24, 2011, as requested by the DDOE. WRAMC continues to operate and be in compliance with the current 2000 Title V permit. Table 6.01-1 below depicts the limits.

Table 6.01-1: Boiler NOx Limits, #/One Million British Thermal Units (MMBTU)

Boiler	Title V Permit (gas and oil) (2000)
1	0.25
2	0.25
3	0.10
4	0.30

**2014 Title V Application:** Due to the number of changes in emission sources, and at the request of DDOE, WRAMC submitted a new Title V application (Appendix D - 6.01-1) on May 27, 2014. Currently awaiting DDOE's response.

**Air Emissions Inspections:**

- The EPA and DDOE conducted a joint inspection to review WRAMC's Air program in April 2011. The final inspection report stated that WRAMC is operating in compliance with all Title V permit conditions.
- DDOE conducted an inspection of the Air Program and Title V compliance on March 19, 2014. No issues were noted during the inspection.

**Air Emissions Inventory:** As required by DDOE, WRAMC submits an annual Emission Inventory. See Table 6.01-2 below for recent years' emissions.

Table 6.01-2: Emissions per year

Year	NOx (Tons)	SO <sub>2</sub> (Tons)	CO (Tons)	VOC (Tons)	Particulate Matter (Tons)
2010	19.48	3.59	20.46	1.33	2.05
2011	12.65	1.08	17.16	1.44	1.73
2012	6.04	0.13	9.93	1.07	0.94
2013	5.96	0.92	7.48	0.69	0.74

**GREENHOUSE GAS EMISSIONS (GHG)**

WRAMC is in compliance with the GHG reporting requirements. The report for Calendar Year (CY) 2013 GHG emissions was submitted to the EPA on March 14, 2014 (Appendix D - 6.01-2). See Table 6.01-3 below for GHG emission

summary. It is likely that the report for 2014 emissions will be the last reporting year, since 2012 and 2013 emissions were below the reporting threshold of 15,000 metric equivalent tons carbon dioxide (eq. Tons CO<sub>2</sub>).

Table 6.01-3: GHG Emissions per year

GHG Emissions	GHG Emissions Total (eq. Tons CO <sub>2</sub> )
2010	31,379
2011	21,543
2012	12,475.50
2013	9,739.50

## GENERATORS

Since 2006, eleven generators have been decommissioned, inoperable and/or removed. DDOE is informed when these actions take place. See Table 6.01-4 below for all generators and their status'. There are currently 8 active generators. Their associated fuel storage tanks are addressed in Section 6.02 Storage Tanks.

Table 6.01-4: Current Generator Status

Generator	Size (kW)	Status
1 West	230	Active
2-1W	1625	Removed - July 2013
2-2W	1625	Removed – July 2013
2-3W	1625	Removed – July 2013
2-1E	1625	Removed – July 2013
2-2E	1625	Removed – July 2013
2-3E	1625	Removed – July 2013
4	300	Inoperable
7	150	Active
12	150	Active
14	125	Active
15	450	Active
20	175	Decommissioned*
32	50	Decommissioned*
48 (trailer mounted)	Unknown	Removed – 2007
54-1 (West)	600	Active
54-2 (East)	225	Active
83	500	Decommissioned*
90	135	Active
T-2	100	Decommissioned*

\*May be removed during 2014/2015.

## CONDITIONS AND INVENTORIES NOT OTHERWISE ADDRESSED

**Removal of Refrigerant:** During the closure processes and equipment turn-in, refrigerant is removed and recorded, as required for the annual air emissions inventory. There are locations where equipment will remain in place with the refrigerant remaining. These areas include, but not limited to, walk-in freezers and refrigerators, package refrigerant units, Air Conditioning units (portable and window), and water fountains. See Appendix D-6.01-3 and Appendix D-6.0-4 for known locations. The refrigerant will remain in place and will be transferred with the property. Refrigerants are also associated with the smaller building chillers and the two chiller plants (see inventories previously mentioned).

**Refrigerant Collection:** The collection of refrigerant, gas and oil from equipment to be disposed of, was conducted in three areas: Department of Public Works (DPW) shop (Building 1), HVAC shop (Building 15), and the chiller plant (Building 48). In 2014, all operations were consolidated in the chiller plant. Collected gas was turned into for recycling; and waste refrigerant oil was turned in to the Defense Reutilization and Marketing Office (DRMO) for recycling/disposal. No known environmental issues with these operations have been identified.

## **6.02 UNDERGROUND STORAGE TANKS (USTs) AND ABOVEGROUND STORAGE TANKS (ASTs)**

There are 8 RECs associated with the Storage Tank program. The 2006 ECP identified 6 of the 8 RECs. This ECP update identified 2 additional RECs. Details and updates of each REC are included in the description of the tanks below.

### **CORRECTIONS TO 2006 ECP**

- Page 3 and 5 of the 2006 ECP incorrectly mentions nine registered USTs several times in the document. WRAMC had eight USTs permitted at the time the ECP was completed.
- Figure 6 and page 12 from the 2006 ECP note a former heating oil UST in Building 18, and LUST case associated with the tank. This is incorrect. WRAMC researched the UST database, and the address of the listed LUST case is the Walter Reed Apartments. The Walter Reed Apartments are not associated with WRAMC, nor is it located on post. See Appendix D-6.02-1 for DDOE concurrence and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) category designation change documentation.

### **GENERAL INFORMATION AND INVENTORY UPDATE**

WRAMC has:

- 5 USTs (29 USTs have been removed)
- 16 ASTs (24 ASTs have been removed)

All USTs on WRAMC are doubled-walled, except the two 400,000-gallon (400K) USTs which are single-walled. Since the completion of the 2006 ECP, three diesel USTs and one Hydrochloric (HCL) UST have been removed. See below in this section for more details.

In addition, eight aboveground storage tanks (ASTs) have been removed from the property since the completion of the 2006 ECP. These were done in accordance with all applicable regulations and best management practices.

Several of the current ASTs are day tanks associated with decommissioned generators. If the generators were decommissioned, the fuel in the associated tanks was removed to the degree practicable.

See Table 6.02-1 below for a current UST/AST inventory. Some of the capacities were incorrectly listed in the 2006 ECP. See below for accurate information.

Table 6.02-1: Current UST/AST Inventory

<b>Tank (Building and ID)</b>	<b>Fuel</b>	<b>Size (gallons)</b>	<b>Type</b>	<b>Status</b>
MP-01/ 1W	Diesel	280	AST	Active
MP-09/ 4 (day tank) (MP-09)	Diesel	100	AST	Inactive - Drained and Inoperable
MP-10/ 7	Diesel	200	AST	Active
MP-11/ 12	Diesel	200	AST	Active
MP-23/ 14	Diesel	240	AST	Active
MP-13/ 15	Diesel	100	AST	Active
MP-12/ 15	Diesel	280	AST	Active
MP-14/ 16 (fueling)	Gas	500	AST	Active
MP-15/ 16 (fueling)	Diesel	500	AST	Inactive - Drained and Inoperable
MP-16/ 20	Diesel	200	AST	Inactive - Decommissioned generator
MP-17/ 32	Diesel	84	AST	Inactive - Decommissioned generator
MP-19/ 54	Diesel	4,700	AST	Active
MP-20/ 83	Diesel	2,000	AST	Inactive - Decommissioned generator
MP-21/ 90	Diesel	280	AST	Active
None/ T-2 - Northwest Mechanical Space (day tank)	Diesel	100	AST	Drained
None/ T-2	Diesel	125	AST	Inactive - Decommissioned generator
MP-27/ 4	Diesel	3,000	UST	Removal Planned – Early 2015

Tank (Building and ID)	Fuel	Size (gallons)	Type	Status
MP-29/ 54 East	Diesel	2,500	UST	Active
MP-30/ 54 West	Diesel	6,000	UST	Active
MP-24/ 400K- Tank 1	#2 Fuel Oil	400,000	UST	Active
MP-25/ 400K - Tank 2	#2 Fuel Oil	400,000	UST	Active

**Table 6.02-2: Former USTs (Closed Prior to the December 2006 ECP)**

Tank ID / Bldg (USTs)	Capacity (gallons)	Product	Status	2006 ECP Category	ECP Update Category
MP-1 / 1	500	Kerosene	Removed – 1997 There are no LUST incidents associated with this UST.	2	2
MP-2 / 4	3,000	Diesel	Removed – 1996 Closure report available. Remediation activities were completed. Replaced by MP-27	2	2
MP-3 / 82	10,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
MP-4 / T-2	2,000	Diesel	Removed – 1997 DDOE concurrence for clean closure granted in- March 2004	2	1
MP-5 / 2	10,000	Diesel	Removed – 1997 DDOE granted NFA for contamination in March 2004	2	2
MP-6 / 2	10,000	Diesel	Removed - 1997 DDOE granted NFA for contamination in March 2004	2	2
MP-7 / 54 – East	2,000	Diesel	Removed – 1996 DDOE concurrence for clean closure granted in March 2004	2	1
MP-8 / 54 – West	6,000	Diesel	Removed – 1996 DDOE concurrence for clean closure granted in March 2004	2	1
MP-9 / 41	3,000	Diesel	Removed – 1997 DDOE concurrence for clean closure granted in 2004	2	1
MP-10 / 15	3,000	Diesel	Removed – 1995 LUST Case Open for this site in 1998. DDOE granted LUST case NFA status in 1999.	2	2

*Environmental Condition of Property Update Report  
Walter Reed Field Activity  
6900 Georgia Ave, NW, Washington DC  
February 26, 2015*

<b>Tank ID / Bldg (USTs)</b>	<b>Capacity (gallons)</b>	<b>Product</b>	<b>Status</b>	<b>2006 ECP Category</b>	<b>ECP Update Category</b>
MP-11 / 82	5,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
MP-12 / 82	5,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
MP-13 / 54	1,500	Diesel	Removed – date unknown.  There are no LUST incidents associated with this UST.	2	2
MP-14 / 15	30,000	Heating Oil	Removed – 1995 There are no LUST incidents associated with this UST.	2	2
MP-15 / 15	30,000	Heating Oil	Removed – 1995 There are no LUST incidents associated with this UST.	2	2
MP-16* / 95	500	Diesel	Removed – 1997 DDOE concurrence for clean closure granted in March 2004	2	1
MP-16 / 82	4,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
MP-17 / 82	4,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
MP-18 / 82	4,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
MP-19 / 82	4,500	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
MP-20 / 82	4,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2

Tank ID / Bldg (USTs)	Capacity (gallons)	Product	Status	2006 ECP Category	ECP Update Category
MP-21 / 82	4,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
MP-22 / 82	4,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
MP-23 / 82	3,000	Gasoline	Removed – 1980's LUST case opened for this area in 2010. DDOE granted LUST case NFA status in November 2014.	2	2
None /Offsite	Unknown	Heating Oil	Was incorrectly listed for Walter Reed. This Tank is offsite.	2	1
None / 41*	500	HCL	Removed-1999. Confirmatory samples indicate no residual contamination.	Not Assessed	1
None/ 84*	5,000	Gasoline	Removed – date unknown. Documentation indicates that a tank leaked in the general location of building 84. Post excavation confirmatory soil samples were below actions levels.	Not Assessed	2

\*Tank not identified in the 2006 ECP

**Table 6.02-2 Notes:**

**MP-1/ Building 1 (500-gallon UST): (Site ID: 9(2)PS/PR(P):** Removed in 1997. There are no LUST cases associated with this tank. A GPR survey was conducted in 2010 and confirmed that the tank is no longer there. See Appendix D-6.02-2. This site remains a REC, as ECP Category 2.

**MP-2/Building 4 (3,000-gallon UST) (Site ID: 10(2)PS/PR):** Contaminated soil was remediated at the time the UST was removed. See Appendix D-6.02-3 for the closure report. Also, MP-4 tank was replaced by another 3,000 gallon UST (MP-27) in 1997. MP-27 will be removed in early 2015. There are no LUST incidents associated with MP-27. This site remains a REC with ECP Category 2.

**MP-3, 11, 12, 16, 17, 19, 18, 20, 21, 22, 23/ Building 82 (USTs) and associated LUST case (Site ID: 3(2)PS/PR):** All tanks in the vicinity of Building 82 were removed in the 1980's. See appendix D-6.02-4 for additional information. During

a nearby site assessment, a petroleum, oil, and lubricants (POL) contaminated area was discovered near the area around Building 82. DDOE opened a LUST case (#2010011). A site investigation and risk analysis was completed in October 2012 (see Appendix D-6.02-5). These resulted in a Corrective Action Plan (CAP), completed in May and October 2012 (see Appendix D-6.02-6). The Comprehensive Site Assessment (CSA) and CAP were originally approved in July 2012 (Appendix D-6.02-7), but due to a later and more comprehensive submittal in October 2012, DDOE revised and issued another directive in March 2013 (See Appendix D-6.02-8). The letter dated in March directed WRAMC to submit another Tier 1 analysis, re-evaluate the Soil Vapor points, complete ground penetrating radar survey in the area of one of the monitoring wells, continue with quarterly groundwater sampling, and install a passive recovery system in one of the monitoring wells. In a meeting held in June 2014, DDOE agreed that the passive recovery system was no longer required. Since the directive letter, two CMRs and a new Tier 1 Risk analysis were completed in May and September 2014 (Appendix D-6.02-2 and D-6.02-9). Due to the low risk levels, as indicated from the data, WRAMC recommended case closure. In November 2014, DDOE granted the LUST case NFA status. See appendix D-6.02-10 for the letter. The groundwater monitoring wells will be closed/abandoned IAW with all applicable regulations.

Free Phase Hydrocarbon Report (FPH): While conducting CSA activities around Building 82 in April 2011, FPH was discovered in a ground water monitoring well (MW-09) along the southern fence line of WRAMC. DDOE requested WRAMC to develop a FPH recovery plan, and take necessary actions to fully delineate the site before submitting the CSA for Building 82. The plan was submitted on June 9, 2012 and accepted by DDOE on June 13, 2011. The plan described the intent to conduct weekly monitor well gauging for MW-09 and MW-04, and to submit all data on a quarterly basis. During a meeting in June 2014, DDOE decreased the gauging frequency from weekly to monthly. To date, there have been thirteen quarterly reports submitted. See Appendix D-6.19-1 for the latest submittal in September 2014. FPH has not been detected in MW-09 since May 31, 2103, and in MW-04 since November 22, 2013. As of October 16, 2014, less than .01 gallons of product have been recovered at either monitoring well. In November 2014 DDOE issued a No Further Action letter for this site. See Appendix D-6.02-10 for the letter.

**MP-4/Building T-2 (2,000-gallon UST) (Site ID: 11(2)PS/PR(P)):** During document review, WRAMC located the closure report and DC letter for Permanent Tank Closure, with concurrence for a clean closure. MP-4 was removed in 1997. See Appendix D-6.02-11 for the closure report, Appendix D-6.02-12 for the letter of permanent closure for MP-4. This tank was replaced by another UST in 1998 (MP-31), which was then removed in 2004. See appendix D-6.02-13 for the tank installation inspections, and see Appendix D-6.02-14 for closure documentation (including DDOE's letter for permanent closure). This area was previously

identified as a REC due to lack of closure documentation. Since the documentation was located, this is no longer a REC and is ECP Category 1.

**MP-5 & 6/ Building 2, 10,000-gallon UST Closures (Site ID: 12(2)PS/PR(P) and 13(2)PS/PR(P)):** The two 10,000 gallon USTs were removed in 1997 (see appendix D-6.02-15 for removal inspections and disposal certs). A closure report was written in May of 1997 (appendix D-6.02-16). During tank removal, contaminated soil was identified and removed. , DDOE provided a letter of permanent closure and the site was granted NFA in March 2004 (appendix D-6.02-17). These tanks were replaced by a 20,000-gallon UST (see appendix D-6.02-18 for installation inspection). The 20,000-gallon UST was removed in 2013. The closure sampling indicates that the area is not contaminated. DDOE issued a letter of permanent closure and concurrence for clean closure in 2013 for the 20,000-gallon UST (see appendix D-6.02-19 for the closure report and letter of permanent closure. Due to the previously contaminated soil, this area will remain a REC with an ECP Category 2.

**MP-7/ Building 54-East UST Closure(Site ID 14(2)PS/PR(P)):** During document review, WRAMC located the closure report and DC letter for Permanent Tank Closure for MP-7. The tank was removed in 1996. See Appendix D-6.02-16 for the closure report, and appendix D-6.02-17 for the letter of permanent closure and concurrence for clean closure from DDOE. This tank was replaced by tank MP-29. See appendix D-6.02-20 for the removal inspection, and appendix D-6.02-21 for the disposal certs. See appendix D-6.02-22 for tank MP-29 installation inspection. The replacement tank remains in place, and shows no signs of leaking. This area was previously identified as a REC due to lack of closure documentation. Since the documentation was located, this is no longer a REC and is ECP Category 1.

**MP-8/ Building 54-West UST Closure (Site ID 15(2)PS/PR(P)):** During document review, WRAMC located the closure report and DC letter for Permanent Tank Closure for MP-8. The tank was removed in 1996. See Appendix D-6.02-16 for the closure report, and appendix D-6.02-17 for the letter of permanent closure and concurrence for clean closure from DDOE. This tank was replaced by the MP-30. See appendix D-6.02-20 for the removal inspection, and appendix D-6.02-21 for the disposal certs. See appendix D-6.02-22 for tank MP-30 installation inspection. The replacement tank remains in place, and shows no signs of leaking. This area was previously identified as a REC due to lack of closure documentation. Since the documentation was located, this is no longer a REC and is ECP Category 1.

**MP-9/ Building 41 UST Closure (Site ID: 16(2)PS/PR(P)):** During document review, WRAMC located the closure report and DC letter for Permanent Tank Closure. MP-9 was removed in 1997. See Appendix D-6.02-11 for the closure report, Appendix D-6.02-12 for the letter of permanent closure and concurrence for clean closure from DDOE. This tank was replaced by another UST in 1998

(MP-31), which was then removed in 2004. See appendix D-6.02-13 for the tank installation inspections, and see Appendix D-6.02-14 for closure documentation (including DDOE's letter for permanent closure and concurrence for clean closure). This area was previously identified as a REC due to lack of closure documentation. Since the documentation was located, this is no longer a REC and is ECP Category 1.

**MP-10/ Building 15 (3,000-gallon UST closure):** This tank was removed in 1995. During document review, it was discovered that this tank leaked causing contaminated soil. A LUST case was subsequently open in January 1998. See Appendix D-6.02-10 for the directive letter issued by DDOE and the submitted work plan. The contaminated soil was removed to a level of below 100 ppm DRO. The final sample results were less than 10 ppm DRO. In April 1999, DDOE issued a case closure and no further action letter to WRAMC. See Appendix D-6.02-24 for closure letter, and report. This site was not specifically identified in the 2006 ECP, and this tank was not specifically assessed. This area should be classified as ECP Category 2 due to the LUST case. There is no information on the tank removal itself.

**MP-14 and 15/ Building 15 (30,000-gallon USTs):** According to the 2006 ECP, these tanks were removed in 1995. There are no LUST incidents associated with these USTs. This area is associated with the area surrounding Building 15 and 82 identified as Site 3(2) PS/PR in the 2006 ECP and remains ECP category 2

**MP-16\*/ Building 95:** MP-16\* was removed in 1997. See Appendix D-6.02-11 for the closure report, Appendix D-6.02-12 for the letter of permanent closure for MP-16\* and concurrence for clean closure from DDOE. No further actions necessary. This tank is associated with site 3(2) PS/PR POL issues around Building 15 and 82 and the site remains an ECP category 2 due to other POL issues.

**No Tank ID/Offsite (Referred to as Unknown/Building 18 in the 2006 ECP):** This tank and associated LUST was incorrectly listed as being on the property. WRAMC researched the UST database, and the address of the listed LUST case is the Walter Reed Apartments. The Walter Reed Apartments are not associated with WRAMC, nor is it located on post. See Appendix D-6.02-1 for DDOE concurrence and CERCLA category designation change documentation. Building 18 was transferred out of Army's control to the District of Columbia Local Redevelopment Authority in December 2014.

**No Tank ID / Building 41 (500-gallon) HCL UST:** This tank was not address in the 2006 ECP. The 500-gallon HCL tank located at Building 41 was removed in 1999. No chemical contamination was detected in soil samples from the tank excavations. The tank was thought to have been used as part of the chiller system to remove calcium carbonate on equipment. See Appendix D-6.02-25 for the closure report. Confirmatory samples indicate no residual contamination, and no evidence of release.

**No Tank ID/ Building 84 Gas UST:** This tank was not address in the 2006 ECP. While reviewing documents in 2014, WRAMC discovered a closure report related to the excavation of contaminated soil around the area of a former UST. The tank was removed before 1998; however the exact timeline is unknown. According to the report, the UST held gasoline, and held less than 5,000-gallons. During this effort, approximately 59 tons of contaminated soil was removed, and five soil samples were analyzed. The soil sample results were: Non-detect for Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH-GRO) and Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), and had a maximum result of 10.2 mg/kg Total Petroleum Hydrocarbons - Diesel Range Organics (TPH – DRO). See Appendix D-6.02-34 for the closure report. Due to the former soil contamination, this site constitutes a REC, as ECP category 2.

**Table 6.02-3: Former USTs (Closed After the December 2006 ECP)**

UST ID / Bldg (USTs)	Capacity (gallons)	Product	Status	2006 ECP Category	ECP Update Category
MP-28 / 2	20,000	Diesel	Removed - 2013 DDOE Concurrence for clean closure – Dec 2013	Not assessed	2
MP-33 / T2/41	3,000	Diesel	Removed-2007 DDOE Concurrence Letter – Sept 2008 <i>In the 2006 ECP, this tank is referred to as MP-31, but is actually designated as MP-33</i>	1	1
MP-32 / T2	1,000	Diesel	Removed-2007 DDOE Concurrence Letter – Sept 2008	1	1

**Table 6.02-3 Notes:**

**MP-33 & 32 / Building T-2/41 (MP- 31; 3,000-gallon and MP-32; 1,000-gallon) USTs:** The USTs were associated with a generator and were removed from the ground in 2007. DDOE granted concurrence for clean closure and a letter of

permanent closure in 2008. See Appendix D-6.02-14 for the closure letter and closure report. No evidence of a release. No further actions required.

**MP-28 and ASTs MP-03 through 08/Building 2:** The six portable emergency generators were removed with their associated 275-gallon (MP-03 through 08) day tanks from the property in July 2013 for reuse, as well as the 100-gallon return tank. Additionally, the associated 20,000-gallon UST (MP-28) was removed in September 2013. This project was completed in two phases. The phases are described below. Although this tank did not have a release, the area remains an ECP category 2 due to previous releases.

- Phase I: The generators and associated day tanks, and the 100-gallon return AST on the south east parking lot of Building 2 were removed in July 2013. The supply and return lines are enclosed in a concrete conduit, with secondary lining. The lines were purged, cut, and filled. The vault that contained the return AST was backfilled; however the vault was not cleaned prior to backfilling. See Appendix D-6.02-26 for the closure report, and Appendix D-6.02-27 for the detailed work plan. No evidence of a release. No further actions required.
- Phase II: The 20,000-gallon UST formerly located on the southwest corner of Building 2 was removed in September 2013. DDOE granted concurrence for clean closure and a letter of permanent closure in 2013. See Appendix D-6.02-19 for details and closure concurrence from DDOE. No evidence of a release. No further actions required.

**Table 6.02-4 Current USTs**

Tank ID / Bldg (USTs)	Capacity (gallons)	Product	Status	2006 ECP Category	ECP Update Category
MP-24 / Tank 1	400,000	Heating Oil	Active – No evidence of a release.	1	1
MP-25 / Tank 2	400,000	Heating Oil	Active – No evidence of a release.	1	1
MP-27 / 4	3,000	Diesel	Removal Planned – March 2015	2	2
MP-29 / 54-East	2,500	Diesel	Active – No evidence of a release.	1	1
MP-30 / 54-West	6,000	Diesel	Active – No evidence of a release.	1	1

**Table 6.02-4 Notes:**

**MP-24 & 25/ Tank Farm (400,000-gallon USTs) :** There are is no evidence of releases or leaks from these tanks. No prior LUST incidents associated with these tanks. See Tank Compliance section below for a list of all leak detection methods.

**MP-27/Building 4 (3,000-gallon UST and 100-gallon AST):** The 3,000-gallon UST and 100-gallon AST at Building 4 is used to store diesel fuel for the back-up emergency generator serving Building 4. The generator is no longer operable,

and therefore the UST is no longer required. The tank system will be removed in accordance with applicable DC regulations in early 2015. There are no LUST incidents associated with this tank. However, due to previous releases, this area remains an ECP Category 2.

**MP-29 & 30/ Building 54-east and 54-west (2,500-gallon and 6,000-gallon USTs):** These tanks were installed in 1996. There are no evidence of releases or leaks from these tanks. See Tank Compliance section below for a list of all leak detection methods. This site is an ECP category 1.

**Table 6.02-5 Former ASTs (Closed Prior to the December 2006 ECP)**

Tank ID / Bldg (ASTs)	Capacity (gallons)	Product	Status	2006 ECP Category	ECP Update Category
None/ 1 East	275	Diesel	Removed – Dec 1997	1	1
None / 1 West	275	Diesel	Removed – Dec 1997	1	1
None / 1 West	275	Kerosene	Removed – Dec 1997	1	1
None / 54 East	500	Diesel	Removed – Unknown timeframe	1	1
None / 54 West	500	Diesel	Removed – Unknown timeframe	1	1
None / 12	275	Diesel	Removed – Unknown timeframe	1	1
None / 15	275	Diesel	Removed – Dec 1997	1	1
None / 15	500 (Est)	Gasoline	Removed – Dec 1997	1	1
None/ 15*	Unknown	#6	6 ASTS Removed prior to 2005. Timeline unclear. LUST case associated with these tanks.	2	2

\*Tanks were not addressed in the 2006 ECP

**Table 6.02-5 Notes:**

**ASTs associated with Buildings 1, 54, 12 and 15 listed above:** There is no evidence that these ASTs (with the exception of the ASTs that contained #6 fuel) had a release or leaked. No documentation is required for these tanks, as ASTs do not require closure documentation. Disposal certificates were located for some of the tanks (see appendix D-6.02-35).

**No Tank ID/ Building 15, Fuel #6 ASTs: (SITE ID: 3(2)PS/PR):**

These tanks were not specially identified, however, the location of these tanks was identified as a REC with ECP category 2 (SITE ID: 3(2)PS/PR). These ASTs, in addition to the previously addressed USTs at Building 82 were the cause of the POL contamination around Building 15 and 82. Two separate LUST cases were open for this area. Both LUST cases were granted NFA by DDOE in November 2014.

Petroleum contaminated soils were discovered during construction of the electrical switch station located in the eastern portion of Building 15. The location of the current electrical switch station (Building 15A) is where six former ASTs were located in the former coal storage vault. Approximately 558 tons of impacted soil was removed during construction. DDOE issued a NOI and Site Directive dated April 5, 2006 requiring a site assessment. The site assessment was submitted in September 2008 and reported the presence of TPH-DRO in the soil and groundwater (Appendix D-6.02-28). DDOE opened a LUST case (#2006026), and requested a Corrective Action Plan (CAP). In November 2010, DDOE approved the CAP for groundwater remediation at WRAMC Building 15. The CAP required installation of an oil skimmer to recover Free Phase Hydrocarbons (FPH) and to conduct groundwater monitoring for natural attenuation (MNA) for two years. The skimmer was operational from May 1, 2011 to August 2012. Approximately 102 gallons of FPH was collected. Quarterly groundwater MNA analysis commenced in October 2011, and semi-annual analysis began in 2013. WRAMC completed a CAP Monitoring Report (CMR) in October 2012 (see Appendix D-6.02-29), and another one in September 2014 (see Appendix D-6.02-30). The most recent CMR includes a Tier I risk analysis.

Due to the low risk level shown in the Tier I analysis, WRAMC recommended case closure. In November 2014, DDOE provided WRAMC with a no further action letter. See appendix D-6.19-31 for the letter. The groundwater monitoring wells will be closed/abandoned IAW with all applicable regulations.

While gauging the monitoring wells near Building 15, WRAMC discovered FPH unrelated to the #6 fuel oil previously identified at this site. As a result of a document review and site walks, an abandoned UST pipe was found. In July 2013, WRAMC excavated the area to remove the pipe (to the extent practicable) and the contaminated soil. The remaining pipes were cleaned. See Appendix D-6.02-32 for closure documentation. Once the pipes were cleaned, and soil was removed, product was not found in MW-4.

Due to the previous releases, this site remains a REC with ECP category 2.

**Table 6.02-6: Former ASTs (Removed After the December 2006 ECP)**

<b>Tank ID / Bldg (ASTs)</b>	<b>Capacity (gallons)</b>	<b>Product</b>	<b>Status</b>	<b>2006 ECP Category</b>	<b>ECP Update Category</b>
MP-02 / 1E	90	Diesel	Removed - 2007	1	1
MP-03 / 2-1E	275	Diesel	Removed - July 2013	1	1
MP-04 / 2-2E	275	Diesel	Removed - July 2013	1	1
MP-05 / 2-3E	275	Diesel	Removed - July 2013	1	1
MP-06 / 2-1W	275	Diesel	Removed - July 2013	1	1
MP-07 / 2-2W	275	Diesel	Removed - July 2013	1	1
MP-08 / 2-3W	275	Diesel	Removed - July 2013	1	1

None / 2	100	Diesel	Removed - July 2013	1	1
MP-18 / 48	750	Diesel	Removed - 2007	1	1
None/14- Construction	500	Diesel	Removed - 2011	Not assessed	1

**Table 6.02-6 Notes:**

**ASTs MP-03 through 08 and None/Building 2:** The six portable emergency generators, their associated 275-gallon (MP-03 through 08) day tanks, and a 100-gallon return tank were removed from the property in July 2013 for reuse. The associated 20,000-gallon UST (MP-28) was removed in September 2013. The supply and return lines are enclosed in a concrete conduit, with secondary lining. The lines were purged, cut, and filled. The vault that contained the return AST was backfilled. There is no evidence of a release and no further action is required. See Appendix D-6.02-26 for the closure report, and Appendix D-6.02-27 for the detailed work plan.

**MP-18 / Building 48 Trailer Mounted 700-gallon AST:** A generator and its associated 700-gallon trailer mounted AST were removed from Building 48 in 2007. The exact timeline of when this was completed is unknown. No evidence of a release. No further actions required.

**No Tank ID/Building 14 Construction (500-gallon) AST:** One temporary 500-gallon AST was removed from Building 14. The AST was used for a construction project and was removed at the completion of the project in 2010. No evidence of a release. No further actions required.

**Table 6.02-7 Current ASTs (Active and Drained)**

Tank ID / Bldg (ASTs)	Capacity (gallons)	Product	Status	2006 ECP Category	ECP Update Category
MP-01 / 1W	280	Diesel	Active – No evidence of a release.	1	1
MP-09 / 4	100	Diesel	Drained - Inoperable	1	1
MP-10 / 7	200	Diesel	Active – No evidence of a release.	1	1
MP-11 / 12	200	Diesel	Active – No evidence of a release.	1	1
MP-12 / 15	280	Diesel	Active – No evidence of a release.	1	1
MP-13 / 15	100	Diesel	Active – No evidence of a release.	1	1
MP-14 / 16	500	Gasoline	Active – No evidence of a release.	1	1
MP-15 / 16	500	Diesel	Drained in 2014 – Inoperable	1	2
MP-16 / 20	200	Diesel	Drained in 2013 - Decommissioned generator	1	1
MP-17 / 32	70	Diesel	Drained in 2013 - Decommissioned generator	1	1

MP-19 / 54	4,700	Diesel	Active – No evidence of a release.	1	1
MP-20 / 83	2,000	Diesel	Drained in 2013 – Decommissioned generator	1	1
MP-21 / 90	280	Diesel	Active – No evidence of a release.	1	1
MP-23 / 14	240	Diesel	Active – No evidence of a release.	1	1
None / T-2 NW*	100	Diesel	Drained in 2013 - Removed generator	Not Assessed	1
None / T2*	125	Diesel	Drained in 2013 – Decommissioned Generator	Not Assessed	1

\*Tanks not addressed in 2006 ECP.

**Table 6.02-7 Notes:**

**MP-01, 09, 10, 11, 12, 13, 14, 19, 21 and 23:** These ASTs are operational, and show no signs of past or current releases. See Tank compliance section below for leak detection methods.

**MP-15 / Building 16 Diesel AST:** In June 2014, the Building 16 diesel AST became inoperable due to a failure in the secondary containment. Less than 2 gallons of diesel fuel spilled onto asphalt pavement. The spill was immediately cleaned. No further actions required. The AST has been drained to the extent possible. Approximately 4 gallons of diesel is remaining. It is still gauged weekly and inspected monthly for damage and leakage.

**MP-16/MP-17/MP-20 and T-2 (Building 20/32/83 and T-2):** The generators associated with these ASTs were decommissioned in 2013. The ASTs have been drained as much as possible to prevent any potential leaks or spills. There is no evidence of a release. The following table (Table 6.02-8) describes the approximate number of gallons of product remaining in each of these tanks.

**No Tank ID/Building T-2 NW (125-gallon, mechanical room) AST:** A 100-gallon belly tank associated with a generator was drained of its diesel fuel in 2013. The generator was removed prior to base closure in 2011. No evidence of a release. No further actions required.

Table 6.02-8 Remaining Fuel in Inoperable ASTs

Tank	Remaining Product (gallons)
MP-16/ 20	41
MP-17/ 32	9
MP-20/ 83	222
None/ T-2	7
None/ T-2 NW	2

These continue to be gauged weekly and inspected monthly for any damage and leaks. As of October 16, 2014, no issues have been noted.

## HYDRAULIC SYSTEM INFORMATION

**Elevators:** As buildings are decommissioned, the hydraulic elevators are addressed. Elevators will be re-certified, permanently closed or temporarily secured. The hydraulic fluid is completely drained when an elevator is permanently closed to prevent potential leaking. The temporarily secured elevator tanks will not be drained. Table 6.03-1 below lists the locations of hydraulic elevators (used at closure) and their status. Appendix D-6.03-3 lists all (hydraulic and traction) elevators and their status. The elevators that are not currently certified or secured will be addressed in 2014/early 2015. These tanks are inspected every quarter). With the exception of Building 11 east side elevator, no elevator tanks have had releases. The Building 11 east side elevator released hydraulic fluid.

Table 6.03-1: Hydraulic Elevators and Status

Bldg	Elevator	Tank Capacity (gallons)	Status
3	East	115	Temporarily Secured
3	West	115	Temporarily Secured
4	Center section	150	Temporarily Secured
6	Main Lobby	260	Temporarily Secured
6	Main Lobby	260	Temporarily Secured
11	West Side	175	Temporarily Secured
11	East Side	265	Active
14	Main Lobby	800	Temporarily Secured
18	Main Lobby	EMPTY - 140	Drained
20	Main Lobby	150	Temporarily Secured
20	Main Lobby	150	Temporarily Secured
20	NW Corner	120	Temporarily Secured
32	NW Corner	149	Temporarily Secured
38	Main Lobby	208	Temporarily Secured
40	N/A	Unknown	Unknown (Building has been inaccessible since 2000)
41	Main Lobby	275	Active
52	NE Corner	215	Temporarily Secured
54	South End	400	Active
83	South End	EMPTY - 250	Drained
91	Main Lobby	EMPTY - 240	Drained

**Compactors, Lifts and Other Hydraulic Equipment:** Other equipment that contain hydraulic fluid include, but not limited to: lifts, lift/gates/barricades, cardboard compactors, garbage compactor tanks, and mini-elevators. See Appendix D-6.03-4 and Appendix D-6.0-4 for an inventory of known locations. In accordance with the Spill Prevention Countermeasures and Control (SPCC) plan, all hydraulic equipment over 55-gallons is inspected quarterly for leaks and damage. See Appendix D-6.0-5 for most recent SPCC plan. As of October 16, 2014, there are no outstanding deficiencies are noted in the quarterly inspections.

**Building 11, East Elevator Hydraulic Oil Leak:** On March 21, 2011, an elevator problem was noted on the east side of Building 11. There was a hydraulic leak inside the cylinder that operates the elevator piston. This cylinder is approximately 30 feet in length and located in a shaft below the elevator floor. The system was installed in the late 1970s. On April 26, 2011, a soil sample was collected from the bottom of the shaft and two wipe samples were collected from the inside and outside of the shaft and analyzed for PCBs. The results for all samples were below detection limits. During the process for cleaning up and waste characterization, the shafts were tested for PCBs with the finding of non-detect. The debris was cleared from the shaft from 25 to 40 feet deep removing 350 gallons of debris with an estimated 80 to 100 gallons of oil. A spill report was emailed to DDOE on May 20, 2011 (Appendix D-6.03-8). The final sediment sample total petroleum hydrocarbons – diesel range organics (TPH-DRO), representing residual material at the bottom of the casing, was collected from the large hose used to clean out the casing. The samples result (21,000 mg/Kg DRO) was emailed to DDOE on June 16, 2011. The physical structure of the elevator shaft precludes any further cleanup of the soil. This site constitutes a REC, and is an ECP Category 2. Remediation actions have been completed.

## **SUPPLEMENTAL ENVIRONMENTAL PROJECT**

WRAMC entered into a Consent Agreement, Docket No. RCRA-03-2002-0123, with the EPA in April 2002 which required payment of a civil penalty and installation of a central monitoring system (CMS) for the storage tanks at the WRAMC Main Post and the Forest Glen Annex in Maryland. The command and control of the Forest Glen Annex was transferred to Fort Detrick in 2009. WRAMC completed the CMS installation at both Main Post and Forest Glen in January 2003. The system was to operate for not less than 10 years after installation. In December 2013, WRAMC requested a letter of remittance and closure of the consent agreement. The EPA granted closure on March 11, 2014. See Appendix D-6.02-33 for closure documentation, EPA concurrence, the consent agreement and complete SEP (including all addendums). WRAMC will continue to comply with applicable UST and AST regulations.

## **TANK COMPLIANCE**

WRAMC continues to be in compliance with all leak detection and inspections required for all tanks. See Table 6.02-2 below for currently used leak detection methods for remaining tanks. The current Automatic Tank Gauging (ATG) system is a CMS, manufactured by Omtex. The CMS undergoes quarterly certification. The CMS includes data for: water level; interstitial monitoring; Volumetric Leak Detection (VLD), product level, and temperature.

Table 6.02-2: Leak Detection Methods

Tank Systems	Release Detection Methods
AST Systems: 1W, 15-Belly tank, 16-Gas, 54, 90	<ul style="list-style-type: none"> <li>- ATG</li> <li>- Weekly Manual Gauging</li> <li>- Monthly Inspections</li> </ul>
AST Systems: 7, 12, 14, 15 Day tank 20, 32, 83, T-2	<ul style="list-style-type: none"> <li>- Weekly Manual Gauging</li> <li>- Monthly Inspections</li> </ul>
UST Systems: 4, 54- East, 54 - West	<ul style="list-style-type: none"> <li>- ATG</li> <li>- Daily CMS Measurements</li> <li>- Weekly VLD</li> <li>- Weekly Manual Gauging</li> <li>- Monthly Inspections</li> </ul>
UST Systems: 400K- Tank 1 and 2	<ul style="list-style-type: none"> <li>- ATG</li> <li>- Daily CMS Measurements</li> <li>- Bi-monthly Cathodic Protection test</li> <li>- Monthly Third Party Statistical Inventory Reconciliation (SIR) Reports</li> <li>- Monthly Inspections</li> </ul>

## INSPECTIONS AND COMPLIANCE REPORTS

**External Inspections:** During 2013, DDOE inspected WRAMC's tank program. No issues were noted.

**Monthly tank inspections:** Every month all ASTs and USTs are inspected for leaks, proper spill equipment, ATG system functionality and overall condition issues. Deficiencies are noted and addressed on an as needed basis. As of January 21, 2015 all outstanding deficiencies have been addressed.

**Monthly Statistical Inventory Reconciliation (SIRs) (for 400k's only):** Daily product level data is evaluated by a third party to ensure that there is no loss in product. As of January 21, 2015, all SIRs have passed.

**Bi-monthly Cathodic Protection testing for (400K only):** Every other month, WRAMC is required to test the cathodic protection equipment for the 400K USTs. As of January 21, 2015, the voltage and current outputs were measured at the rectifier, and the readings indicate that the unit is functioning properly.

**CMS Quarterly Certification:** Every quarter, the CMS is inspected and certified. As of January 21, 2015 the only current deficiency is at the tank-pit monitoring

wells. The probe sensors are malfunctioning. WRAMC is currently developing a mitigation plan for these issues. See table above for associated tank systems.

## **FUTURE CLOSURE TASKS**

**Building 1, Tank Vapor Monitoring Well:** A 500-gallon UST was removed from the south side of Building 1 in 1997. The tank was used to store kerosene for a generator. The tank vapor monitoring well was not abandoned properly. This will be completed 2015.

**Building 4, 3,000-gallon (MP-27) UST and 100-gallon AST:** The 3,000-gallon UST and 100-gallon AST at Building 4 is used to store diesel fuel for the back-up emergency generator serving Building 4. The generator is no longer operable, and therefore the UST is no longer required. The tank system will be removed in accordance with applicable DC regulations in early 2015.

## **6.03 HAZARDOUS SUBSTANCES**

There is one REC associated with hazardous substances: Building 11, East Elevator Hydraulic Oil Leak, as ECP Category 2. See details in this section below. This REC was not identified in the 2006 ECP.

### **SEP INFORMATION**

The 2006 ECP states that WRAMC tracks hazardous substances on the property through the use of an electric database [Hazardous Substances Management System (HSMS) or Hazardous Material Management System (HMMS)]. In 2007, the EPA closed this SEP agreement and relieved WRAMC from the requirement to use an electronic hazardous material tracking database. A copy of the EPA letter is included as Appendix D-6.03-1.

### **GENERAL INFORMATION**

**Current Locations:** The majority of the collection, consolidation, and removal/disposal of excess hazardous substances were completed in September 2012. Hazardous substances are used for: maintenance of mechanical equipment; touch-up painting; and operation of the boiler plant, chiller plants and cooling towers. Unusable chemicals have been removed from utility spaces and consolidated in Building 92 for disposal. The current storage locations of hazardous substances are: Building 15 (shop area and boiler chemical feed), Building 48 (chiller and cooling tower chemical feed, refrigerants), Building 54 (cooling tower chemicals), Building 20 (cooling tower chemicals), Building 16 (propane cylinders and pesticides) and Building 82 (propane cylinders). All chemicals are stored in accordance with applicable regulations. These locations

are inspected on a weekly basis. As of October 14, 2014, no issues have been noted. There is no evidence of releases from these areas.

**Tier II Reporting:** See Appendix D-6.03-2 for the Tier II report completed for CY 2013. This is an inventory of the chemicals that are stored in large quantities on site. This report is submitted to the DC emergency agencies.

## **AZIDE COMPOUND INFORMATION**

**Buildings 2, 7 and 54 –Azide compounds:** Sodium Azide is a common chemical preservative found in medical diagnostic products and used in automatic blood cell counters. The presence of azide compounds, not solely sodium azide, may remain in piping within Building's 2, 7, and 54. These are shock sensitive compounds when associated with metal sink traps. Sodium azide reacts with copper, lead, brass or solder in the plumbing system to form lead and/or copper azide, known explosive hazards. None of the plumbing systems were sampled for azide compounds. However, some of the traps were removed from Building 2 (see completed closure tasks in this section for more information). The traps in Building 7 will be removed in early 2015. The traps in Building 54 have not been removed. Before any demolition project, extensive renovation and/or removal of piping is performed, the metal sink traps should be removed, tested for the presence of azide compounds, and disposed of appropriately. See each Building's Phase II in Appendices D-6.17-4, D-6.17-5 and D-6.17-6 for additional information.

## **COMPLETED CLOSURE TASKS**

**Buildings 2 and 7, External Oxygen and Nitrogen Tanks and Internal Line Purge:** On February 16, 2012, the Army conducted a system purge of the oxygen and nitrogen tanks located on the exterior of the hospital building. Building 2 and 7's interior oxygen and nitrogen distribution piping was purged using compressed air in January 2012. There was no evidence of a release. No further actions required.

**Building 49, Cooling Tower Chemicals:** Building 49 tanks containing cooling tower operation chemicals were removed in 2013. There was no evidence of a release. No further actions required.

**Building 2, Azide Neutralization:** At the request of the DCLRA, the caretaker staff neutralized and removed 21 metal traps that potentially contained azides in February 2014. The traps were neutralized using a 10% sodium hydroxide solution. The solution was poured into the traps. The solution had a contact time of over 24 hours to allow for adequate neutralization. Once the traps were removed, the residual fluid was containerized and analyzed for semi-volatiles, volatiles, mercury, TCLP metals, ignitability and pH (See Appendix D-6.03-6). All

residual wastes were consumed during the analytical process. The locations of the selected traps were based on prior use and hazardous waste streams. See Table 6.03-2 below for the locations traps that were neutralized and removed from Building 2.

Table 6.03-2: Metal traps removed from Building 2

Room	#Traps	Room	#Traps
1J68	1	2B56	1
1J71	1	4305	1
1J36	1	4315A	1
1J32	1	4F44	1
1J23	1	4F49	1
1J24	1	4F35	1
1J27	1	4F21	1
1J08	1	4F09	1
2B26	2	4902	1
2B54	2		

**Building 2, Conveyor Belt System:** In Building 2, on the interstitial between the 3<sup>rd</sup> and 4<sup>th</sup> floor (level 3.5), the caretaker staff located a lubricating system (Lubecon), which had a 30-gallon container for hydraulic oil. This system was used to keep the pharmacy's conveyor belt system lubricated. The container and its contents were removed in 2014. There was no evidence of a release. No further actions required.

## **FUTURE CLOSURE TASKS**

**Building 20 – Cooling Tower Chemicals:** Building 20 has 3 tanks containing cooling tower operation chemicals. These tanks are double-walled plastic. The chemicals will be removed in 2014/2015. There is no evidence of a release. Once these are removed, there will be no further actions.

**Building 54 – Cooling Tower Chemicals:** Building 54 has 3 (one 100-gallon and two 75 -gallon) tanks containing cooling tower operation chemicals. These tanks are double-walled plastic. The chemicals will be removed in 2014/2015. There is no evidence of a release. Once these are removed, there will be no further actions.

**Building 54, Brine tank and Chemicals:** These chemicals and brine tank were part of an water treatment system for animal studies while WRAMC was operational. The system is no longer serviceable, but the brine tank remains in the mechanical space above room N6000. The chemicals for this system will be removed in 2014/2015. There is no evidence of a release, and no further actions required.

## **CONDITIONS AND INVENTORIES NOT OTHERWISE ADDRESSED**

**Remaining Hazardous Substances:** See Appendix D-6.03-7 and Appendix D-6.0-4 for all locations with remaining hazardous substances.

### **6.04 RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) / HAZARDOUS WASTE (HW)**

There are two RECs associated with RCRA/HW: Former Greenhouses east of Building 83, and cadmium detection near Building 20. The 2006 previously identified the cadmium as a REC, and the site related Building 83 is newly identified. Both RECs are an ECP category 4. See details in this section below.

#### **GENERAL INFORMATION**

**Permit:** WRAMC operates a RCRA HW program under EPA ID No. DC4210021156. In July 2012, WRAMC changed its operational status from “large” to “small” quantity generator (Appendix D-6.04-1). DDOE was notified of this change. The change was due to the significant reduction in HW generation following base closure and initial post-closure clearing of wastes. Prior to closure, there were six Central Accumulation Areas (CAA) and numerous Satellite Accumulation Areas (SAAs) throughout the installation that were managed IAW federal and DC regulations. All HW within the SAAs and CAAs were consolidated into the main HW storage, “HW Bunker” area in Building 54.

**Current status and HW locations:** In July 2012, the HW storage area, “HW Bunker”, was moved from Building 54 to Building 92, in anticipation of the transfer of Building 54 to the Department of State (DOS). WRAMC currently maintains three non-regulated waste storage areas: Building 15 (boiler chemical storage room), Building 48 and Building 2 (former hospital central material sterilization) under its RCRA HW program. There is no evidence of releases from these areas.

**Inspections and Violations:** WRAMC received a Notice of Infraction (NOI) in December 2008 from the DDOE Hazardous Materials Branch as a result of a March 2008 WRAMC-wide RCRA inspection. The NOI was for an unlabeled bucket of used oil near a maintenance trailer at Building 2 (see Appendix D-6.04-2). WRAMC immediately labeled the bucket “used oil” and implemented a system of additional training and inspections of facility maintenance work areas to prevent recurrence. Subsequent HW inspections in 2009, 2010 and 2013 by DDOE resulted in no deficiencies or violations.

**Reporting:** The last required RCRA Hazardous Waste Biennial report submitted in July 2012 is in Appendix D-6.04-3. See Table 6.04-1 below of for the summary of hazardous wastes generated and disposed of in 2011 from the biennial report.

Table 6.04-1: Generated Hazardous Waste Summary

Waste Code	Waste Description	Amount Generated in 2011 (pounds)
F003, D001, F005, D002	Used/Spent solvent & Solvent mixture/blends, Non-halogenated	5,454
D004	Used/Spent Acid Solutions (pH=2 or lower)	883
D002	Used/Spent caustic solutions (pH = 12.5 or higher)	52
D001	Use/Spent Alcohols (excludes "F" listed)	686
D001, D022, D004, D011, D002	Laboratory Analytical Wastes, Flammable or Ignitable	1,588
D009, D011, D008, D004, D007, D022	Laboratory Analytical Wastes, Toxic (D004-D043), Not otherwise classified	1,192
P087, P105	Laboratory Analytical Wastes, "P" listed	14
D001, D002, D007, D038, D018, D008	Discarded/Expired Commercial Chemicals, Ignitable	2,683
D002, D007	Discarded/Expired Commercial Chemicals, Corrosive, Acidic (pH=2 or lower)	1,302
D002, D001, D004	Discarded Commercial Chemicals, Caustic (pH 12.5 or higher)	513
D001, D011, D007	Discarded Commercial Chemicals, Oxidizers	239
D002, D005, D006, D007, D008, D026, D004, D018, D011, D022, D009, D010	Discarded/Expired Commercial Chemicals, Toxic (D004 – D043)	2,329
U058, U010, U007, U220, U188, U201, U211, U236, U031, U154, U122, U003, U196, U151, U044, U162	Discarded/Expired Commercial Chemicals, "U" Listed	1,988
P001, P070, P087, P105, P012, P042, P098, P050, P010, D004, P003, P108	Discarded/Expired Commercial Chemicals "P" Listed	47
D001, D002, D003	Discarded/Expired Commercial Chemicals, Reactive	232
D002, D008	Lead-Acid Batteries, (Damaged)	125
DC00	PCBs (Includes light ballast)	607
D009	Fluorescent Lamps, Mercury Lamps (Damaged)	66
U162, D001, D008, U122, D018	Site Remediation/Spill Clean-up (Lead paint chips, oil spill clean-up, etc.)	1,190
DC00	Used/Off Spec Oil	1,763
D001, D008	Paint and Paint Related Items, Regulated	195
D001	Aerosols, Regulated	314
DC00	Universal Waste: Spent Lead Acid Batteries	6,508

Waste Code	Waste Description	Amount Generated in 2011 (pounds)
DC00	Universal Waste: Spent Nickel Magnesium Hydride Batteries	10
DC00	Universal Waste: Fluorescent light tubes/Mercury Vapor Lamps, HID Bulbs	4,223
DC00	Universal Waste: Mercury Thermostats, Etc.	23
DC00	Universal Waste: Spent Nickel/Cadmium Batteries	170
DC00	Universal Waste: Spent Lithium Batteries	97
D002	Waste, Nitric Acid other than Red Fuming, with not more than 20% Nitric Acid mixture, limited Quantity Radioactive	5

Table 6.04-2 below depicts the amounts of waste shipped since site closure.

Table 6.04-2: Amounts of Hazardous Waste

Shipment dates	Total Amount Shipped (Pounds)	Hazardous Waste Only (Pounds)
October 12, 2011	1,247	694
October 26, 2011	2,259	849
November 9, 2011	1,568	535
November 23, 2011	1,249	226
December 7, 2011	1,579	294
December 21, 2011	1,115	59
March 28, 2012	5,900	695
May 28, 2012	1,254	410
October 16, 2012	8,645	489
March 29, 2013	2,565	737
October 8, 2013	3,571	128
May 21, 2014	4,008	492

## COMPLETED CLOSURE TASKS

**Site ID: 5(4) HS/HR: Cadmium detected near Building 20:** Detection of cadmium contamination during installation restoration sampling in 1991. Site closed and re-sampled in 1992. Cadmium was not detected. No changes. This REC remains an ECP category 4. See page 4 of the 2006 ECP for more details.

**Former Greenhouses East of Building 83 (Buildings 50, 51 and 86):** Two of the three greenhouses (Buildings 50 and 51) were built in the 1920's. The third greenhouse was donated to Walter Reed in 1943. These structures were located in the area of the Building 83 expansion. The structures were taken out of service in 1996 and demolished in 1998. Asbestos containing materials associated with piping insulation and transite planting beds were remediated in 1997.

Contaminated soils (DDT) were also excavated and removed from the property in 1997. Currently, only physical records are available. See Section 6.20. Document Control for more information. This site constitutes a REC, and is an ECP Category 4. All remediation activities have been completed.

**Vile Eater (Building 2, 9 ½ Floor):** WRAMC was a “center of excellence” for Thin-Prep testing and therefore received samples from a large geographic area. To process the large number of Thin-Prep sample containers, the hospital purchased the “Vile Eater”. This system crushed the plastic sample containers, destroyed confidential patient information and collected the alcohol for disposal as a hazardous waste through the WRAMC bunker. This system was removed in 2012 for reuse at another facility. There were known no releases associated with this piece of equipment. No further actions required.

**Solvent Recycling Center (Building 54, Armed Forces Institute of Pathology (AFIP) Bunker):** AFIP operated a solvent recycling center in their hazardous waste storage bunker area. The center had 4 stills that were used to clean-up alcohol, formalin, and xylene for reuse in the laboratories. The still bottoms were handled and disposed of as hazardous waste. The stills were removed. There were no known releases.

**Building 40 Baghouse:** A baghouse is located near the exterior wall, south of Building 40. This system served the Walter Reed Army Institute of Research (WRAIR) carpentry shop. The bag contents resembled sawdust. The only potential contaminant of concern associated with this type of operation would be lead, which could be generated if wood painted with lead-based paint was cut. The waste was analyzed by toxic chemical leaching procedure (TCLP) for lead. The result of the analysis was 0.23 mg/L (See Appendix D-6.04-4). As such, this waste is not hazardous and was left in place. There were no releases from this equipment, and no further actions required.

## **FUTURE CLOSURE TASKS**

**Building 2, Baghouses:** Near the loading dock in the trans-vac area of Building 2, there are three baghouses which were used to collect solids from the exhaust from the hospital laundry and garbage chutes. The two smaller baghouses (Tubular Bag Separator, Spencer Turbine Co.), along the wall, were the original collection system. Each of the smaller baghouses had solids collection drums. One drum was inspected and found to be approximately 30% full. The solids were analyzed by TCLP for RCRA metals. The results indicate an elevated level of cadmium (appendix D-6.04-5). The caretaker staff is currently looking into options of how to clean and remove the debris.

The larger baghouse (Flex-Kleen) is located in the trans-vac area, adjacent to the former vile-eater location mentioned above. It is a large tank looking metal structure with a tapered bottom. There is an open door midway down the tank

from where the bags inside can be seen. According to the control panel, this system served the laundry and garbage chutes as a solids collection system. According to individuals that worked in Building 2 when the system was in operation, it was inspected monthly and cleaned out approximately every 6 months. This baghouse replaced the aforementioned two smaller baghouses. The system was apparently shutdown in 2007. Several bags in the larger baghouse were opened and found to be empty. There have been no releases into the environment.

**Building 16 Former Incinerator:** Building 16 was historically used as an incinerator for wastes generated at Walter Reed. The incinerator was in operation beginning in approximately 1920 until it was shutdown, sometime between 1958 and 1968. The Office of the Armed Forces Medical Examiner inspected the incinerator in November 2014. The health physics team found levels of radiation above background (but not above action levels) and took samples to determine if the source is the bricks themselves. Given the date of construction, the construction materials (the bricks) may also contain elevated levels of hazardous substances such as chromium. There is some concern about the structural integrity of the furnace. The debris inside the furnace is likely the result of degrading mortar collapsing from the furnace structure. Closest soil samples (collected during the installation of MW-5) indicate that levels of chromium are below the DDOE maximum contaminate screening levels. There have been no apparent releases. This does not constitute a REC, and is ECP Category 1

## **CONDITIONS AND INVENTORIES NOT OTHERWISE ADDRESSED**

**Uninterrupted Power Supply (UPS) System:** Several UPS Systems still remain at WRAMC. They typically contain lead acid batteries, which are considered a hazardous substance. If they are not removed to be reused, they will remain in place. See Appendix D-6.04-6 and Appendix D-6.0-4 for an inventory of known locations.

### **6.05 SANITARY SEWER AND WASTEWATER - DC WATER PERMIT**

There are no RECs associated with the Sanitary Sewer and Wastewater program.

#### **PERMIT INFORMATION**

As indicated in the 2006 ECP, WRAMC had a wastewater discharge permit issued by DC Wastewater and Sewer Authority (WASA) (currently known as DC Water). This permit was revised on January 8, 2007 (Permit #045-5, Revision 1) to reflect updated discharge standards and a reduction in mercury monitoring frequency from quarterly to semi-annually. This permit expired on November 30, 2007. A new permit (No. 045-6) from WASA was issued on December 1, 2007. WRAMC was in compliance with this permit through April 2009.

Effective March 1, 2010, DC WASA revised the discharge permit to require WRAMC to conduct monthly mercury monitoring at the compliance manhole (MH), MH40. The location of the compliance manhole is on the parcel labeled as "Surplus Federal Property" on Figure 1; however, the sanitary lines discharging into that point are largely north of Dalia Street, extending from Buildings 2 and 54.

**Permit Closure:** Due to closure in 2011, DC WATER conducted a pretreatment close-out inspection on July 22, 2011 and found the installation to be in compliance with the permit. Based on the inspection and the base closure on September 15, 2011, DC WATER granted WRAMC's request to terminate the permit (Appendix D-6.05-1). WRAMC also requested and was granted a variance (increase) in the DC WATER maximum wastewater pH requirement from 10 to 12.5 for boiler blowdown (Appendix D-6.05-2).

**Permit Violation and Wastewater Mercury Contamination Study (Buildings 2 and 54):** Self-monitoring wastewater samples taken from manhole #40 (MH40) on April 23, 2009 and December 16, 2009 exceeded the allowable mercury concentration of less than 1 part per billion (<1ug/L). Confirmatory re-sampling taken on December 22, 2009 and January 21, 2010 also resulted in samples that exceeded the limit for mercury. WRAMC self-reported these results to DC WASA and immediately enacted a source investigation. DC WASA issued NOV's, and ultimately a NOI and Administrative Order (AO) on March 30, 2010 (see Appendix D-6.05-3). The AO directed WRAMC to implement the investigation study to identify and eliminate the source(s) of mercury in its wastewater discharge. WRAMC was in full compliance with the phases and deadlines outlined in the AO.

In 2010, an extensive study was completed by the U.S Army Public Health Command (PHC) to determine the source of mercury in the wastewater stream. The violations were caused by personnel inadvertently pouring a mercury containing compound to the sanitary sewer (Appendix D-6.05-4) and impacts from historical discharges.

## **PREVENTION OF SEWER GAS RELEASE**

As activities decreased in buildings, the potential of sewer gas release from dry sanitary sewer p-traps increased. To prevent p-trap drying in active buildings, water is placed in the traps by flushing a toilette and running water in sinks during scheduled building inspections. For inactive or closed buildings that have had the water lines drained (Buildings 2, 2a, 5, 6, 20, 55, 56, 88, T-2, and T-20), the traps are filled with propylene glycol to prevent evaporation and drying. Propylene glycol was not used Building 18 because it was decommissioned before this process was approved. Building 14 will be decommissioned by the end of 2014. The placement of this material was approved by DC Water, by email dated October 12, 2012 (Appendix D-6.05-5). See Table 6.05-1 below for amounts of propylene glycol used per building and the timeframe the traps were filled.

Table 6.05-1: Gallons of Propylene Glycol Used per Building

Building	Gallons Used	Timeframe Completed
2/2a/5	170	February 2014
6	7.5	August 2014
20	15	August 2014
52*	5	March 2013
53*	5	March 2013
55	5	June 2014
56	5	June 2014
88	4	February 2013
T-2	8	April 2014
T-20	4	February 2013

\*Building 52 and 53 were temporarily decommissioned due to a steam line repair. These buildings will be brought back on-line by the end of 2014.

## REMAINING PRETREATMENT SYSTEMS AND COMPLETED CLOSURE TASKS

Various types of wastewater pretreatment systems were utilized at WRAMC. See below for descriptions and their status.

**Grease Traps (Buildings 1, 2 and 20):** Four grease traps removed cooking grease from the wastewater before it entered the sanitary sewer. They were located at Building 20, Building 1 (under the former Burger King – B-wing/Building 1E), and Building 2 (back loading dock and in the interstitial floor below the cafeteria). All grease traps, except the one in the interstitial, were cleaned following cessation of food preparation in September 2011. The interstitial grease trap has been in place for years and was never cleaned out. It obviously did not receive greasy wastewater.

**Sediment Traps (Building 2):** Three areas of the hospital had portable (5-gallons container) sediment traps located under sinks: 1D (dental), 3H (prosthetics) and 5A (cast labs). A total of 13 traps were removed and the sediment characterized for disposal by TCLP on September 3, 2012 (see Appendix D-6.05-6). The waste was non-hazardous. The connections to the sanitary sewer were plugged after the traps were removed.

**Kill Tanks (Building 54):** Building 54 has three stainless steel “kill tanks” in the basement. These tanks were used to disinfect wastewater from biological safety levels (BSL)-3 labs and certain animal testing rooms. Disinfection was accomplished using steam and pressure. Two older “kill tanks” were removed in December 2011 (Appendix D-6.05-7).

**Oil/Water Separators (Buildings 2, 82 and 400K Tank Vault):** There are three oil/water separators on post. The oil/water separator at Building 82 (former auto-skills shop) was originally installed to pre-treat wastewater from a proposed car wash. The car wash concept was never implemented. After all car maintenance activities were terminated, the sediment tank and the separator with associated

side storage tank were cleaned on August 3, 2011. The bay drains and sediment tank portion of the system were sealed. The second separator is located on the 9 ½ floor of Building 2, and was used to remove hydraulic oil that leaked from garbage compactors to the floor drains. The compactors and hydraulic tanks were removed. The separator was inspected on April 10, 2013 and found to have no residual oil. The third separator is a cylindrical shaped unit, located in the vault associated with the 400,000-gallon USTs. This separator was used to remove oil from tank dewatering and was disconnected and abandoned in place. The oil contained with the abandoned separator was removed in May 2013. No further actions required.

**Silver Recovery Systems for Wet Chemistry Film/X-ray Developers**

**(Buildings 2 and 54):** During full operation, there were as many as seven developer systems in the hospital and 10 such systems in Building 54. The systems developed film and x-rays using wet chemistry. By facility closure, in September 2011, all systems, except one, had been converted from wet chemistry film development to digital film processing. The wet chemistry film developers and silver recovery systems were removed from the buildings prior to base closure. There is one remaining wet chemistry developer in Building 2 in Room 1H18. The chemicals were drained from the machine, and disposed of appropriately. No further actions required.

**Amalgam Traps (Building 2):** The dental chairs in the 1D corridor (former dental area) had built-in amalgam traps (fine screens) to collect fillings. The trapped fillings were removed by dental technicians weekly and the material turned in for recycling. All dental chairs and associated traps have been removed from the area. The chair drain pipes have been filled. No further actions required.

**CONDITIONS AND INVENTORIES NOT OTHERWISE ADDRESSED**

**Inventory of Known Locations:** See Appendix D-6.05-8 and Appendix D-6.0-4 inventory for all known water treatment systems. Potable water system filters have not been removed. There have been no known releases from these locations.

**6.06 STORM SEWER AND WASTEWATER - NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT**

There are no RECs associated with Storm sewer and wastewater systems

**GENERAL INFORMATION**

The 2006 ECP stated that non-contact cooling water was discharged from Building 2 into the storm sewer at estimated flow of 20,000 to 30,000 gallons per day. The EPA issued a National Pollution Discharge Elimination System (NPDES) Permit, DC0000361, for this discharge, effective August 1, 2008.

The permit required WRAMC to submit quarterly and semi-annual Discharge Monitoring Reports (DMRs). The DMRs included samples collected from storm sewer manholes 166 and 167 and analyzed for parameters, including total residual chlorine (TRC). Table 6.06-1 identifies permit limit exceedances of greater than 0.10 mg/L TRC levels along with the contaminant sources since 2010.

Table 6.06-1: Permit Limit Exceedances

Period	Value (mg/L)	Source
3 <sup>rd</sup> quarter 2008 4 <sup>th</sup> quarter 2008 1 <sup>st</sup> quarter 2009	> 0.1	Discharges from AFIP (Building 54). In April 2009, rerouted all Building 2 discharges to the sanitary sewer by permanently diverting a storm sewer pump station on the 9 ½ floor of Building 2 into a sanitary sewer pump station.
1 <sup>st</sup> quarter 2010	0.17	Overflow from a cooling tower at AFIP that discharged into a storm sewer. Cooling tower discharge was temporarily routed to sanitary sewer. See below in Wastewater Systems section for more details.
2 <sup>nd</sup> quarter 2010	1.2	Discharging hoses attached to hot water valves that were connected to storm sewer lines on the 4 ½ floor of the hospital.
3 <sup>rd</sup> quarter 2010	0.10	Leaking water line.
3 <sup>rd</sup> quarter 2011	0.30	Broken coil in an air handler drained to the storm sewer.
2 <sup>nd</sup> quarter 2012	0.10	Occurred during DC Fire training exercises during which they discharged potable water to the storm sewer.
4 <sup>th</sup> quarter 2012	0.18	Failed back flow prevention device on makeup water to a heat exchanger.
3 <sup>rd</sup> quarter 2013	0.40	Broken valve on the make-up water system
4 <sup>th</sup> quarter 2014	0.17	Decommissioning of Building 2

**Permit Closure:** In early 2014, Building 2 was completely shut down. All utilities (except basement sump-pumps), including power and water were shut off to Building 2. The EPA subsequently terminated the permit. The final DMR was submitted on March 31, 2014 (Appendix D-6.06-1). See Appendix D-6.06-2 for termination request and concurrence documentation.

## REMAINING WASTEWATER SYSTEMS AND COMPLETED CLOSURE TASKS

**400K UST Vault Sump Pumps:** In July 2009, the DPW rerouted a discharge from the sumps of the 400K tanks to the sanitary sewer. WRAMC determined the groundwater was seeping into the vault area where the 400K tanks are located. This water is currently pumped out on a regular basis and discharged to the sanitary sewer. The pump acts as an oil/water separator for the contained water.

**Building 15 Condensate Receiver Tank:** While conducting a routine self-inspection in December 2009, the WRAMC identified an additional discharge into a storm sewer from a condensate receiver tank in Building 15. WRAMC immediately notified the EPA and DDOE and arranged for samples to be taken of

the discharge. No analysis constituents were found above regulatory thresholds. The discharge was rerouted into the sanitary sewer in 2010.

**Building 54 (AFIP), Cooling Tower:** Chlorine testing/surveys of the storm sewer system were conducted in January 2009 in order to determine potential chlorine sources. One of those surveys found that the cooling tower blowdown at Building 54 discharged to the storm sewer. As an interim measure, Building 54 personnel installed a surface pipe (fire hose) to divert the discharge to the sanitary sewer. Upon base closure, the cooling tower was taken out of service and the temporary line removed. Before the tower is placed back in service, the discharge would have to be permanently connected to the sanitary sewer or permitted under the NPDES program.

**Storm Water Treatment/Retention Systems (Buildings 2A and 6):** The site has two storm water treatment/retention systems that were installed at newly constructed buildings (2A and 6). Historically, the systems were cleaned annually.

**Building 15 West Steam Tunnel Temporary Discharge Authorization (TDA) permit:** Traces of #6 fuel oil was observed in the steam tunnel located under the south end of Building 15. Small areas of stained concrete and occasionally seeps of # 6 oil and/or sheen on water accumulating in the sump at the lower end of the tunnel have been noted. Water that accumulates in the tunnel is currently discharged to sanitary sewer after oil/water separation under TDA# 0513-94. Samples of the water have been collected as part of the Temporary Discharge Authorization. Analysis of the water has indicated trace levels of PCBs (maximum concentration of 0.0000445 micrograms per liter). The steam tunnel is located below the floor level of the building and is not regularly occupied. It is entered by maintenance personnel as needed. The TDA expires in February 2015 (appendix D-6.06-3).

## **CONDITIONS AND INVENTORIES NOT OTHERWISE ADDRESSED**

**Coal Tar Sealant Inspection:** In September 2013, DDOE – Storm Water Division tested and inspected all of the property's parking lots and driveways to determine whether a coal tar sealant product was used to sealcoat any of these surfaces. Coal tar sealants have been banned in the District since July 1, 2009 due to the fact that they contain high levels polyaromatic hydrocarbons (PAHs), a suspected carcinogen and highly toxic chemical with known harmful impacts on humans and animals. Several samples were taken, and all results were negative for Coal Tar sealants. See Appendix D-6.06-4 for email notification from DDOE.

### **6.07 DRINKING WATER**

There are no RECs associated with the drinking water program.

## **GENERAL INFORMATION**

WRAMC is in compliance with requirements of the Safe Drinking Water Act (SDWA). Prior to closure, WRAMC performed voluntary potable water sampling and analyzed for lead and copper concentrations, comparing the results to the EPA drinking water action levels. In 2008, WRAMC sampled 100 drinking water fountains located throughout Buildings 2, 11, 12 and 14 for lead and copper concentrations. All analytical results were below EPA action levels. These buildings were selected for testing because of their age. No other areas of interest were identified in the course of drinking water surveys.

In January, May, July, and November 2009, samples at eight existing and proposed drinking water fountain locations in building 54 showed elevated levels of lead and copper. Facility maintenance for Building 54 flushed the lines and installed a filtration system. Subsequent sampling results comply with drinking water standards for bacteria, lead and copper. Any of the fountains in Building 2 that has elevated lead levels were either taken out of service or had lead filters installed.

After facility closure in 2011, the only provision of the SDWA applicable to WRAMC is associated with the Cross Connection Control Program. Under this program, known backflow prevention devices (BFPDs) are tested annually and repaired as required. Due to the number of devices, the testing is phased with semi-annual report submittals to DC Water.

## **BFPD INFORMATION**

**BFPDs in Decommissioned Buildings (Buildings 2, 2a, 5, 18, 20, 88, T-2, and T-20):** As part of the decommissioning process, waterlines have been drained. According to cross connection control requirements, when BFPDs are no longer in use, they must be physically removed from the water lines. Building 6 and Building 14 will be decommissioned in early 2015. See Appendix D-6.07-1 for an inventory of currently tested locations.

## **REMAINING DRINKING WATER TREATMENT SYSTEMS**

**Old Water Tank, Building 54:** There is a large water tank that was associated with the Old “kill tanks”. After the water left the “kill tanks”, it went through a non-contact cooling process. This tank apparently held the cooling water until it was discharged into the sanitary system. To prevent future use, a large hole was cut into the side of the tank. There is no evidence of a release from this system.

**Animal Drinking Water Treatment System (Building 54):** The laboratory animals required specially treated drinking water generator by reverse osmosis, chlorination and acidification processes. The system is located in Room S5308 and has two 10-gallon plastic feed tanks (sulfuric acid and chlorox). The tanks

will be disconnected and the liquids removed for proper disposal in 2015. There is no evidence of a release from this system.

## **CONDITIONS AND INVENTORIES NOT OTHERWISE ADDRESSED**

### **Water Treatment Canisters/Cylinders (Throughout the Post) Locations:**

Locations throughout the property have water pretreatment canisters/cylinders with media to soften or otherwise condition/clean water for downstream uses. These locations include dining facilities, dental offices, etc. These canisters/cylinders will be left in place. See Appendix D-6.07-2 and Appendix D-6.0-4 for an inventory of known locations.

**BFPDs:** Due to the complexity, age of the site, and lack of documentation, some BFPDs may not be captured and tested. As information becomes available, the BFPD inventory is adjusted.

## **6.08 POLYCHLORINATED BIPHENYLS (PCB)**

There are 4 RECs associated with PCBs. The 2006 ECP identified 3 of the 4 RECs. This ECP update identified one additional REC. All RECs in this section have an ECP category 4. See below for more details.

### **UPDATED RECS IDENTIFIED IN THE 2006 ECP:**

**Building 3, PCB-impacted subsurface (Site ID: 4(4)HS/HR):** The former underground transformer vault near the Rumbaugh Garage (IPR site WRAMC-06) had PCB contamination in soil and low levels of PCB in groundwater. Following remediation via excavation, a period of groundwater monitoring and submittal of a risk assessment, the USEPA issued a No Further Action in August 2006. A use restriction is required to be listed on the property deed to address the residual PCB impact as an institutional control. The monitoring wells were closed in 2007 (Appendix D-6.08-1). This site constitutes a REC, but has no further actions required.

**Building 40, Transformer Vault (Site ID: 6(5)HS/HR):** WRAMC remediated the PCB contaminated soil around the two adjacent transformer vaults north of Building 40 in January 2007. The PCB target soil clean-up level of 25 parts per million (ppm) was achieved, and PCB remediation was completed. To determine if there was any groundwater contamination associated with the transformer vaults, PHC installed three monitoring wells near the transformer pads in June 2010. The wells underwent 3 sampling events. The results of the study showed that there was no PCB contamination in the groundwater. The results are contained in Appendix D-6.08-2. In April 2012, the wells were appropriately abandoned/closed. A well closure report, including D.C. well abandonment forms, was submitted to DDOE on May 11, 2012 (Appendix D-6.08-3). No further actions required.

**Building 1, near Manhole (MH) 29 and MH 14, Transformer explosion (Site ID ECP: 7(7)HS/HR):** MH 29 is located near the southwest corner of building 1, immediately south of the building and north of Main Drive. The transformers vaults are also referred to as MH #13 and MH #14.

A removal action occurred from November 1992 through August 1993, and excavated at least 4,200 cubic feet of soil. Soil was excavated to a depth of 1 foot below grade. An additional foot of soil was excavated, as required, based on confirmatory sampling results. The site was backfilled with clean soil and covered with sod. In 2009, a subsequent water-proofing project for Building 1, excavated soil at this site to a depth of 3-6 feet. See Appendix D-6.08-4.

A brief chronology of events and supporting documentation is as follows:

November 23, 1992: Transformer explosion occurs.

November 24, 1992: Meeting with contractor identifies remediation required to comply with EPA regulations.

November 30, 1992 to January 27, 1993: Initial soil removal (confirmatory soil samples are not available). The contractor:

- Cleaned and replaced the transformers and the vaults/manholes.
- Removed over 40 drums of contaminated soil and concrete from the site
- Removed contaminated soil to a depth of 1 foot
- Obtained 36 soil samples in a grid of the remaining area
- Backfilled with clean soil and covered with sod
- Conducted subsequent soil removal. Based on the soil sample results after the initial removal action, the contractor was directed to remove 75 square feet to a depth of two feet and 207 square feet to a depth of one foot. A total of 12 post excavation samples and 3 wipes of the tree trunk were collected.

In 2009, when Building 1 was being water-proofed, soil adjacent to the building (approximately 10-30 feet from the transformer vaults) was excavated 3-6 feet below grade and 5 feet out from the perimeter.

All remediation activities have been completed. This area is now considered an ECP category 4.

**Building 14, Transformer Explosion (Site ID: 8(7)HS/HR):** The 2006 ECP reference to this project is the only reference we have on file indicating an explosion at Building 14. A records review and interviews with DPW staff indicate that this reported explosion at Building 14 did not occur and no remediation is required. This 2006 ECP entry may have been an error and not related to Building 14. The transformer explosion at Building 1 was at “transformer manhole #14,” and may have been mistakenly be related to Building 14 instead. The

contractor working on WRAMC transformers at the time when this explosion reportedly occurred in 1992, kept detailed memorandums and records on transformer explosions and remedial actions. These records did not indicate an explosion at Building 14. WRAMC DPW staff who worked at WRAMC at the time were interviewed as well. They had a clear recollection of the transformer explosions and remedial actions that occurred at the time, but do not recall any explosion at Building 14. WRAMC reviewed all records received from contracting to ascertain the accuracy of this reference from the ECP. The records did not indicate an explosion at Building 14. If an explosion did occur at Building 14, it is unlikely that soils would have been contaminated with PCBs because the transformer is located on a concrete pad surrounded on two sides by asphalt and by a brick wall on the remaining two sides. Since this never occurred, this area should now be considered an ECP category 1.

## **NEWLY IDENTIFIED RECs**

**Building 40, East Side Exterior Transformer Pads (TF-15 and TF-16):** The east side of Building 40 has two concrete pads (north and south) containing a total of seven transformers. The northern pad has 4 transformers, and the southern pad has three transformers and a recessed electrical vault. The vault is a manhole with an earthen bottom.

Oil staining on both pads were noted during a transformer inspection in September 2012. Black staining also exists along the sides of the electrical vault and on the vault bottom. Vegetative impacts were noted along the edge of the northern pad. Wipe samples were collected from the stained concrete areas and analyzed for PCBs. All PCB wipe results were above the action level of 100 ug/100 cm<sup>2</sup>. Soil samples were collected along the edge of both pads and the bottom of the electrical vault and analyzed for PCBs. All but one of the soil samples were above the action level of 25 parts per million (ppm) PCBs.

The oil in each of these transformers was sampled on October 19, 2012. The PCB concentration was non-detect for all samples. The transformers were drained on November 9, 2012.

The clean-up activities were completed in July 2014. Soil was excavated to areas of non-detect or below 25 ppm PCBs. Excavation around the northern pad was approximately 4 feet deep by 7 feet wide, and the excavation around the southern pad was approximately 2 feet deep by 4 feet wide. The excavated soil was analyzed and disposed of appropriately. The solid surfaces were cleaned to be below 100 ug/100 cm<sup>2</sup>. See Appendix D-6.08-12 for closure report and final sample results. No further actions required. This site constitutes a REC with an ECP category 4.

## **RECENT PCB SAMPLING OF IN GROUND TRANSFORMER VAULTS**

WRAMC analyzes water that collects in transformer vaults for PCBs. If PCBs are present, the water is transported off-site as PCB waste. Water sample results for these instances can be seen in the documents described below. All known active transformers at WRAMC are non-PCB containing, however no analytical testing has been conducted. See Appendix D-6.08-5 for a full inventory of all transformers.

**Building 40 transformer vaults:** Rain water accumulated in the east and west transformer vaults north of Building 40 in the fall of 2009. Prior to water removal, this rainwater was tested for PCBs. Water from the east vault was non-detect for PCBs, while the water in the west vault had low PCB concentrations (Appendix D-6.08-6) and was taken off-site for disposal. In January 2010, the west vault was power washed to correct this problem. Post power-washing analysis of water has not been conducted.

**Building 11 Vault:** Water accumulated in a transformer vault outside of building 11 in late 2009 and was also analyzed for PCBs before pumping and disposal of the water. The results were non-detect for PCBs (see Appendix D-6.08-7).

**MRI Vault:** Water sample results from this vault were taken in 2009, the results had low-level PCBs and the water was therefore disposed of accordingly.

**Building 88, Transformer Vault** – On March 8, 2012, approximately 2 inches of oil was noted in the transformer vault adjacent to Building 88. The oil was sampled for PCBs on March 10. The PCB results were below detection. The transformer was taken out of service, and the vault was drained.

**Building 6, Transformer Vault** – On May 25, 2012, about a quarter of an inch of brownish oil was noted in the transformer vault. This transformer had been out of service for quite a period of time before this discovery. The vault was pumped down and power washed on September 5. The water from the vault was tested, and contained no PCBs. The transformer oil was drained in September 2012, and disposed of through the HW bunker.

## **TESTING**

The following list describes all recent testing of water in transformer vaults. If the results are non-detect for PCB's, then any storm water or ground water that collects inside the vault is pumped onto the ground. If PCBs are detected, the water is removed, and disposed of appropriately.

- Building 31: Non-detect: Tested in December 2010.
- Building 11 NE Corner: Non-detect: Tested in October 2011
- Building 40 West Vault: PCBs detected: Tested in October 2011

- Building 40 East Vault: PCBs detected: Tested in October 2011
- Building 38 (NE Corner): Non-detect: Tested in June 2012
- Building 6 (NE Corner): Non-detect: Tested in June 2012
- Building 15 (east side): Non-detect: Tested in August 2012
- Building 1 (West vault, front of Building): Non-detect: Tested in August 2012
- Building 1 (East Vault, Front of Building): PCBs detected: Tested in August 2012.

**Transformer Vault/ Pad Testing Report:** In December 2005 and January 2006, transformer areas (3 pads and 16 vaults) were sampled for PCB contamination. Dry areas were wipe sampled. For any standing liquids, surface and sub-surface water samples were collected. Table 6.08-1 below has a summary of the maximum concentrations measured for each transformer location, as contained in EA's final report (Appendix D-6.08-8). Five transformer areas (Buildings T-2, 7, 11, 14 and 15) were found to be non-detect or below lowest regulatory limits (10 ug/100 cm<sup>2</sup>) for PCBs. With the exception of the dry Building 1 vault (168 ug/100 cm<sup>2</sup>), all other areas measured using wipe samples were between 10 and 100 ug/100 cm<sup>2</sup> [Buildings 12 (TF-2), 17 (TF-6), 40 –NW (TF-15), 40-SW (TF-16), 57 (TF-10) and 88 (TF-13)]. With the exception of Building 11, noted above, the water samples yielded detectable PCBs [Buildings. 1 (TF-3)(wet), 1/2 (TF-14), 38 (TF-20), 40 (TF-9), 41(TF-11), 52/53 (TF 12), and 91/83 (TF-5)]. Following the survey, the following transformers have been drained, taken out of service and/or remediated: 40 –NW (TF-15), 40-SW (TF-16), and 88 (TF-13).

Table 6.08-1: Transformer Report Result Summary

			Wipe Samples		Water Samples	
Closest Bldg	Survey Transformer ID	Vault/ Pad	# of samples	Max, ug/100 cm <sup>2</sup>	# of samples	Max, ug/L
1	TF 3	Vault	5	168	-----	-----
1	TF 4	Vault	-----	-----	2	2.6
4/2½	TF 14	Vault	-----	-----	2	1.2
T-2	TF 17	Vault	4	< 2	-----	-----
7	TF 19	Vault	4	6	-----	-----
11	TF 7	Vault	-----	-----	2	< 1.0
12	TF 2	Vault	4	27.8	-----	-----
14	TF 18	Vault	5	< 2	-----	-----
15	TF 1	Pad	4	< 2	-----	-----
17	TF 6	Vault	4	46.6	-----	-----
38	TF 20	Vault	-----	-----	2	4.3
40	TF 8	Vault	-----	-----	0	-----
40	TF 9	Vault	-----	-----	2	125

			Wipe Samples		Water Samples	
Closest Bldg	Survey Transformer ID	Vault/ Pad	# of samples	Max, ug/100 cm <sup>2</sup>	# of samples	Max, ug/L
40 (NW)	TF 15	Pad	6	59.7	-----	-----
40 (SW)	TF 16	Pad	5	74.4	-----	-----
41	TF 11	Vault	-----	-----	2	1.3
52/53	TF 12	Vault	-----		2	5
57	TF 10	Vault	5	87.9	-----	
88	TF 13	Vault	5	12.4	-----	-----
91/83	TF 5	Vault	-----	-----	2	1.7

## CONDITIONS AND INVENTORIES NOT OTHERWISE ADDRESSED

**Building 54, Basement:** PCBs were cleaned up from the concrete floor surrounding a transformer in the basement of Building 54. Residual levels of PCBs were documented. Recommendation was made to encapsulate the floor with epoxy paint; however no further documentation was found to confirm if this area was encapsulated. Current WRAMC personnel have no further information on this incident. Although the basement floor was noted to have been painted during the Visual Site Inspection (VSI), it is unknown if this particular area was encapsulated. There is no known releases, and should be considered an ECP category 1.

**Building 40, former machine shop:** The machine shop in the basement of Building 40 had a limited area on the concrete basement floor that was cleaned and low levels of PCB are remaining. There are no known releases, and should be considered an ECP category 1.

**Building 2, Transformer Rooms:** The transformer rooms in the basement of Building 2 were inspected in June 2011. Each room contains four transformers. During the inspection, leaking transformers were noted, several of which generated stains on the concrete floors. Wipe sampling and analysis of the leaks and floor stains were conducted. The leak areas on the transformers did not have detectable PCB concentrations, but the floor staining had PCB concentrations above the action level of 100 ug/100cm<sup>2</sup>.

The leaks were fixed, and the transformers and floors were cleaned in November 2012. The floors were stripped of the existing paint to the degree practicable and

prepped for painting. Prior to the sealing of the floor with a double layer of epoxy paint, floor wipe samples were collected in the previously contaminated areas. All post-cleaning samples were found not to contain detectable PCBs (See Appendix D-6.08-10). See Appendix D-6.08-11 for the clean-up report and final sample results.

**Accumulated Groundwater in Steam Tunnel – Building 15:** Traces of #6 fuel oil was observed in the steam tunnel located under the south end of Building 15. Small areas of stained concrete and occasionally seeps of # 6 oil and/or sheen on water accumulating in the sump at the lower end of the tunnel have been noted. Water that accumulates in the tunnel is currently discharged to sanitary sewer after oil/water separation under TDA# 0513-94. Samples of the water have been collected as part of the Temporary Discharge Authorization. Analysis of the water has indicated trace levels of PCBs (maximum concentration of 0.0000445 micrograms per liter). The steam tunnel is located below the floor level of the building and is not regularly occupied. It is entered by maintenance personnel as needed. The TDA expires in May 2015 (appendix D-6.06-3).

**General:** See Appendix D-6.03-4 and Appendix D-6.0-4 for known hydraulic equipment. Very little equipment has been tested. Historical stains are tested as they are noted. It is assumed that the oil in the transformers is not PCB containing. It is assumed that all light ballasts are PCB containing, and are handled as such.

## **6.09 ASBESTOS CONTAINING MATERIALS (ACM)**

There are no RECs associated with ACM.

### **SURVEY INFORMATION**

**2009/2010 Surveys:** In 2009 and 2010, WRAMC completed an asbestos survey/re-inspection of 38 buildings on the property, including the steam tunnel. The remaining 16 buildings were not inspected during this survey because they were built or completely renovated after July 12, 1989, when the EPA issued its final rule banning most asbestos-containing products. Those buildings not inspected were: 3, 4, 56, 25, 30, 26, 22, 35, 19, 20, 32, 91, 83, 49, 95, and 38). Building 40 was not inspected due to inaccessibility and the existing enhanced use lease (EUL). Buildings 19, 20, 22, 25, 26, and 35 were not inspected due to inaccessibility, but they are assumed to contain ACM. Building 20, 32, 49, 83, 91 were not inspected because they were either built after or totally renovated after 1989. All of the buildings that contain ACMs have an Operations and Maintenance Plan (O&M) in place.

**2013 Surveys:** In late 2013/early 2014, WRAMC caretaker personnel conducted an ACM re-inspection/materials survey of all buildings built before 1990. During this effort, all rooms and homogenous areas (areas with the same description)

were recorded into survey tables. The current homogenous areas (HAs) were compared to the HAs listed in previous inspections (2002 and 2009) to determine which of the HAs remain and have been tested. This survey was non-invasive, so materials under the flooring, above the suspended ceilings and other non-visible areas were not addressed.

The survey tables have a summary of the HAs and detail sheets. The HA summary lists any previous data and other information for the identified HAs. The conclusions column specifies the results, as either Tested – ACM (positive result), Tested – Not ACM (negative result), Not Tested – Assumed ACM, Recommend testing (no previous data, or insufficient number of samples collected), or no testing required – inert material. The detail sheets list the room/location and the visible materials on the floors, ceiling, wall, and other materials if present (regardless if it is ACM or not). Many surfaces have multiple layers, but only the visible materials were addressed. If the material is assumed ACM or has been confirmed as ACM, the materials' condition was assessed. The survey tables are updated as testing is completed or conditions change. See Appendix D-6.09-1 for inventories. See Table 6.09-1 below for the number of HAs recorded on WRAMC.

Table 6.09-1: Totals of HAs

Bldg	Total (# friable)	Tested Positive (# friable)	Tested Negative (# friable)	Testing Recommended		Assumed ACM (# friable)	No Testing Required (Inert)
				No Data (# friable)	Insufficient # Samples (# friable)		
1	92 (45)	1 (1)	3 (1)	68 (34)	0(0)	18 (9)	1
3	4 (0)	0 (0)	0 (0)	1 (0)	0 (0)	2 (0)	1
4	4 (0)	0 (0)	0 (0)	1 (0)	0 (0)	2 (0)	1
7	39 (22)	0 (0)	2 (1)	21 (16)	11 (3)	4 (2)	1
11	78 (61)	0(0)	2(1)	68 (56)	2 (1)	5 (3)	1
12	23 (12)	1 (1)	0 (0)	16 (8)	1 (1)	4 (2)	1
14	42 (25)	1 (1)	2 (1)	32 (21)	1 (0)	5 (2)	1
15	24 (15)	9 (6)	4 (2)	5 (5)	1 (1)	4 (2)	1
16	16 (9)	0 (0)	0 (0)	8 (5)	3 (1)	4 (3)	1
17	26(14)	1(1)	3(1)	17 (11)	0(0)	4(3)	1
18	27 (14)	2 (2)	2 (2)	11 (7)	6 (1)	5 (2)	1
31	11 (6)	0 (0)	0 (0)	5 (4)	3 (2)	2 (1)	1
38	17 (10)	0 (0)	0 (0)	12 (8)	0 (0)	4 (2)	1
41	35 (19)	0 (0)	0 (0)	27 (17)	0 (0)	4 (2)	2
48	9 (5)	2 (0)	0 (0)	2 (2)	0 (0)	4 (3)	1
49	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	1
52	50 (32)	5 (2)	2 (0)	29 (20)	2 (2)	11 (8)	1
53	40 (27)	3 (1)	6 (3)	22 (16)	1 (0)	7 (1)	1
54	124 (88)	4 (2)	0 (0)	21 (12)	4 (1)	21 (12)	1
57	7 (4)	0 (0)	1 (0)	3 (2)	0 (0)	2 (2)	1
82	13 (9)	0 (0)	2 (1)	6 (4)	2 (1)	2 (2)	1
83	17 (12)	0 (0)	0 (0)	11 (9)	0 (0)	5 (3)	1
84	4 (2)	0 (0)	0 (0)	2 (1)	0 (0)	1 (1)	1
88	27 (15)	0 (0)	0 (0)	21 (13)	2 (0)	3 (2)	1

Bldg	Total (# friable)	Tested Positive (# friable)	Tested Negative (# friable)	Testing Recommended		Assumed ACM (# friable)	No Testing Required (Inert)
				No Data (# friable)	Insufficient # Samples (# friable)		
90	19 (13)	0 (0)	0 (0)	9 (9)	6 (2)	3 (2)	1
91	27 (18)	0 (0)	6 (5)	12 (10)	3 (1)	5 (2)	1
92	18 (9)	0 (0)	0 (0)	10 (5)	2 (1)	5 (3)	1
T-20	30 (23)	0 (0)	0 (0)	26 (0)	0 (0)	3 (2)	1
T-2	19 (10)	0 (0)	0 (0)	14 (8)	0 (0)	4 (2)	1
<b>TOTAL</b>	<b>915 (519)</b>	<b>29(17)</b>	<b>35 (18)</b>	<b>480 (303)</b>	<b>50(18)</b>	<b>144(78)</b>	<b>30</b>

**Periodic Surveillance:** To ensure conditions are properly documented, caretaker staff re-evaluates all areas with ACM every 6 months. The conditions are reported and will be documented for future use.

#### ABATEMENT ACTIVITIES PRIOR TO FACILITY CLOSURE IN 2011

Only physical copies of abatement documents are currently available. See Section 6.20. Document Control for details.

#### ABATEMENT ACTIVITIES (SINCE CLOSURE)

- **Building 54, Room M090:** Fume Hood: In July 2012, ACM containing panels were removed from a fume hood (See Appendix D-6.09-2). No releases prior to abatement.
- **Building 1 Window Project:** See project listing in Section 6.10, Lead and Lead based Paint. The glazing on the windows is ACM. The glazing was collected with the paint chips, and disposed of appropriately (See Appendix D-6.10-1). No releases prior to abatement.
- **Building 1, D-wing pipe insulation:** In January 2013, approximately 15 linear feet (LF) was abated to repair a leaking steam pipe (See Appendix D-6.09-3). No releases prior to abatement.
- **Building 1, B-wing attic and C-wing Attic:** In February 2013, approximately 150 LF of damaged ACM was abated from the B-wing attic. The pipes were not reinsulated. Also, in the C-wing attic, an expansion tank with ACM insulation was removed (See Appendix D-6.09-4). No releases prior to abatement.
- **Building 1, Rooms C118a, C123/C015:** In March 2013, approximately 60 LF of pipe insulation and fittings were abated due to pipe leaks (See Appendix D-6.09-5). No releases prior to abatement.

- **Building 17, Main floor hallway and rooms 171 and 172:** In February 2014, approximately 550 square feet (S.F.) of 9"x9" floor tile and mastic was abated due to domestic water line rupture. (See Appendix D-6.09-6). No releases prior to abatement.
- **Building 54, Museum level:** In February 2014, approximately 500 S.F. of 9"x 9" floor tile and mastic was abated due to deteriorated conditions. (See Appendix D-6.09-7). No releases prior to abatement.
- **Building 1, Room D334:** In March 2014, approximately 15 LF of asbestos pipe insulation and four associated mudded fittings from the area above the plaster ceiling were abated due to a water line break. (See Appendix D-6.09-8). No releases prior to abatement.

### **RECENT TESTING RESULTS (SINCE CLOSURE)**

ACM Material Testing Results: Various samples were taken during since closure. See list below for specifics. (See Appendix D-6.09-9)

- Building 1, Roof tile (November 2012): ACM positive result
- Building 15, Tank Insulation (September 2013): ACM negative result
- Building 11, First Floor Carpet Mastic (November 2013): ACM negative result
- Building 54, Museum bathroom Ceiling Plaster (August 2014): ACM Negative result
- Building 52, Stairwell Ceiling Plaster (August 2014): ACM Negative result

### **CONDITIONS AND INVENTORIES NOT OTHERWISE ADDRESSED**

**ACM Areas of Concern:** There is no known damaged friable ACM. The following list includes the known areas with damaged ACM. The mastic under the floor tiles is friable and exposed, but not damaged. These areas are sealed to prevent further damage. There are no planned abatement activities for these areas. This list is as of October 14, 2014.

#### **Building 1:**

- Room A007, Approximately 800 square feet (S.F.) of 9"x9" floor tile and mastic. Floor tiles are damaged. Mastic is exposed, but not damaged.
- E-wing, first floor storage area: Approximately 81 S.F. of 9"x9" floor tile and mastic. Floor tiles are damaged. Mastic is exposed, but not damaged.
- 2<sup>nd</sup> floor D-wing stairwell: Approximately 40 S.F. of 9"x9" floor tile and mastic. Floor tiles are damaged. Mastic is exposed, but not damaged.

#### **Building 54:**

- Fume Hood, Room G035: The hood consists of ACM containing panels. These will not be abated. This material is not friable.

- Room G016: Floor tile and mastic. Room is inaccessible. Floor tiles are damaged. Mastic is exposed, but not damaged.

**Testing and Inventories:** During the most recent ACM re-inspection, many materials were not previously captured as HAs, or only had one sample taken per building. Be aware that all surveys (most recent and previous) have been non-invasive. Also, major renovations were completed to most buildings – however, very little abatement records exist. See Section 6.20. Document Control for a list of recovered physical documents.

## **6.10 LEAD AND LEAD BASED PAINT (LBP)**

There are no RECs associated with Lead and Lead-based paint.

### **GENERAL INFORMATION**

WRAMC continues to maintain compliance with applicable lead-based paint (LBP) regulations. Since the 2006 ECP WRAMC LBP has been removed from some window and exterior components of Buildings 1, 12, 11, and 41. See below for information on specific projects since closure. It is assumed that all buildings constructed before 1978 contain LBP. The only buildings that were not constructed before 1978 are Buildings: 6, 20, 32, 55 and 56.

### **ABATEMENT ACTIVITIES PRIOR TO FACILITY CLOSURE IN 2011**

Only physical copies of abatement documents are currently available. See Section 6.20. Document Control for details.

**Building 11 Window Project:** In 2005, all Building 11 windows were shipped off the property, stripped, repainted and reinstalled in Building 11.

**Building 41 Project:** In 2009, all windows were repainted/replaced in Building 41.

### **COMPLETED CLOSURE TASKS SINCE CLOSURE**

**Building 1 (historic building), Window Project:** To protect Building 1 from significant degradation, a phased project was initiated in 2012 to prep, re-glaze and paint certain wood areas of the building, primarily windows. The existing window paint was tested using a field screening kit and found to be LBP. The window prep included lightly scraping to remove loose paint chips. A tarp was placed on the ground under the active work sites to collect the chips. An independent third party oversaw the project to ensure that the LBP chips were collected and not contaminating the soil. All wastes generated were handled as lead waste and manifested off-site for appropriate disposal. See Appendix D-6.10-1 for closure documentation and scope.

**Building 2 - Lead Room (Room 1H09):** To establish appropriate decommissioning of the hospital, a phased inspection, testing and remediation of contaminated areas were conducted. As part of the review process, room 1H09 was identified as having significant lead contamination. This room was used to fabricate lead shielding for patients undergoing radiation treatment. A contract was issued and completed to remove lead contaminated equipment and clean and seal areas left in place (See Appendix D-6.10-2). This was completed in July 2012. After the initial cleaning, confirmatory samples were analyzed. The floor sample results indicated that the floor did not pass clean-up criteria. The floor was re-cleaned, and then sealed. After the re-cleaning, the areas were sampled again. Results were below action levels. It should be noted that the floor in this room should not be cleaned or waxed with abrasive equipment (buffer) to protect the seal. There were no known releases. This condition is an ECP category 1.

**Building 54 - Firing Range (Room B030):** Room B030 in Building 54 was used as an indoor firing range. The area was fully abated in September 2011 to non-detectable levels. See Appendix D-6.05-7. There were no known releases. This condition is an ECP category 1. No further actions required.

**Building 2, Room 7A07:** Due to the elevated lead dust sample results in the Environmental Phase II, Room 7A07 was re-cleaned with a heavy metal cleaner solution (2% Alconox). After the re-cleaning, 3 confirmatory samples were taken. Two of the three samples were below the release criteria for lead. One of the three samples was just above the release criteria for lead. The release criteria used is 4.3 ug/100cm, and the result was 5.0 ug/100 cm. It is important to note that this room has lead cabinets, walls, and doors. This room has been closed and labeled. See information in Environmental Phase III and IV (Appendix D-6.17-7). There were no known releases. This condition is an ECP category 1.

**Building 12, Exterior Gun Unloading Drum:** The drum was removed from the property in 2013. The waste was handled appropriately as non-hazardous material. No further actions required. There were no known releases. This condition is an ECP category 1.

**Building 12, Sun porch:** Due to deteriorating conditions, the Building 12's sun porch had flaking LBP. In August 2014, all painted surfaces were wet scraped, cleaned with a High Efficiency Particulate Air (HEPA) vacuum, wet wiped and repainted. See Appendix D-6.10-3 for details. There were no known releases. This condition is an ECP category 1.

**Building 1, Hallways:** In Building 1, due to time lapse and deteriorating conditions, LBP is peeling off the corridor walls, causing lead dust. The flaking paint was tested for lead content on April 7, 2014. The paint samples from the basement and first floor hallways were found to be lead-based, requiring that actions be implemented to mitigate or protect against the effects of high lead levels. The condition prevented the required Section 106 historic building

inspections and impeded standard maintenance/repair activities. The lead paint and dust was cleaned by HEPA vacuuming and wet-wiping surfaces. Additionally, two personal breathing zone air samples were taken to document the lead-in-air concentrations during cleaning activities. Neither sample reported detectable concentrations of lead. See Appendix D-6.10-4 for closure documentation. There were no known releases. This condition is an ECP category 1.

## **FUTURE CLOSURE TASKS**

**Building 1, Hallways:** Due to the previously mentioned lead paint conditions, WRAMC will continue to clean the areas of concern on an as needed basis to prevent an unsafe working environment.

## **CONDITIONS AND INVENTORIES NOT OTHERWISE ADDRESSED**

**Lead Wall Shielding and Other Lead containing equipment:** An inventory was conducted to disclose where the majority of the lead walls are, and other lead equipment remains. An inventory of known locations is included as Appendix D-6.10-5 and Appendix D-6.0-4. Future building owners need be aware that when renovations are being completed to these areas, they recognize the need handle and dispose of the lead properly.

**Building 54, Exterior Gun Unloading Drum:** There is a gun unloading drum on the southeast exterior corner of Building 54. The drum was sealed in late 2013, and is assumed to contain lead dust. This drum will remain in place. There were no known releases, and no further actions are required. This condition is an ECP category 1.

**Water Fountain Filters:** Some water fountains on post have lead filters. These filters have not been removed, and will remain in place.

**Former Residential Areas with Assumed LBP:** The following buildings were used for residential purposes prior to closure, constructed before 1978 and are assumed to contain LBP: Buildings 8, 9, 11, 12, 14, 17, 18, 19, 21, 22, 25, 26, 29, and 30. Building 8, 9, 18, 19, 21, 22, 25, 26, 29 and 30 are slated for demolition. Building 11 and 12 will be repurposed for other uses (such as schools and libraries). Building 14 and 17 will remain residential.

## **6.11 PESTICIDES**

There are no RECs associated with pesticide management.

**STATUS PRIOR TO CLOSURE:** Prior to closure, WRAMC implemented integrated pest management activities in accordance with applicable federal, state, army and

local regulations. A revised Environmental Assessment was signed in May 2006 granting approvals for various pesticide and herbicide applications at WRAMC. A copy of the Environmental Assessment Finding of No Significant Impact (FONSI) is included as Appendix D-6.11-1.

**STATUS AFTER FACILITY CLOSURE:** Since closure in 2011, chemicals are no longer mixed on the property, and therefore no longer has an integrated pest management plan. WRAMC's pest management is contracted to commercial pest management. Some commercial pesticides are kept in Building 16 (such as Round-Up).

## **6.12 SOLID WASTE**

There are no RECs associated with solid waste.

### **GENERAL INFORMATION PRIOR TO CLOSURE**

**Solid Waste Notice of Infraction (NOI) (Building 18):** The District of Columbia Department of Public Works and Transportation issued an NOI to WRAMC in February 2007 for improper disposal of solid waste dumped behind Building 18. This building is located off-site of WRAMC Main Post, across Georgia Avenue. Members of the public may have discarded the solid waste items near the dumpster. WRAMC removed the waste. To prevent a reoccurrence, WRAMC removed the dumpster, posted a sign prohibiting dumping, and instituted a monthly monitoring program.

### **STATUS AFTER FACILITY CLOSURE**

Solid waste production has significantly reduced since base closure. The solid waste contractor currently has an 8-yard and a 30-yard container on the property, compared to approximately 10 dumpsters at closure. The largest volume of waste currently generated is associated with rug and drywall removal to prevent mold formation following the accidental water line ruptures during the winter months in various buildings. The waste is disposed off-site IAW applicable regulations. There have been no solid waste regulatory issues since closure.

### **COMPLETED CLOSURE TASKS**

**Building 14 Trash Chute Cleaning:** Building 14 has trash chutes that convey solid waste in the building to central locations. Building 14 has two chute systems and central collection points. WRAMC contracted to clean the chutes and receiving areas in Building 14 which was completed on April 26, 2012. The chutes have not been used since this effort was completed.

### **CONDITIONS NOT OTHERWISE ADDRESSED**

**Building 2 Trash Chutes:** Buildings 2 has trash chutes that conveyed solid waste in the building to central locations. As Building 2 is slated for demolition, the chute systems were not cleaned. There are no known hazards for this action.

### **6.13 RADON**

There are no RECs associated with Radon management.

A radon survey was conducted for the property in August 1991, and follow-up surveys were conducted in 1998 and 2001 for buildings where radon levels exceeded the 4.0 picoCuries per liter (pCi/L) action level or were newly constructed or renovated. Buildings 2, 6, 7, 17, 20 and 54 were sampled and all detections for radon were below the 4.0 pCi/L.

A survey was completed in 2008 for Buildings 2A; 14; 32; 38; 55; 56; 83 and 91. All results were below 4.0 pCi/L. See Appendix D-6.13-1.

### **6.14 REGULATED MEDICAL WASTE (RMW)**

There are no RECs for the RMW program.

### **GENERAL INFORMATION**

WRAMC generated RMW until facility closure in September 2011. A majority of the RMW was generated at Building 2, 7 and 54. During facility operation, RMW was collected throughout the buildings and consolidated at collection points for a contractor, Stericycle, pick-up and subsequent disposal. AFIP disposed of their RMW in an incinerator within Building 54 (Room 4115a) until 1992. The incinerator was decommissioned in 2000. After the incinerator was removed, Building 54 stored their RMW in various locations throughout the building. The Hospital and other organizations used a storage area located in the southern Building 40 parking lot (for radioactive RMW), and in various other locations. The secondary containment and labels have been removed from wall mounted RMW containers. After closure, WRAMC staff continued to collect the remaining RMW and HEPA filters. All known RMW non-mounted containers and waste has been removed from the property. The RMW was stored in a locked 30-foot roll-off Stericycle dumpster. The dumpster was removed from the property in July 2014.

### **CLOSURE TASKS**

**Building 54 Incinerator:** Building 54 had an incinerator in room 4115A. The incinerator was apparently part of the original building (1951), and used to treat biomedical waste. The original incinerator may have been replaced in 1979 (Environmental Control Products, Inc). The incinerator was alleged to only be used intermittently. The materials burned included trash, animal carcasses, bags of bio trash, gowns and glassware. According to AFIP personnel, the last burn

was in June 1992. A total environmental evaluation (asbestos, lead-based paint, radio-active materials and hazardous waste) was conducted by General Physics in 2000. Asbestos material associated with the incinerator and elevated chromium levels in the ash were identified. The incinerator and stack were removed. No further actions are required. See clean-up data in Appendix D-6.14-1. There were no known releases.

## **6.15 RADIOLOGICAL MATERIALS, NUCLEAR REGULATORY COMMISSION (NRC) LICENSE**

This section was identified as a REC in the 2006 ECP. Since the 2006 ECP, the NRC has released all related buildings (Building 1, 2, 7, 38, 41, 54, 91 and 92) for un-restricted use. See below for details. This site remains an ECP category 1.

Several Radiological materials were used for research and treatment. WRAMC operated under a NRC License. In 2006, a Historical Site Assessment (HSA) was completed to identify the areas that had used radiological materials in the past, or potentially impacted. See Appendix D-6.15-1. The HSA identified 8 buildings, and one area that were potentially impacted. They are Buildings 1, 2, 7, 38, 41, 54, 91, 92 and the radiological bunker adjacent to Building 20 and 40. In December 2011, a Comprehensive and Characterization site survey was completed (Appendix D-6.15-2). Also in December of 2011, the final Status survey report was completed (Appendix D-6.15-3). The NRC released all buildings and area for unrestricted use in June 2012 (Appendix D-6.15-4).

Prior to closure, Buildings T-2 (Appendix D-6.15-5) and 40 (Appendix D-6.15-6) were released for unrestricted use.

## **6.16 BIOLOGICAL DECONTAMINATION/GENERAL DECONTAMINATION**

This section was not included in the 2006 ECP. There are no RECs associated with biological and general decontamination.

### **COMPLETED CLOSURE TASKS:**

Since base closure, several projects have been completed to eliminate the potential for biological hazards. The following describes those activities.

**Building 2, Rooms 3H13A-J and 3H04 - (General Cleaning):** The mission in these rooms generated large amounts of plaster and fiber dust. Samples of the dust were collected, and tested for TCLP metals and Total metals by EPA methods. The results of the analyses indicated barium, chromium, lead and cadmium in the residual dust. The residual dust was cleaned from all surfaces in the subject rooms in August 2012. See Appendix D-6.16-1 for closure documentation. No further actions required.

**Building 2, Room 2M01 - Former Morgue Decontamination:** In July 2012, the former morgue's refrigerators were decontaminated using an anti-microbial solution. The decontamination included wiping down the unit, and scrubbing the areas with a light build-up of debris, and using a vacuum to collect any residual dust. See Appendix D-6.16-2. The refrigerators were removed from the building in April 2013 for reuse at another facility. No further actions required.

**Building 2, Rooms 2B54 through 2B58 - BSL-3 Decontamination:** In July 2012, the BSL-3 labs, were decontaminated with Vaporized Hydrogen Peroxide (VHP). See Appendix D-6.16-3. No further actions required.

**Building 54, (Rooms N4204, S5311, N5409) - BSL-3 Decontamination:** In 2011, the BSL-3 labs were decontaminated with VHP. See Appendix D-6.05-7. No further actions required.

**Buildings 1, 2, 2A, 7, 54 - Fume hood and BioSafety Cabinet (BSC) Decontamination:** All known hoods and BSCs were decontaminated with either a solution of sodium hypochlorite, chloride dioxide, or Spectra 34. Appendix D-6.16-4 lists the locations of the hoods and BSCs. Also during the decontamination process, all HEPA filters were removed and discarded as RMW. During 2013 and 2014 several hoods were removed for reuse. See Appendix D-6.16-5 for all BSC and Hood decontamination certificates. No further actions required.

**Buildings 2, 2a, 7 and 54 – Various Equipment Decontamination:** Various equipment which remained in-place required verification of decontamination. In August 2012, the list in Appendix D-6.16-6 was decontaminated and disinfected using a Spectra 34 solution. (See Appendix D-6.16-6 for locations and certifications). No further actions required.

## **6.17 ENVIRONMENTAL PHASE I, II, III AND IV**

This section was not included in the 2006 ECP.

To ensure that the all potential chemical and biological concerns are addressed in lab buildings, WRAMC conducted an Environmental Phase I, II, III and IV for Buildings 2, 2a, 5, 7, and 54. The Environmental Review Phase I was completed in 2011 and identified potential contaminants of concern (PCOC). Phase I also provided recommendations on how to reduce the potential hazards and decontaminate the areas. Phase II analyzed the Buildings for the specific PCOCs identified in Phase I (completed in 2012). The PCOCs identified were: perchlorates and picrates in chemical fume hoods and BSCs; azides; mercury, lead and other RCRA metals; volatile and semi-volatile organic compounds; cyanide; and biohazards.

During Phase II, over 700 (Building 2, 2a,5 – 497 spaces; Building 7 – 29 spaces; Building 54 – 192 spaces) spaces were tested for the specific PCOCs in July

2012. Out of those, only 14 spaces had PCOC results that were above an acceptable limit. The PCOCs above the clearance level included lead and other RCRA metals. See Appendices: D-6.17-1, D-6.17-2, D-6.17-3, D-6.17-4, D-6.17-5, and D-6.17-6 for the Phase I and II reports.

During Phase III and IV, the rooms identified in the Phase II which were above acceptable limits or required additional documentation were re-cleaned using specific cleaning protocols for the identified PCOCs. The Phase III actions include the re-cleaning of BSL-2 labs, as well as the 14 spaces mentioned above. Phase IV re-analyzed the 14 spaces for clearance, and testing previously missed chemical hoods for piclorates and picrates. Approximately 26 wipe samples were taken in those 14 spaces. Of those 26, only 1 sample was above the clearance levels for lead (see Section 6.10. Lead and Lead Based Paint). See Appendix D-6.17-7 for specific closure documentation, scope and report. Phase III and IV actions were completed in April through July 2013, with the completion of reports in September 2013.

## **6.18 NATIONAL HISTORIC PRESERVATION ACT COMPLIANCE**

To comply with the National Historic Preservation Act, a Section 106 study was completed. The results of the study resulted in a Programmatic Agreement (PA) between the Army, District of Columbia State Historic Preservation Office, and the Advisory Council to Historic Preservation (ACHP) in January 2013 (See Appendix D-6.18-1). This agreement states that the Army will provide interim maintenance, by maintaining weather tight conditions; physical and fire protection; and prevent building deterioration. The Army submitted a nomination to the National Register of Historic Places in October 2014, assessed the effects of reuse plans, provided photographic documentation, and will perform archaeological studies. As required by the PA, the Army completed an annual status update. See Appendix D-6.18-2.

There is no evidence that Native American human remains or associated funerary objects are present on the Property. Due to the location of this Site and its developed nature, intact deposits are unlikely.

## **6.19 RECs AND ENVIRONMENTAL CONDITIONS**

### **UPDATES TO THE 2006 ECP IDENTIFIED RECs AND CONDITIONS**

**SITE ID: 1(1) and 2(1):** The areas that are not otherwise identified as RECs are considered ECP Category 1. These are areas where there has been no documented release, disposal, or known migration from adjacent properties of hazardous substances or petroleum products.

**SITE ID: 3(2)PS/PR: POL Issues/Tank Removals around Building 82 and 15** LUST case opened in 2006 associated with leaking ASTs around Building 15. ASTs have been removed. Contaminated soil and remediation actions complete. Granted NFA status by DDOE in November 2014.

USTs MP-3, 11, 12, 16, 17, 18, 19, 20, 21, 22 and 23 were removed from the ground in the 1980s. LUST case for these tanks opened in 2010. Granted NFA status by DDOE in November 2014.

See more detailed information in Section 6.02 – Storage Tanks, Former ASTs and Former USTs.

**Site ID: 3(2)PS/PR: POL Issues/Tank Removals around Building 82 and 15 - UST Removal 16\*** at Building 95: This tank is not directly related to the Building 82 and 15 LUST cases, but is still within the area identified for this site. UST MP-16\* was removed from the ground in 1997. No releases were associated with this tank, and DDOE issued a letter of permanent closure and concurrence for clean closure in 2004. This tank is an ECP category 1 but the area remains an ECP category 2 due to other POL issues. See more detailed information in Section 6.02 – Storage Tanks, Former USTs.

**Site ID: 3(2)PS/PR: POL Issues/Tank Removals around Building 82 and 15 - UST Removals MP-14 and MP-15** at Building 15: These tanks are not directly related to the Building 82 and 15 LUST cases, but are still within the area that has been classified as ECP category 2. The 2007 ECP Phase II Sampling Recommendations stated “there is no regulatory driver for sampling these locations prior to property transfer.” No further action required. See section 6.02 – Storage Tanks, Former USTs for more detailed information.

**Site ID: 4(4)HS/HR: PCB Release at Building 3:** The former underground transformer vault near the Rumbaugh Garage (IPR site WRAMC-06) had PCB contamination in soil and low levels of PCB in groundwater. Following remediation via excavation, a period of groundwater monitoring and submittal of a risk assessment, the USEPA issued a No Further Action in August 2006. This REC remains an ECP category 4. See section 6.08 – PCBs for more detailed information.

**Site ID: 5(4) HS/HR: Cadmium detected near Building 20:** Detection of cadmium contamination during installation restoration sampling in 1991. Site closed and re-sampled in 1992. Cadmium was not detected. No changes. This REC remains an ECP category 4. See page 4 of the 2006 ECP for more details.

**Site ID: 6(5)HS/HR: PCB Contamination of Transformer vaults north of Building 40:** WRAMC remediated the PCB contaminated soil around the two adjacent transformer vaults north of Building 40 in January 2007. Groundwater sampling showed no evidence of PCB contamination in the groundwater. The monitoring wells were properly closed in 2012. See section 6.08 PCBs and

Appendix D-6.08-2 for additional information. No further actions required. This site is now classified as ECP Category 4.

**Site ID: 7(7)HS/HR: Manhole 29 near Building 1 Transformer Explosion:** All remedial actions complete. Contaminated soil was removed and remediation activities were completed between 1992 and 1993. The area was back filled with clean soil. This is now an ECP category 4. See Section 6.08 PCB of this document for additional information on this site.

**Site ID: 8(7)HS/HR: Transformer Explosions Near Building 14:** Finding in 2006 ECP is considered an error. This release is associated with Site ID “7(7)HS/HR: Manhole 29 near Building 1 Transformer explosion”. See Section 6.08 PCB of this document for additional information on this site.

**Site ID: 9(2)PS/PR(P): UST MP-1 Removal at Building 1:** During an action related to Building 82’s CAP, a GPR survey was conducted and confirmed that the tank is no longer there. See section 6.02 Storage tanks, Former USTs and Appendix D-6.19-21 for additional information. Due to lack of information, this site remains a REC as ECP Category 2. There are no LUST cases associated with this tank.

**Site ID:10(2)PS/PR(P): UST MP-2 Removal at Building 4:** This 3,000-gallon UST was removed in 1996 and replaced by a double-walled fiberglass 3,000 gallon UST (MP-27). All contaminated soil was removed and remediation activities have been completed. No LUST incidents associated with the replacement tank, which is scheduled to be removed in March 2015. This site remains classified as ECP Category 2. See section 6.02 Storage tanks, former USTs for more information.

**Site ID: 11(2)PS/PR(P): UST MP-4 Removal at Building T-2** MP-4 was removed in 1997. A copy of the closure report, DDOE letter for Permanent Tank Closure, and DDOE concurrence for clean closure is in Appendix D-6.02-11 and D-6.02-12. This tank was replaced by another UST in 1998 (MP-31), which was then removed in 2004. There were no LUST cases for either tank. DDOE granted concurrence for clean closure for the replacement tank. Due to clean closure, this site is no longer a REC and is an ECP category 1. See section 6.02 Storage Tanks, Former USTs for more information.

**Site ID: 12(2)PS/PR(P) and 13(2)PS/PR(P): MP-5 & 6/ Building 2, 10,000-gallon UST Removals:** The two 10,000 gallon USTs were removed in 1997. During tank removal, contaminated soil was identified and removed. DDOE provided a letter of permanent closure and the site was granted NFA in March 2004. These tanks were replaced by a 20,000-gallon UST, which was subsequently removed in 2013. The closure sampling indicates that the area is not contaminated. DDOE issued a letter of permanent closure and concurrence

for clean closure in 2013 for the 20,000-gallon UST. Due to the previously contaminated soil, this area will remain a REC with an ECP Category 2. See section 6.02 Storage Tanks, Former USTs for more information.

**Site ID 14(2)PS/PR(P): MP-7/ Building 54-East UST Removal** During document review, WRAMC located the closure report and DC letter for Permanent Tank Closure for MP-7. The tank was removed in 1996. See Appendix D-6.02-16 for the closure report and appendix D-6.02-17 for the letter of permanent closure from DDOE. This tank was replaced by the MP-29. See appendix D-6.02-22 for the tank installation inspection. The replacement tank remains in place, and shows no signs of leaking. This site is classified as ECP Category 1.

**Site ID 15(2)PS/PR(P): MP-8/ Building 54-West UST Removal** During document review, WRAMC located the closure report and DC letter for Permanent Tank Closure for MP-8. The tank was removed in 1996. See Appendix D-6.02-16 for the closure report and appendix D-6.02-17 for the letter of permanent closure from DDOE. This tank was replaced by the MP-30. See appendix D-6.02-22 for the tank installation inspection. The replacement tank remains in place, and shows no signs of leaking. This site is classified as ECP Category 1.

**Site ID: 16(2)PS/PR(P): MP-9/ Building 41 UST Removal** During document review, WRAMC located the closure report and DC letter for Permanent Tank Closure. MP-9 was removed in 1997. See Appendix D-6.02-11 for the closure report, Appendix D-6.02-12 for the letter of permanent closure, and concurrence for clean closure for MP-4. This tank was replaced by another UST in 1998 (MP-31), which was then removed in 2004. See appendix D-6.02-13 for the tank installation inspections, and see Appendix D-6.02-14 for closure documentation (including DDOE's letter for permanent closure). This site is classified as ECP Category 1.

**Site ID: 17(2)PS/PR(P): MP-13/ Building 54 UST removal (MP-13):** No documentation has been recovered, however this UST was replaced by a 4,550-gallon AST. The AST is currently operating in accordance with state and local regulations. There is no closure documentation, however there are no LUST incidents have been reported for either tank. This site remains an ECP category 2. WRAMC will continue to look for documentation.

## **UPDATES TO OTHER ENVIRONMENTAL CONDITIONS DISCUSSED IN THE 2006 ECP**

**No Site ID: Building 40 Machine room PCB contamination:** Residual PCBs on floor of room B003 following clean-up and building decommissioning. No updates. See PCB Section 6.08 for more details.

**No Site ID: Building 54, PCB contamination:** PCBs detected on the concrete floor of the basement. No updates or further information available. No known releases, this area remains an ECP category 1.

**No Site ID: Radioactive Materials:** In 2006, a Historical Site Assessment (HSA) was completed to identify the areas that had used radiological materials in the past, or potentially impacted. See Appendix D-6.15-1. The HSA identified 8 buildings, and one area that were potentially impacted. They are Buildings 1, 2, 7, 38, 41, 54, 91, 92 and the radiological bunker adjacent to Building 20 and 40. In December 2011, a Comprehensive and Characterization site survey was completed (Appendix D-6.15-2). Also in December of 2011, the final Status survey report was completed (Appendix D-6.15-3). The NRC released all buildings and area for unrestricted use in June 2012 (Appendix D-6.15-4). No further actions required. This site remains an ECP category 1.

## **RECS AND CONDITIONS IDENTIFIED SINCE 2006**

**Building 2, Transformer Rooms PCB Clean-up:** The transformer rooms in the basement of Building 2 were inspected in June 2011. Each room contains four transformers. During the inspection, leaking transformers were noted, several of which generated stains on the concrete floors. Wipe sampling and analysis of the leaks and floor stains were conducted. The leak areas on the transformers did not have detectable PCB concentrations, but the floor staining had PCB concentrations above the action level of 100 ug/100cm<sup>2</sup>.

The leaks were fixed, and the transformers and floors were cleaned in November 2012. The floors were stripped of the existing paint to the degree practicable and prepped for painting. Prior to the sealing of the floor with a double layer of epoxy paint, floor wipe samples were collected in the previously contaminated areas. All post-cleaning samples were found not to contain detectable PCBs (See Appendix D-6.08-10). See Appendix D-6.08-11 for the clean-up report and final sample results.

**Building 40 East Transformer Pad PCB Contamination:** The clean-up activities were completed in July 2014. Soil was excavated to areas of non-detect or below 25 ppm PCBs. Excavation around the northern pad was approximately 4 feet deep by 7 feet wide, and the excavation around the southern pad was approximately 2 feet deep by 4 feet wide. The excavated soil was analyzed and disposed of appropriately. The solid surfaces were cleaned to be below 100 ug/100 cm<sup>2</sup>. See Appendix D-6.08-12 for closure report and final sample results. No further actions required. This site is classified as ECP Category 4. See Section 6.08 PCB – Completed Closure Tasks for more information on this site.

**Building 11 Hydraulic Oil Release:** On March 21, 2011, an elevator problem was noted on the east side of Building 11. There was a hydraulic leak inside the cylinder that operates the elevator piston. This cylinder is approximately 30 feet in length and located in a shaft below the elevator floor. The system was installed in the late 1970s. On April 26, 2011, a soil sample was collected from the bottom of the shaft and two wipe samples were collected from the inside and outside of the shaft and analyzed for PCBs. The results for all samples were below detection limits. During the process for cleaning up and waste characterization, the shafts were tested for PCBs with the finding of non-detect. The debris was cleared from the shaft from 25 to 40 feet deep removing 350 gallons of debris with an estimated 80 to 100 gallons of oil. A spill report was emailed to DDOE on May 20, 2011 (Appendix D-6.03-8). The final sediment sample total petroleum hydrocarbons – diesel range organics (TPH-DRO), representing residual material at the bottom of the casing, was collected from the large hose used to clean out the casing. The samples result (21,000 mg/Kg DRO) was emailed to DDOE on June 16, 2011. The physical structure of the elevator shaft precludes any further cleanup of the soil. This site constitutes a REC with an ECP Category 2, but no further actions required.

**Building 84 Former UST:** This tank was not address in the 2006 ECP. While reviewing documents in 2014, WRAMC discovered a closure report related to the excavation of contaminated soil around the area of a former UST. The tank was removed before 1998; however the exact timeline is unknown. According to the report, the UST held gasoline, and held less than 5,000-gallons. During this effort, approximately 59 tons of contaminated soil was removed, and five soil samples were analyzed. The soil sample results were: Non-detect for Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH-GRO) and Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), and had a maximum result of 10.2 mg/kg Total Petroleum Hydrocarbons - Diesel Range Organics (TPH – DRO). See Appendix D-6.02-34 for the closure report. Due to the former soil contamination, this site constitutes a REC, as ECP category 2.

**Building 2 Room 7A07 – Residual Lead Dust:** Due to the elevated lead dust sample results in the Environmental Phase II, Room 7A07 was re-cleaned with a heavy metal cleaner solution (2% Alconox). After the re-cleaning, 3 confirmatory samples were taken. Two of the three samples were below the release criteria for lead. One of the three samples was just above the release criteria for lead. The release criteria used is 4.3 ug/100cm, and the result was 5.0 ug/100 cm<sup>2</sup>. However, the results were below an action level of 200 ug/ft<sup>2</sup>. It is important to note that this room has lead cabinets, walls, and doors. This room has been closed and labeled. See information in Environmental Phase III and IV (Appendix D-6.17-7). There were no known releases. This condition is an ECP category 1.

**Former HCL Tank at Building 41:** This tank was not address in the 2006 ECP. The 500-gallon HCL tank located at Building 41 was removed in 1999. No chemical contamination was detected in soil samples from the tank excavations.

The tank was thought to have been used as part of the chiller system to remove calcium carbonate on equipment. See Appendix D-6.02-25 for the closure report. Confirmatory samples indicate no residual contamination, and no evidence of release. This site is classified as ECP Category 1.

**Former Greenhouses Building 83:** Two of the three greenhouses (Buildings 50 and 51) were built in the 1920's. The third greenhouse was donated to Walter Reed in 1943. These structures were located in the area of the Building 83 expansion. The structures were taken out of service in 1996 and demolished in 1998. Asbestos containing materials associated with piping insulation and transite planting beds were remediated in 1997. Contaminated soils (DDT) were also excavated and removed from the property in 1997. Currently, only physical records are available. See Section 6.20. Document Control for more information. This site constitutes a REC, and is an ECP Category 4. All remediation activities have been completed.

**Accumulated Groundwater in steam tunnel – Building 15:** Traces of #6 fuel oil was observed in the steam tunnel located under the south end of Building 15. Small areas of stained concrete and occasionally seeps of # 6 oil and/or sheen on water accumulating in the sump at the lower end of the tunnel have been noted. Water that accumulates in the tunnel is currently discharged to sanitary sewer after oil/water separation under TDA# 0513-94. Samples of the water have been collected as part of the Temporary Discharge Authorization. Analysis of the water has indicated trace levels of PCBs (maximum concentration of 0.0000445 micrograms per liter). The steam tunnel is located below the floor level of the building and is not regularly occupied. It is entered by maintenance personnel as needed. The TDA expires in May 2015 (appendix D-6.06-3).

**Accumulated Rainwater from Transformer Vaults – Buildings 91, 1-North, 1-East, 38 and 88:** PCBs have been identified in accumulated rainwater in some transformer vaults. The accumulated water is disposed of properly as PCB contaminated waste.

**Building 2 - Room 1H09:** To establish appropriate decommissioning of the hospital, a phased inspection, testing and remediation of contaminated areas were conducted. As part of the review process, room 1H09 was identified as having significant lead contamination. This room was used to fabricate lead shielding for patients undergoing radiation treatment. A contract was issued and completed to remove lead contaminated equipment and clean and seal areas left in place (See Appendix D-6.10-2). This was completed in July 2012. After the initial cleaning, confirmatory samples were analyzed. The floor sample results indicated that the floor did not pass clean-up criteria. The floor was re-cleaned, and then sealed. After the re-cleaning, the areas were sampled again. Results were below action levels. It should be noted that the floor in this room should not

be cleaned or waxed with abrasive equipment (buffer) to protect the seal. There were no known releases. This condition is an ECP category 1.

**Site ID: 3(2)PS/PR: Building 15 UST Removal (MP-10):** This tank is not directly related to the Building 82 and Building 15 LUST cases, but is still within the area identified in this site. No documentation specifically located for this tank removal. However, a LUST case was issued due to this tank. DDOE issued a no further action letter in 1998. See section 6.02 tanks for more information. This tank and this area remain an ECP category 2.

**Former Incinerator at Building 16:** A former incinerator was in operation at Building 16 between 1918 and the 1960s. Exact timeline unknown. Closest soil samples (collected during installation of MW-5) indicate levels of chromium below the DDOE maximum contaminate screening levels. No apparent releases.

## SUMMARY TABLE

See Table 6.19-1 below for all sites, changes and updated or additional information on each site.

6.19-1: Environmental Conditions and RECs on the Property

Site ID	Type (2006)	Current Type (2014)	Basis ( From 2006 ECP)	Basis for Change/ Additional Information
<b>1(1):</b> Residential Area (16.6 Acres)	1	1	This 16.6 acre parcel is associated with the residential area in the western portion of the Property. These are areas where there has been no documented release, disposal, or known migration from adjacent properties of hazardous substances or petroleum products.	No change
<b>2(1):</b> Remaining land	1	1	This parcel encompasses all of the land area between smaller parcels on the Property.	No change

Site ID	Type (2006)	Current Type (2014)	Basis ( From 2006 ECP)	Basis for Change/ Additional Information
<b>3(2)PS/PR:</b> POL Issues/ tank removals around Building 15 and	2	2	<p>Multiple USTs removed from the area. No documentation was located for the closure of USTs MP-3, MP-11, MP-12, MP-14, MP-15, MP-16*, MP-16, MP-17, MP-18, MP-19, MP-20, MP-21, MP-22, and MP-23.</p> <p>Petroleum product (oil) Observed in excavation for new construction.</p>	<p>LUST case opened in 2006 associated with leaking ASTs around Building 15. ASTs have been removed. Contaminated soil and remediation actions complete. Granted NFA status by DDOE in November 2014.</p> <p>USTs MP-3, 11, 12, 16, 17, 18, 19, 20, 21, 22 and 23 were removed from the ground in the 1980s. LUST case for these tanks opened in 2010. Granted NFA status by DDOE in November 2014.</p> <p>USTs- MP-14 and 15 were removed in 1995.</p> <p>UST MP-16* removed from ground in 1997. No releases associated with this tank. DDOE concurrence for clean closure was granted in 2004.</p>
<b>4(4)HS/HR:</b> PCB Release at near Building 3.	4	4	<p>PCB release from a transformer. PCBs were detected in soil and groundwater. The soil was remediated under the Installation Restoration Program. Concentrations in groundwater were below action levels. WRAMC GEO received an No Further Action (NFA) letter from EPA in August 2006</p>	No change
<b>5(4)HS/HR:</b> Cadmium detected near Building 20	4	4	<p>Detection of cadmium contamination during installation restoration sampling in 1991. Site closed and re-sampled in 1992. Cadmium was not detected. See page 4 of the 2006 ECP for more information.</p>	No change

Site ID	Type (2006)	Current Type (2014)	Basis ( From 2006 ECP)	Basis for Change/ Additional Information
<b>6(5)HS/HR:</b> PCB Contamination of transformer vaults north of Building 40	5	4	Discharge of PCB contaminated rainwater from an underground electrical transformer vault.	Excavation around vault completed in 2007. Monitoring wells installed. Low level PCBs detected, but below action levels.
<b>7(7)HS/HR:</b> Manhole 29 near Building 1 Transformer explosion	7	4	Explosion of PCB transformer in manhole 29. Surrounding soil was reportedly removed however no documentation of post excavation samples was located.	After further research, field notes were located stating excavation activities and confirmatory sampling was conducted Nov 1992 to Jan 1993. Area backfilled with clean soil. No further investigations deemed necessary.
<b>8(7)HS/HR:</b> Transformer explosions near Building 14	7	1	Explosion of PCB transformers in the area of Building 14. Documentation exists regarding the PCB cleanup and replacement of the transformers. No documentation was found regarding the collection of post excavation soils.	Finding in 2006 ECP is considered an error. This release is associated with Site ID "7(7)HS/HR: Manhole 29 near Building 1 Transformer explosion" (discussed above).
<b>9(2)PS/PR(P):</b> UST MP-1 Tank Removal at Building 1	2	2	500-gallon UST that has been removed. No documentation was available regarding the condition of the tank at closure.	A GPR survey was completed in 2014. The survey confirmed the removal of this tank. No LUST incidents associated with this tank.
<b>10(2)PS/PR(P):</b> UST MP-2 Tank Removal at Building 4	2	2	3,000-gallon UST that has been removed. No documentation was available regarding the condition of the tank at closure.	This 3,000 gallon UST was removed in 1996 and replaced by a double-walled fiberglass 3,000 gallon UST (MP-27). All contaminated soil was removed and remediation activities have been completed. No LUST incidents associated with the replacement tank, which is scheduled to be removed in March 2015.

Site ID	Type (2006)	Current Type (2014)	Basis ( From 2006 ECP)	Basis for Change/ Additional Information
<b>11(2)PS/PR(P):</b> UST MP-4 Tank Removal at Building T-2	2	1	2,000-gallon UST that has been removed. No documentation was available regarding the condition of the tank at closure.	<p>This 2,500-gallon UST was removed from the ground in 1997. DDOE concurrence for clean closure was granted in 2004.</p> <p>The 2,500 gallon tank was replaced with a 3,000 gallon UST (MP-31) in 1998, and subsequently removed in 2007. DDOE concurrence for clean closure was granted in 2008.</p> <p>No LUST incidents associated with either tank.</p>
<b>12(2)PS/PR(P):</b> UST MP-5 Tank Removal at Building 2	2	2	10,000-gallon UST that has been removed. No documentation was available regarding the condition of the tank at closure.	<p>This 10,000-gallon UST was removed from the ground in 1997. All contaminated soil and remediation activities were completed. DDOE concurrence for no further action granted 2004.</p> <p>The 10,000-gallon tank was replaced with a 20,000-gallon UST (MP-28), and subsequently removed in 2013. DDOE concurrence for clean closure was granted in 2013.</p>
<b>13(2)PS/PR(P):</b> UST MP-6 Tank Removal at Building 2	2	2	10,000-gallon UST that has been removed. No documentation was available regarding the condition of the tank at closure.	<p>This 10,000-gallon UST was removed from the ground in 1997. All contaminated soil and remediation activities were completed. DDOE concurrence for no further action granted 2004.</p> <p>The 10,000-gallon tank was replaced with a 20,000-gallon UST (MP-28), and subsequently removed in 2013. DDOE concurrence for clean closure was granted in 2013.</p>

Site ID	Type (2006)	Current Type (2014)	Basis ( From 2006 ECP)	Basis for Change/ Additional Information
<b>14(2)PS/PR(P):</b> UST MP-7 Tank Removal at Building 54- East	2	1	2,000-gallon UST that has been removed. No documentation was available regarding the condition of the tank at closure.	<p>This 2,000-gallon UST was removed from the ground in 1996. DDOE concurrence for clean closure granted in 2004.</p> <p>The 2,000-gallon tank was replaced with a 2,500-gallon UST (MP-29) in 1996. This tank is still operating in accordance with state and federal regulations.</p> <p>No LUST incidents associated with either tank.</p>
<b>15(2)PS/PR(P):</b> UST MP-8 Tank Removal at Building 54- West	2	1	6,000-gallon UST that has been removed. No documentation was available regarding the condition of the tank at closure.	<p>This 6,000-gallon UST was removed from the ground in 1996. DDOE concurrence for clean closure granted in 2004.</p> <p>This tank was replaced with a 6,000-gallon UST (MP-30) in 1996. This tank is still operating in accordance with state and federal regulations.</p> <p>No LUST incidents associated with either tank.</p>
<b>16(2)PS/PR(P):</b> UST MP-9 Tank Removal at Building 41	2	1	3,000-gallon UST that has been removed. No documentation was available regarding the condition of the tank at closure.	<p>This 3,000-gallon UST was removed from the ground in 1997. DDOE concurrence for clean closure was granted in 2004.</p> <p>This tank was replaced with a 3,000-gallon UST (MP-32) in 1998, and subsequently removed in 2007. DDOE concurrence for clean closure was granted in 2008.</p> <p>No LUST incidents associated with either tank.</p>

Site ID	Type (2006)	Current Type (2014)	Basis ( From 2006 ECP)	Basis for Change/ Additional Information
<b>17(2)PS/PR(P):</b> UST MP-13 Tank Removal at Building 54	2	2	1,500-gallon UST that has been removed. No documentation was available regarding the condition of the tank at closure.	This 1,500-gallon UST was removed from the ground, date unknown. UST was replaced by a 4,550-gallon AST. Currently operating in accordance with state and federal regulations. No LUST incidents are associated with either tank.
Building 40 Machine room PCB contamination	1	1	Residual PCBs on floor of room B003 following clean-up and building decommissioning.	No known releases. No changes.
Building 54, PCB contamination	1	1	PCBs detected on the concrete floor of the basement	No known releases. Wipe samples were below 100 µg/100cm <sup>2</sup> , and the floor was repainted since 1992 according to WRAMC staff. No changes.
Radioactive Material at Buildings 1, 2, 7, 38, 41, 54, 91 and 92	1	1	Several buildings were identified as using RAM.	The NRC released all of these buildings for unrestricted use in 2012.
Building 11 Elevator Hydraulic Oil Release	N/A	2	Not identified in the 2006 ECP.	Hydraulic oil leak in the eastern elevator pit in 2011. All samples (soil and wipe) were non-detect for PCBs. One soil sample revealed a TPH-DRO concentration of 21,000 mg/kg. Impacted areas cleaned and 350 gallons of contaminated water removed.
Building 2, Transformer Rooms	N/A	1	Not identified in the 2006 ECP	Oil in the transformers tested negative for PCBs. However, historical stains below the transformers tested positive for PCBs. Area cleaned and encapsulated in 2012. All areas cleaned to below detection limits. No known releases to the environment.

Site ID	Type (2006)	Current Type (2014)	Basis ( From 2006 ECP)	Basis for Change/ Additional Information
Building 40 East Transformer pad PCB contamination	N/A	4	Not identified in the 2006 ECP	Historical stains on the transformer pads and soil around the transformer pads tested positive for PCBs. The pads were cleaned to below detection limits. Contaminated soil was removed and confirmatory samples were below detection limits.
Building 84 Former UST	N/A	2	Not identified in the 2006 ECP	UST at Building 84 removed, date unknown. Approximately 59 tons of contaminated soil removed and disposed off-site in 1998. Confirmatory soil samples collected were below regulatory action levels.
Building 2, Room 7A07 – Residual Lead dust	N/A	1	Not identified in the 2006 ECP	Elevated lead dust concentrations were identified in Building 2, Room 7A07. Room was cleaned in 2012. Clearance wipe samples ranged from non-detect to 5.0 µg /100cm <sup>2</sup> , which is below action level contamination of 200 µg /ft <sup>2</sup>
Former HCL Tank at Building 41	N/A	1	Not identified in 2006 ECP	500-gallon Hydrochloric acid tank removed from ground in 1999. Confirmatory samples indicate no residual contamination.
Former Greenhouses Building 83	N/A	4	Not identified	Greenhouses located east of Building 83 were torn down in 1997/1998. Soils contaminated with DDT were identified, and between 20 and 40 tons of soil were excavated and disposed of off-site. A monitoring well closest to this site was sampling in 2007. The analytical result for DDT was below the detection limit.
Accumulated Groundwater in Steam Tunnel – Building 15	N/A	1	Not identified in the 2006 ECP	Trace amounts of PCBs have been detected in accumulated groundwater in the steam tunnel. Sampling in 2014 identified concentrations at 0.00004 µg/L, below EPA's recommended level of PCBs in the water column for protection of human health and the environment (0.000064 µg /L).

Site ID	Type (2006)	Current Type (2014)	Basis ( From 2006 ECP)	Basis for Change/ Additional Information
Accumulated Rainwater from Transformer Vaults – Buildings 91, 1 North, 1 East, 38 and 88	N/A	1	Not identified in the 2006 ECP	PCBs have been identified in accumulated rainwater in transformer vaults at Buildings 91, 1 North, 1 East, 38 and 88. Accumulated water should be disposed of properly, following local, state and federal regulations. No evidence of a release.
Building 2, Room 1H09	N/A	1	Not identified in 2006 ECP	Elevated levels of lead dust detected in Building 2, Room 1H09. The area was cleaned twice, and the floors were encapsulated in 2012. Lead-contaminated dust was remediated to below action levels concentrations of 200 µg /ft <sup>2</sup> .
UST MP-10 Removal at Building 15	N/A	2	Not identified in 2006 ECP	A 3,000-gallon UST was removed at Building 15 in 1995. All contaminated soil and remediation completed in 1999. DDOE granted LUST case a NFA status in 1999.
Former Incinerator at Building 16	N/A	1	Not identified in 2006 ECP	A former incinerator was in operation at Building 16 between 1918 and the 1960s. Exact timeline unknown. Closest soil samples (collected during installation of MW-5) indicate levels of chromium below the DDOE maximum contaminate screening levels. There is no evidence of a release.

## 6.20 DOCUMENT CONTROL

During 2014, the caretaker staff found several archived boxes that contain historical information. These documents include information on abatement records, former Environmental Assessments and information on various projects. See Appendix D-6.20-1 for detailed list. Currently only physical copies of these records are available. See Appendix D-6.20-2 for recurring regulatory reports, their location and availability.

## **7.0 CONCLUSIONS**

The Caretaker staff has performed an Environmental Condition of Property Update Report in accordance with AR 200-1 and applicable ASTM standards. Under ASTM D 6008-96 (2005), the following components were completed: interviews, government record reviews, visual inspections of the Property and adjoining properties, and the declaration by the environmental professional responsible for the assessment.

Based on a review of previous investigations, available historical records, aerial photographs, past use and current land uses of the Site, interviews, and our site reconnaissance, it is the conclusion of this ECP Update Report that the property be reclassified as Types 1, 2 and 4 Property, which, in accordance with ASTM Designation D 5746-98 (2005), is defined as:

- Type 1: An area or parcel of real property where no release, or disposal of hazardous substances or petroleum products or their derivatives has occurred (including no migration of these substances from adjacent properties);
- Type 2: An area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred;
- Type 4: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken;

### 8.0 DECLARATION OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312 and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject Property. A copy of my resume is provided in Appendix E.

Erin Mauer

Erin Mauer  
WRAMC Caretaker BRAC Environmental Coordinator

2 March 2015

Date

### 9.0 PRIOR ECP MEETS OR EXCEEDS ASTM REQUIREMENTS

The original ECP 2006 was reviewed and found to meet the requirements set forth in §4.6.2 of ASTM D 6008-96(2005) and the narrative discussion and findings of that report are incorporated by reference into this ECP Update Report as if contained here in its entirety.

Erin Mauer

Erin Mauer  
WRAMC Caretaker BRAC Environmental Coordinator

2 March 2015

Date

### 10.0 POINTS OF CONTACT

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