1. Keywords

2. Start Date: FY 00
End Date: FY 00

3. HQ Division:

4. Phase:

5. Program NO: 38

6. Survey Type: PRELIMINARY ASSESSMENT

7. INSTALLATION OR SOURCE OF INFORMATION (CITY & STATE OR COUNTY ARE ESSENTIAL)
ZZ - NOT APPLICABLE

8. Authors:

9. ARLOC/Activity: 11933 WRAMC
Location: WALTER REED AMC
State: DC

10. Project Control Number: 38-EH-4949-00

11. Title: PRELIMINARY ASSESSMENT, WRAMC, 27-31 MARCH 2000

12. DSA:

DEPARTMENT OF THE ARMY
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO
ATTENTION OF

MCHB-TS-EGW(40)

29 AUG 2000

MEMORANDUM FOR Commander, Forest Glen Annex, Walter Reed Army Medical Center, ATTN: MCWR-GEO (Dr. Winston Williams), Silver Spring, Maryland 20307

SUBJECT: Preliminary Assessment No. 38-EH-4949-00, Forest Glen Annex, Walter Reed Army Medical Center, Silver Spring, Maryland, 27-31 March 2000

Four copies of the subject report with Executive Summary are enclosed.

FOR THE COMMANDER:

Encl

JOHN W. BAUER, P.G.
Program Manager
Ground Water and Solid Waste

CF(w/encl):
HQDA(DAIM-ED)
CDR, MEDCOM, ATTN: MCHO-CL-W
CDR, NA RMC
CDR, WRAMC, ATTN: PVNTMED SVC
CDR, MEDDAC, FT MEADE, ATTN: PVNTMED SVC
CDR, USAEC, ATTN: SFIM-AEC-EQ/SFIM-AEC-ER
CDR, USACHPPM-N

U.S. Army Center for Health Promotion and Preventive Medicine

USCHPPM

PRELIMINARY ASSESSMENT NO. 38-EH-4949-00
FOREST GLEN ANNEX
WALTER REED ARMY MEDICAL CENTER
SILVER SPRING, MARYLAND
27-31 MARCH 2000

Readiness Thru Health

U.S. Army Center for Health Promotion and Preventive Medicine

The lineage of the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) can be traced back over 50 years. This organization began as the U.S. Army Industrial Hygiene Laboratory, established during the industrial buildup for World War II, under the direct supervision of the Army Surgeon General. Its original location was at the Johns Hopkins School of Hygiene and Public Health. Its mission was to conduct occupational health surveys and investigations within the Department of Defense's (DOD's) industrial production base. It was staffed with three personnel and had a limited annual operating budget of three thousand dollars.

Most recently, it became internationally known as the U.S. Army Environmental Hygiene Agency (AEHA). Its mission expanded to support worldwide preventive medicine programs of the Army, DOD, and other Federal agencies as directed by the Army Medical Command or the Office of The Surgeon General, through consultations, support services, investigations, on-site visits, and training.

On 1 August 1994, AEHA was redesignated the U.S. Army Center for Health Promotion and Preventive Medicine with a provisional status and a commanding general officer. On 1 October 1995, the nonprovisional status was approved with a mission of providing preventive medicine and health promotion leadership, direction, and services for America's Army.

The organization's quest has always been one of excellence and the provision of quality service. Today, its goal is to be an established world-class center of excellence for achieving and maintaining a fit, healthy, and ready force. To achieve that end, the CHPPM holds firmly to its values which are steeped in rich military heritage:

★ *Integrity is the foundation*
★ *Excellence is the standard*
★ *Customer satisfaction is the focus*
★ *Its people are the most valued resource*
★ *Continuous quality improvement is the pathway*

This organization stands on the threshold of even greater challenges and responsibilities. It has been reorganized and reengineered to support the Army of the future. The CHPPM now has three direct support activities located in Fort Meade, Maryland; Fort McPherson, Georgia; and Fitzsimons Army Medical Center, Aurora, Colorado; to provide responsive regional health promotion and preventive medicine support across the U.S. There are also two CHPPM overseas commands in Landstuhl, Germany and Camp Zama, Japan who contribute to the success of CHPPM's increasing global mission. As CHPPM moves into the 21st Century, new programs relating to fitness, health promotion, wellness, and disease surveillance are being added. As always, CHPPM stands firm in its commitment to Army readiness. It is an organization proud of its fine history, yet equally excited about its challenging future.

DEPARTMENT OF THE ARMY
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO
ATTENTION OF

29 AUG 2000

EXECUTIVE SUMMARY
PRELIMINARY ASSESSMENT NO. 38-EH-4949-00
FOREST GLEN ANNEX
WALTER REED ARMY MEDICAL CENTER
SILVER SPRING, MARYLAND
27-31 MARCH 2000

1. PURPOSE. Our purpose in performing this Preliminary Assessment (PA) at the Forest Glen Annex, Walter Reed Army Medical Center was to conduct a site reconnaissance, to determine potential threats to human health and the environment, and to identify any waste sites needing a Site Inspection. Readily available information was gathered to assist in determining whether sites required further investigation. Sites were also evaluated for their need for emergency response actions.

2. CONCLUSIONS.

a. The main pathway of concern is the ground-water pathway. Two sources, leaky underground storage tanks (USTs) and closed landfills, are the origin of the pathways. The UST source has been confirmed, but the landfill source has not. The target of the ground-water pathway is Rock Creek. Water recreation and fishing occur downstream. A critical habitat for the Hays Spring Amphipod, a Federally listed endangered species, is also downstream.

b. No surface water contamination is suspected, except that which may be associated with ground-water discharge to surface water.

c. No sources of air pollution are suspected other than those that are currently monitored under the installation's air permit.

d. No evidence of soil contamination that might lead to personnel exposure was observed during the PA site visit.

e. Some waste and construction debris were noted at the leaf pile by the ballfields.

3. RECOMMENDATIONS.

a. Continue remediation of the fuel contamination from the leaky USTs.

b. Sample the ground water downgradient of the former landfills to determine whether any contamination has leached from them.

c. Remove waste and construction debris from the leaf pile near the ballfields.

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DEPARTMENT OF THE ARMY
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO
ATTENTION OF

MCHB-TS-EGW

PRELIMINARY ASSESSMENT NO. 38-EH-4949-00
FOREST GLEN ANNEX, WALTER REED ARMY MEDICAL CENTER
SILVER SPRING, MARYLAND
27-31 MARCH 2000

1. REFERENCES. Appendix A provides a list of references.

2. AUTHORITY. Electronic mail from John Bauer, Program Manager, Ground Water and Solid Waste, USACHPPM, to LTC Thomas Moxley, Chief, Garrison Environmental Office, Walter Reed Army Medical Center, 0800, 13 March 2000.

3. PURPOSE. Our purpose in performing this Preliminary Assessment (PA) at the Forest Glen Annex, Walter Reed Army Medical Center (WRAMC) was to conduct a site reconnaissance, to determine potential threats to human health and the environment, and to identify any waste sites needing a Site Inspection. Readily available information was gathered to assist in determining whether sites required further investigation. Sites were also evaluated for their need for emergency response actions.

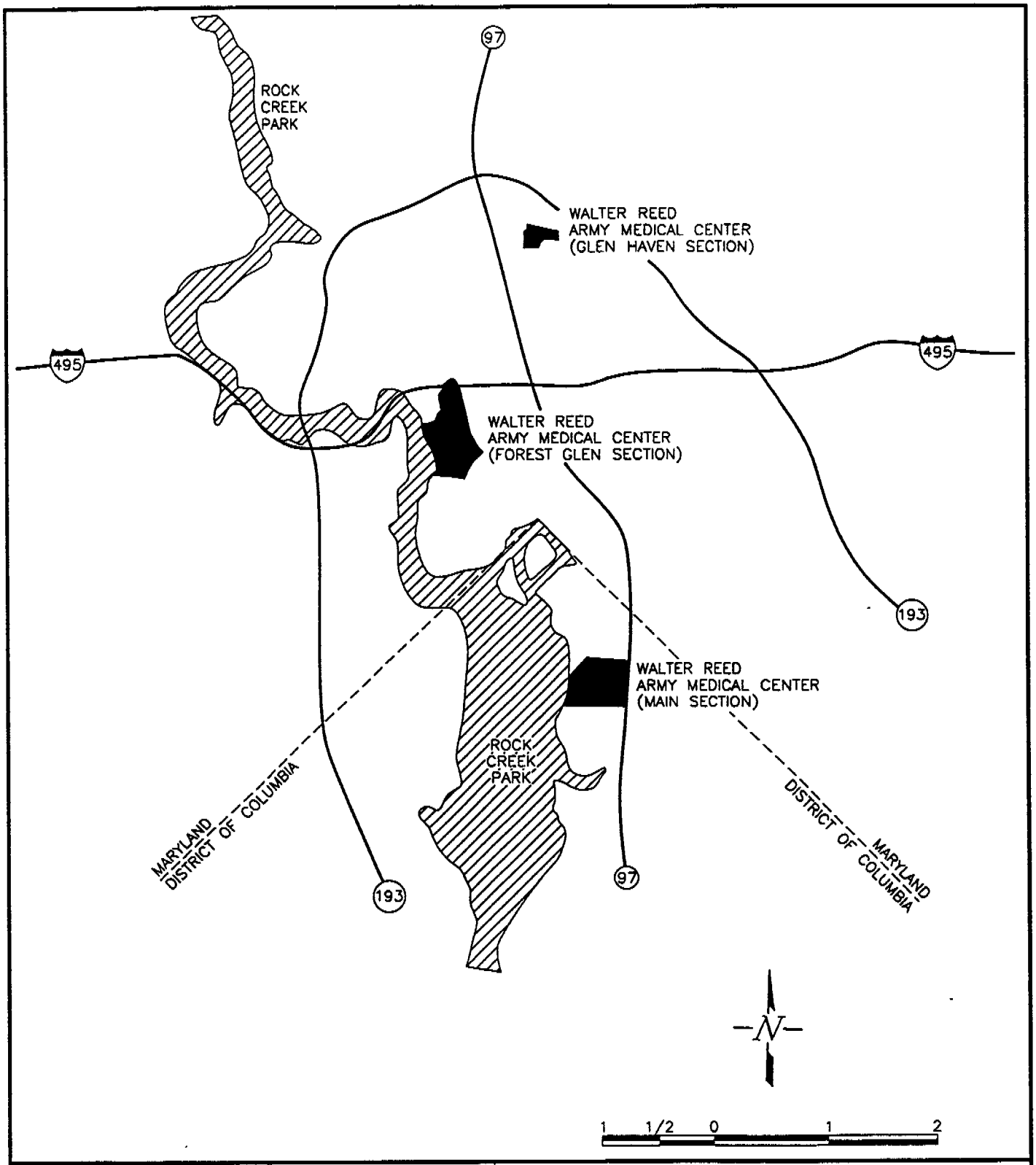
4. GENERAL.

a. Personnel Contacted. Appendix B contains a list of personnel contacted.

b. Regulatory Background. Regulatory requirements for conducting a PA are in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and the Superfund Amendments and Reauthorization Act of 1986. The U.S. Environmental Protection Agency guidance (reference 1) was used in preparing this report.

5. SITE DESCRIPTION.

a. Location. The Forest Glen Annex, WRAMC is in the city of Silver Springs, Montgomery County, Maryland. The coordinates of the installation are between 77° 3' 0.20" and 77° 3' 40.14" west longitude, and 39° 0 '4.52" and 39° 0' 48.23" north latitude. Figure 1 shows



UNITED STATES ARMY
CENTER FOR HEALTH PROMOTION
AND PREVENTIVE MEDICINE
ABERDEEN PROVING GROUND, MARYLAND

FIGURE 1.
LOCATION MAP OF
WALTER REED ARMY MEDICAL CENTER.

DRAWN BY	PROJ. #	FILE
GCL	38-EH-4949-00	DC/WALTER/FIG1

the general location of the Forest Glen Annex and Figure 2 is a more detailed map of the installation.

b. Installation Description. Appendix C contains a photographic log from the site visit. The site covers 164 acres (references 2 and 3). Montgomery County is on the eastern edge of the Piedmont physiographic province and is characterized by varied topography that ranges from lowlands to peaks and ridges of moderate altitude and relief (reference 4). Rolling hills are predominant in the Forest Glen area. The land forms slope in a westerly direction toward the Rock Creek drainage system. Figure 3 is a USGS 7.5 minute base map showing the Forest Glen Annex, WRAMC and the ¼-, ½-, 1-, 2-, 3-, and 4-mile radius.

c. Climate. Weather conditions in the area of investigation are variable, with influences from the Chesapeake Bay and Atlantic Ocean to the east, and the Appalachian Mountains to the west. Summers are characterized by maritime-tropical winds from the south and southwest, which bring warm humid air to the region. High-pressure systems often stagnate over the area, creating the potential for air pollution episodes several times during the summer. Winter is characterized by cold, dry, continental-polar winds from the west and northwest. Mean monthly temperatures range from a low of 35°F in January to a high of 78°F in July. Average annual precipitation is 40 inches. Prevailing winds are from the south at an average speed of 10 miles per hour (reference 4).

d. Surface Water. Surface water generally flows west to Rock Creek, then south. The northeast section of the installation drains to the north before flowing west to Rock Creek. Most of the streams on post are intermittent with only one at the north side of the installation had flowing water. It was about 3 to 5 feet wide and up to a foot deep.

e. Sensitive Environments.

(1) Endangered Species Habitats. No endangered species habitats have been identified on the installation.

(2) Wetlands. The U.S. Fish and Wildlife Service has not identified any wetlands at the installation (reference 5). Rock Creek has 19 acres of associated palustrine wetlands within 1 mile of the installation (Table 1). This includes 17 acres of palustrine, temporarily flooded wetlands, forested with broadleaf deciduous trees (PF01A); 1 acre of palustrine, seasonally flooded or saturated wetlands with emergent growth (PEM1E); and 1 acre of palustrine, seasonally flooded or saturated wetlands with scrub-shrub and broadleaf deciduous trees (PSS1E).

(3) Fisheries and Hatcheries. Fishing occurs along Rock Creek, but no hatcheries were identified.

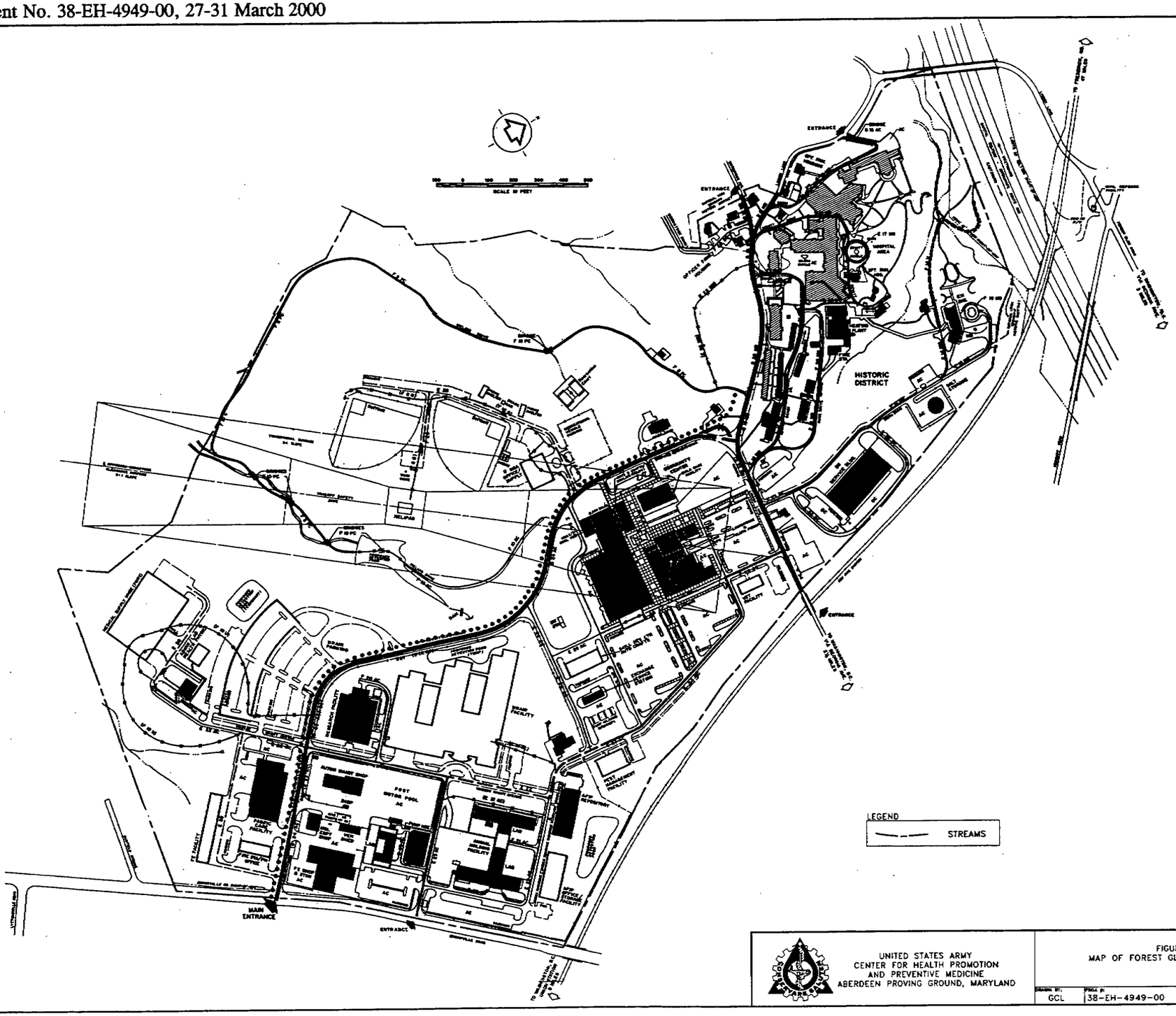


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FIGURE 2.
MAP OF FOREST GLEN ANNEX, WRAMC.

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GCL	38-EH-4949-00	MD/FORESTGLEN/FIG2MFGA

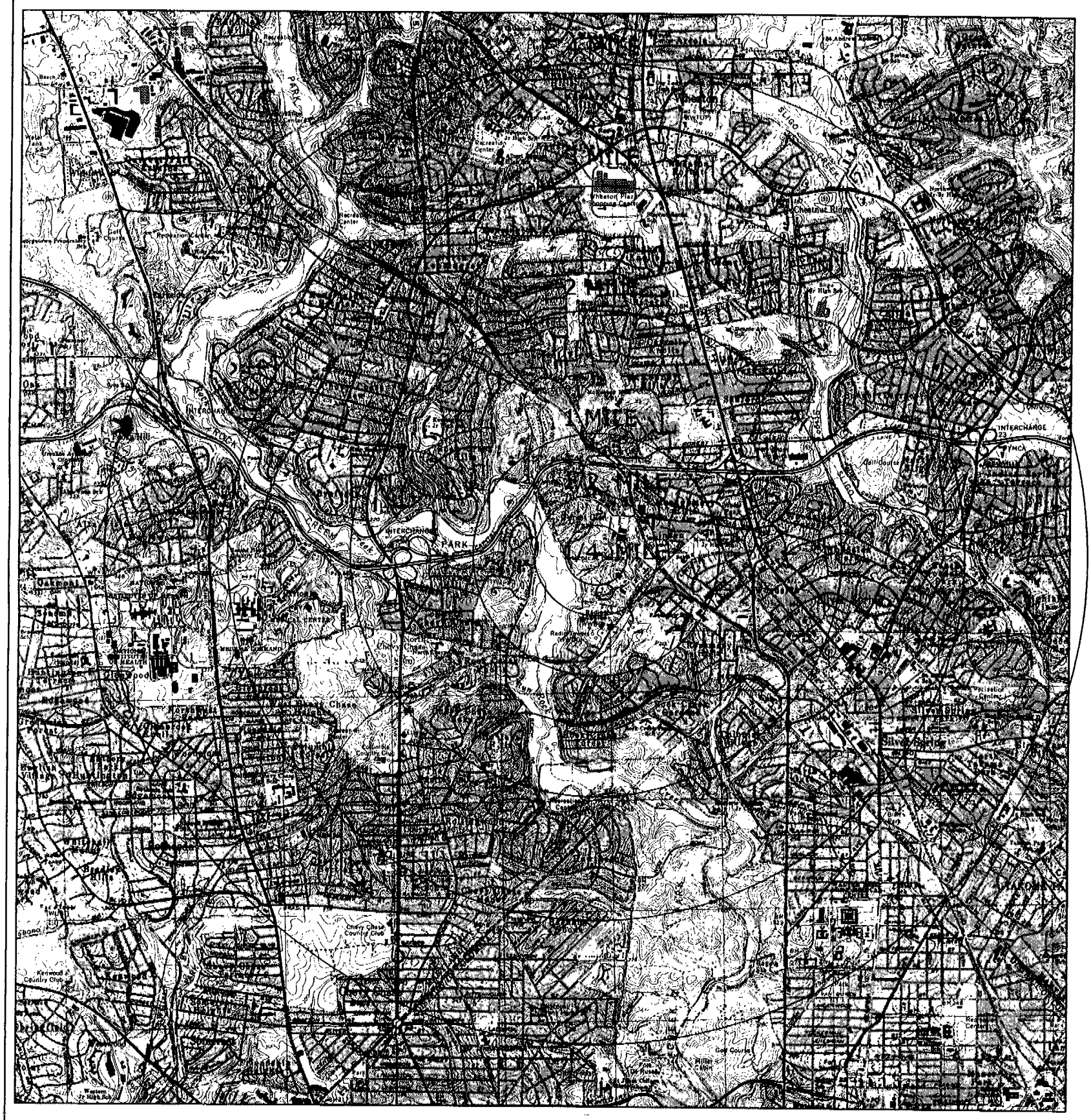

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Figure 3.
The 1/4-, 1/2-, 1-, 2-, 3-, and 4-Mile
Radii Around Forest Glenn Annex, WRAMC.
Surface water drainage routes, sensitive environments, and residences are shown.

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DJB	38-EH-4949-00	MD/FORESTGLEN/FIG3

Table 1. Wetland types and frontage lengths along 15-mile downstream drainage.

WETLAND TYPES	LENGTH (FEET)
Palustrine, forested, broad-leaved deciduous, temporarily flooded	480
Palustrine, forested, broad-leaved deciduous, seasonally flooded/saturated	20
Palustrine, forested, broad-leaved deciduous, seasonally flooded	27
Riverine, tidal, unconsolidated shore, regularly flooded	416
Palustrine, forested, broad-leaved deciduous, temporary-tidal	2672
Palustrine, forested, broad-leaved deciduous, seasonal-tidal	2304
Lacustrine, littoral, emergent, nonpersistent, regularly flooded	23
Palustrine, unconsolidated bottom, permanent-tidal, excavated	45
Riverine, tidal, unconsolidated shore, regularly flooded	7065
Riverine, tidal, unconsolidated bottom, permanent-tidal	882
Lacustrine, limnetic, unconsolidated bottom, permanently flooded	72
Palustrine, emergent, persistent, seasonal-tidal	2981
Riverine, tidal, emergent, nonpersistent, regularly flooded	463
Palustrine, forested/emergent, broad-leaved deciduous, seasonal-tidal	202
Palustrine, scrub-shrub/emergent, broad-leaved deciduous, seasonal-tidal	680
Riverine, tidal, unconsolidated shore, temporary-tidal	278

(4) Conservation Areas. Rock Creek Park is adjacent to the western boundary of the installation.

(5) Floodplains and Wild and Scenic Rivers. The 100-year floodplain skirts the western boundary of the installation, but the steep valley walls prevent the installation from inclusion in the 100-year floodplain. No Wild and Scenic Rivers are within the drainage of the installation.

(6) Wilderness Areas. No wilderness areas are in the vicinity of the property.

(7) Undeveloped Properties within Sole Source Aquifer Recharge Area. The property is not within a sole source aquifer recharge area.

(8) Historic Property. The northernmost 23.5 acres of the installation are the National Park Seminary Historic District. The site contains 24 buildings with about 375,000 square feet of space. The Historic District is bounded by the Capital Beltway, the main rail line of CSX Railroad, Linden Lane, and Smith Drive (reference 6).

(9) Recreational Areas. Two softball fields are on the Forest Glen Annex property near the central western boundary. The adjacent Rock Creek Park has hiking trails and picnic areas.

6. OPERATIONAL HISTORY OF THE FOREST GLEN ANNEX, WALTER REED ARMY MEDICAL CENTER.

a. Site History. The Forest Glen Annex of WRAMC was purchased for use as a convalescent center near the beginning of the United States' involvement in World War II. The area was formerly the National Park Seminary, a women's junior college that was established in 1894 (reference 6). Existing buildings were renovated and the first patients were received in January 1943 (reference 4). A logistics warehouse, community center complex, automotive maintenance shop motor pool, facilities engineering shop, and post laundry were built during the 1970s. During the 1980s, the Armed Forces Institute of Pathology Repository and Research Services Facility, a child development center, and a temporary residence facility, the Fisher House, were completed. The Walter Reed Army Institute of Research (WRAIR) building was constructed during the early 1990s.

b. Current Use. The area currently serves as an auxiliary service, support, and research area for the main section of WRAMC. Activities conducted at Forest Glen include motor vehicle maintenance, research laboratories, and a post exchange (reference 4). The post is no longer used for convalescent care.

c. Regulatory Activities. The Forest Glen Annex is not on the National Priorities List. The facility is a large quantity generator of hazardous waste with a Resource Conservation and Recovery Information System identification number of MD6210020743. Installation personnel reported that there were no current notices of violation by local, state, or Federal authorities.

(1) Asbestos-Containing Material. Older buildings in the Historic District contain asbestos. Most of these buildings are no longer in use or have limited use so worker exposure in minimal.

(2) Lead Paint. Historic District buildings also have lead paint. Some of the paint is chipped and peeling.

d. Land Use Adjacent to Installation. Land adjacent to the installation to the south is used for industrial and retail purposes. The CSX railroad is adjacent to the east side of the installation beyond which are residents along with industrial and retail properties. Residential properties are also to the northwest and beyond I-495 to the north. Rock Creek Park is adjacent to most of the western boundary of the property. The predominant land use within 1 mile is residential with some industrial and retail properties. Businesses and dwellings are adjacent to the Forest Glen Annex property. A daycare facility is on the property and another is about 500 feet to the southeast near the intersection of Brookeville Road and Warren Street. The nearest school is Woodlin Elementary at 2101 Luzerne Avenue, approximately 600 feet east of the southeast corner of the installation.

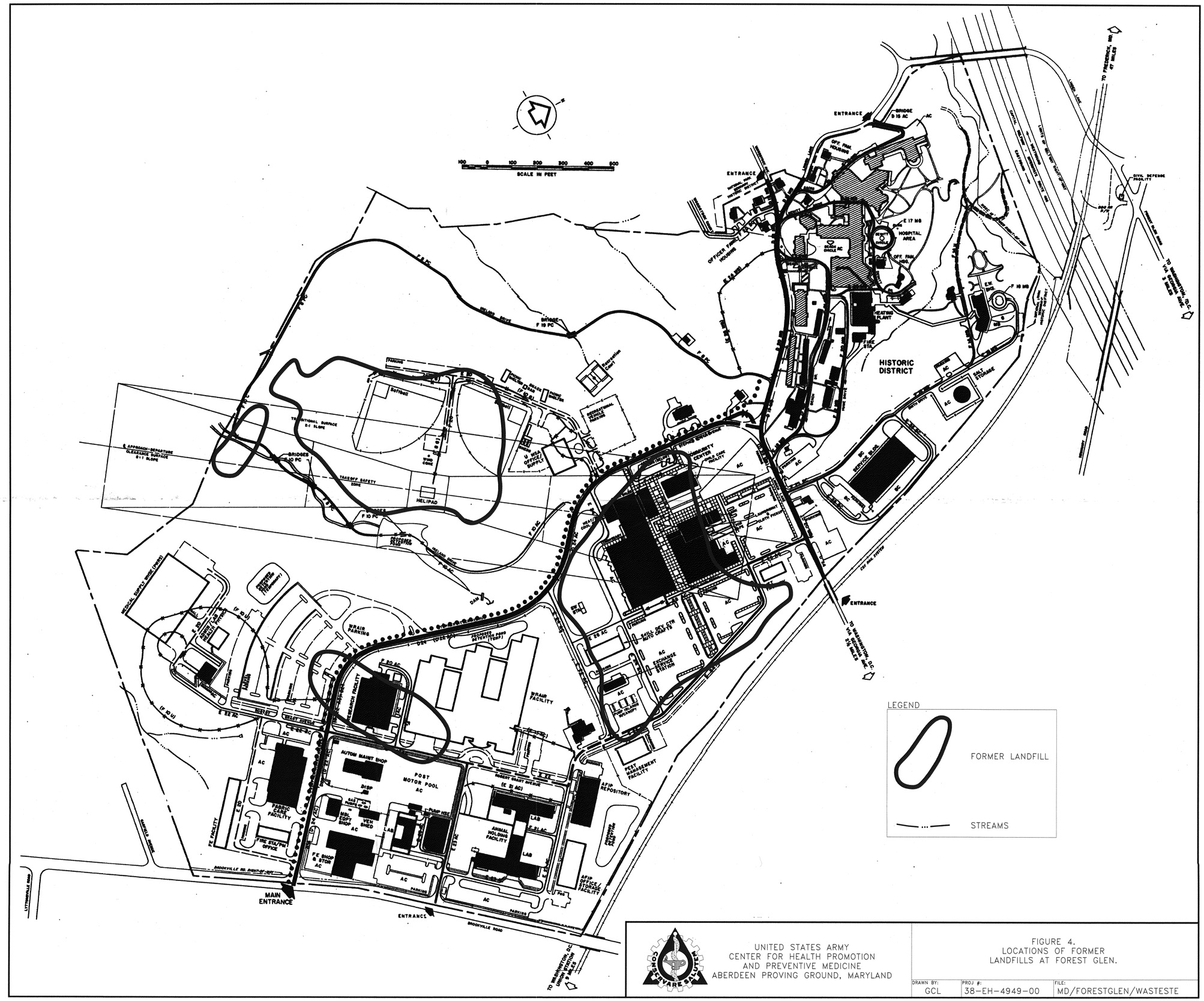
7. SITE DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS OF SITES OF ENVIRONMENTAL CONCERN AT THE FOREST GLEN ANNEX, WALTER REED ARMY MEDICAL CENTER. The following sections are descriptions of sites investigated during this PA that may be of environmental concern.

a. Former Landfills.

(1) Location. Three former landfills were in the central portion of the installation and one was located in the area of Building 511 and the WRAIR building (Figure 4).

(2) Site Description. No surficial evidence of the landfills was observed. Two ballfields and several buildings are on the former landfill sites.

(3) Operational History and Waste Characteristics. Wastes buried in the landfills include construction debris, medical waste, incinerator ash, household waste, and office waste. The landfills were operated from 1942 until 1966 (reference 7). An undated aerial photo showed active dumping in the landfill where the ballfields are. Medical wastes were uncovered during excavation in the parking lot southwest of the WRAIR building.



UNITED STATES ARMY
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ABERDEEN PROVING GROUND, MARYLAND

FIGURE 4.
LOCATIONS OF FORMER
LANDFILLS AT FOREST GLEN.

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b. Underground Storage Tank Leaks.

(1) Location. Underground storage tanks (USTs) were by Buildings 505 and 603 (fuel pumps associated with the motor pool in Building 605).

(2) Site Description. The USTs have been removed.

(3) Operational History and Waste Characteristics. Fourteen USTs had been in the area between Building 505 and the motor pool area in 1989. Three tanks were on the southwest end of Building 500. Two of these held 50,000 gallons of gasoline and one held 12,000 gallons of diesel fuel. Two 5,000-gallon gasoline USTs and one 5,000-gallon diesel UST were next to Building 605 (reference 8). Based on the chemical results, it was determined that the diesel tank by Building 500 had leaked and the gasoline tank by Building 605 had leaked. No evidence of other contamination was detected. All of these tanks have been removed. The USTs by Building 605 were replaced in 1994 by a 10,000-gallon gasoline UST and a 10,000-gallon diesel UST. A pump and treat system is being operated near Building 505. The system consists of an oil/water separator followed by an air stripper then a liquid phase carbon filter. Free product is still being removed.

c. Incinerators.

(1) Location. Two incinerators were built north of Building 511.

(2) Site Description. The original incinerator was demolished and replaced by a Consumat model C-125-P infectious waste incinerator.

(3) Operational History and Waste Characteristics. The first incinerator was built in 1957 and operated until 1970. Papers, contaminated wastes, animal bodies, and garbage were incinerated in it. The replacement incinerator was used to incinerate animal bodies and bedding. Installation personnel reported that it was no longer used and infectious waste was transported offpost. Ash from the incinerators was buried in the landfills.

d. Wash Rack.

(1) Location. The wash rack is in Building 607 in the cantonment area.

(2) Site Description. Building 607 is enclosed on three sides. It has a concrete floor.

(3) Operational History and Waste Characteristics. From 1975 until 1979, the wash rack discharged directly to the storm water sewer (reference 2). An oil/water separator was connected to the wash rack in 1979.

e. Contaminated Soil Pile.

(1) Location. The soil pile was next to Building 511, but had been removed before the site visit.

(2) Site Description. A building was on the former site of the contaminated soil pile.

(3) Operational History and Waste Characteristics. A pile of soil contaminated with Number 2 fuel oil was reported in reference 2. The origin of the soil was not discussed.

8. GROUND-WATER PATHWAY.

a. Hydrogeologic Setting.

(1) Soils. The three predominant soil series onsite are the Occoquan loam, Brinklow-Blocktown silt loams, and urban land. The Occoquan loam covers the higher elevations in the northern half of the installation, and the Brinklow-Blocktown covers the slopes throughout much of the installation. Three soil series cover a lessor extent; the Gaila silt loam, the Glenelg silt loam, and the Wheaton silt loam. Minor soil types include the Baile silt loam and the Blocktown silt loam. All of the soils are well drained except the Baile silt loam, which is only present around the stream channel at the north end of the installation (reference 9).

(2) Geology. The Forest Glen Annex is underlain by the Kensington quartz diorite. The Kensington quartz diorite was intruded into the Wissahickon schist and was subsequently metamorphosed. Little of the original igneous structure remains. The gneiss is mostly plagioclase (33.1%) and quartz (39.0%) and is strongly schistose. The uppermost portion of the unit is saprolite (weathered rock) of varying thickness. An approximately 15-mile long wedge of the Kensington quartz diorite runs north/south, roughly parallel to Rock Creek with the Forest Glen Annex near the middle. This wedge is bounded by Wissahickon schist east and west of the installation (reference 10).

(3) Geohydrology. The bedrock does not act as an aquifer at the Forest Glen Annex. Ground water may be present in fractures in the rock, but yields would not be sufficient for more than one household. Ground water is present in the soils and saprolite at the site. Ground-water flow generally follows the surface contours and discharges to Rock Creek. The ground water is encountered in the saprolite in higher elevations and in the soils closer to surface drainage (references 11 and 12).

b. Indications of Release. Releases from USTs have been confirmed by excavations and monitoring well sampling. Landfill leachate has not been confirmed, but may have occurred. No

indications of releases, such as stained soil or stressed vegetation, were evident on the ground surface.

c. Ground-Water Targets. The main target for ground water is Rock Creek where most ground water in the uppermost aquifer is expected to discharge. Only four unused water wells were reported within 2 miles of the site (reference 6).

9. SURFACE WATER PATHWAY.

a. Hydrologic Setting. All overland flow eventually flows to the west into Rock Creek. Most overland flow on the Forest Glen Annex is in intermittent stream channels. A stream at the north end of the installation is perennial. Steep slopes around the stream channels prevent most flooding. Table 1 summarizes the wetlands for 15-miles downstream.

b. Indications of Release. No evidence of surface releases was observed during the site visit. A sewage system leak near the softball fields was reported by installation personnel. Testing in the tributary that received the spill revealed that the fecal coliform was higher in Rock Creek than the tributary.

c. Surface-Water Targets. There are no surface water intakes within 15 miles downstream of the site. Rock Creek discharges to the Potomac River about 11 miles downstream. The water eventually flows into the Chesapeake Bay. A critical habitat for the Hays Spring Amphipod, a Federally-listed endangered species, is about 5 miles from the Forest Glen Annex in the Rock Creek flood plain next to the National Zoo. Both commercial and recreational fishing occurs within 15 miles downstream (reference 2).

10. SOIL EXPOSURE AND AIR PATHWAYS.

a. Physical Conditions. Most of the Forest Glen Annex has unrestricted access. Blowing soil is not a problem because of the good vegetative cover. The only air emissions noted during the site visit are from sources operating under the installation's current air emissions permit.

b. Indication of Soil Contamination. No evidence of soil contamination was observed during the site visit. No stressed vegetation or odors were noted.

c. Soil and Air Targets. Except for maintenance, all work at the Forest Glen Annex is done indoors in an office or laboratory setting. A daycare facility is located on the Forest Glen Annex. Softball and other outdoor recreation take place on the property. Residences are located within 200 feet of the northwest boundary of the installation. Approximately 279,222 people live within 4 miles of the site based on 1990 Census data (Table 2).

TABLE 2. POPULATION AROUND FOREST GLEN ANNEX
1990 CENSUS DATA

MILES	POPULATION
0-0.25	317
0.25-0.5	403
0.5-1	13,739
1-2	39,271
2-3	89,257
3-4	136,235
Total	279,222

11. CONCLUSIONS.

a. The main pathway of concern is the ground-water pathway. Two sources, leaky USTs and closed landfills, are the origin of the pathways. The UST source has been confirmed, but the landfill source has not. The target of the ground-water pathway is Rock Creek. Water recreation and fishing occur downstream. A critical habitat for the Hays Spring Amphipod, a Federally-listed endangered species, is also downstream.

b. No surface water contamination is suspected, except that which may be associated with ground-water discharge to surface water.

c. No sources of air pollution are suspected other than those that are currently monitored under the installation's air permit.

d. No evidence of soil contamination that might lead to personnel exposure was observed during the PA site visit.

e. Some waste and construction debris were noted at the leaf pile by the ballfields.

12. RECOMMENDATIONS.

a. Continue remediation of the fuel contamination from the leaky USTs.

b. Sample the ground water downgradient of the former landfills to determine whether any contamination is leaching from them.

c. Remove surficial waste and construction debris from the leaf pile near the ballfields.

THOMAS S. MECKELNBURG, P.G.
Geohydrologist

REVIEWED:

WAYNE A. FOX, P.G.
Section Chief
Compliance and Pollution Prevention

APPROVED:

JOHN W. BAUER, P.G.
Program Manager
Ground Water and Solid Waste

APPENDIX A

REFERENCES

1. Guidance for Performing Preliminary Assessments Under CERCLA, Publication 9345.0-01A, U.S. EPA Office of Emergency and Remedial Response, Washington, DC, September 1991.

2. Preliminary Assessment Report for the Forest Glen Annex of Walter Reed Army Medical Center, Report Number CETHA-IR-CR-90174, Roy F. Weston, West Chester, Pennsylvania for U.S. Army Toxic and Hazardous Materials Agency, APG, Maryland, 30 October 1990.

3. Memorandum, USAEHA, HSHB-ME-SG, 14 January 1993, subject: Preliminary Assessment Screening Number 38-26-K18S-93, Ireland Drive Area, Forest Glen Annex, Walter Reed Army Medical Center, 7 December 1992.

4. Memorandum, USACHPPM, MCHB-TS-EGW, 7 July 1998, subject: Hydrologic Investigation No. 38-EH-8209-98, Walter Reed Army Medical Center, Building 500 Area of the Forest Glen Annex, Silver Spring, Maryland, 11-14 May 1998.

5. U.S. Fish and Wildlife Service, National Wetlands Inventory web site, http://www.nwi.fws.gov/, 20 April 2000.

6. Environmental Baseline Study for the Historic District of the Forest Glen Annex of Walter Reed Army Medical Center prepared for Walter Reed Army Medical Center by CH2M Hill under contract to the U.S. Army Corps of Engineers, Baltimore District, April 1996.

7. Installation Assessment of Headquarters, Walter Reed Army Medical Center, Washington, DC, and noncontiguous sections Forest Glen, Silver Spring, Maryland and Glen Haven, Wheaton, Maryland, U.S. Army Toxic and Hazardous Materials Agency Report No. 342, June 1984.

8. Memorandum, USAEHA, HSHB-ME-SG, 24 May 1993, subject: Ground-Water Quality Consultation No. 38-26-K1HT-93, Forest Glen Section, Walter Reed Army Medical Center, Washington, DC, 8-10 February 1993.

9. Soil Survey of Montgomery County, Maryland, United States Department of Agriculture, Natural Resources Conservation Service, 1995.

10. Howard and Montgomery Counties, Maryland Geological Survey, 1964.

11. Site Characterization and Qualitative Human Risk Assessment for the Walter Reed Army Institute of Research Building Site, Forest Glen, Maryland, by the Special Projects Group, Energy Systems Division, Argonne National Laboratory, Argonne, Illinois, for the United States Army Corps of Engineers, Baltimore District, July 1990.

12. Memorandum, USAEHA, HSHB-ME-SG, 30 November 1989, subject: Ground-Water Quality Consultation No. 38-26-0354-90, Forest Glen Section, Walter Reed Army Medical Center, Washington, DC, 19-30 June 1989.

APPENDIX B

PERSONNEL CONTACTED

1. Winston Williams, Ph.D., Garrison Environmental Office, Walter Reed Army Medical Center.

2. LTC Thomas Moxely, Chief, Garrison Environmental Office, Walter Reed Army Medical Center.

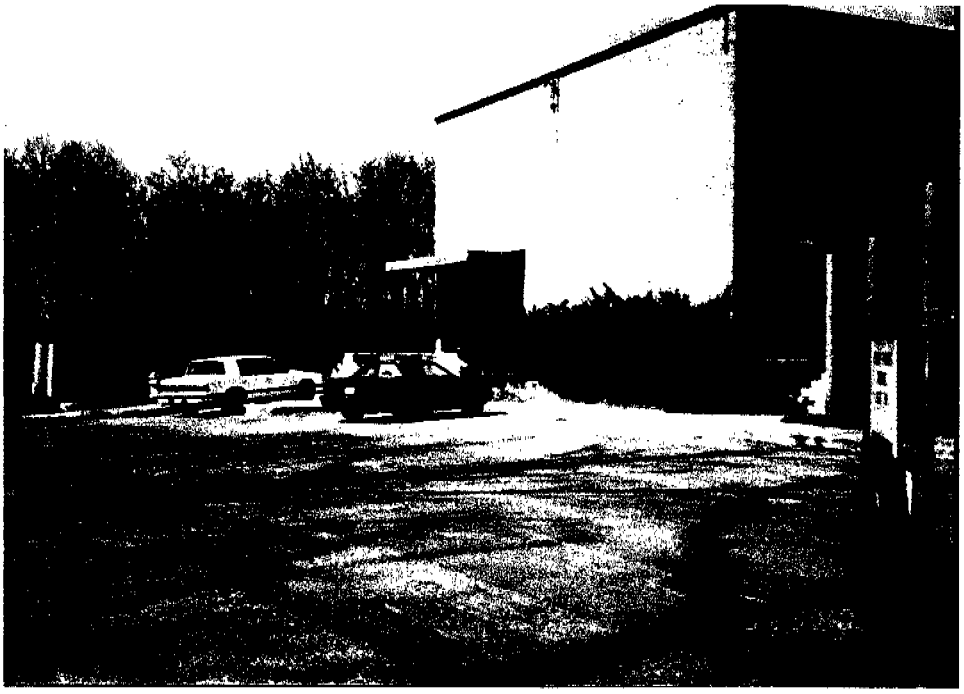
3. Tyrone Boyd, Walter Reed Army Medical Center Command Group, Forest Glen Extension.

4. MSG Lorenza Reid, Walter Reed Army Medical Center Command Group, Forest Glen Extension.

5. Tracy Porter, Master Planner, Planning Office, Walter Reed Army Medical Center.

APPENDIX C

PHOTOGRAPHIC LOG



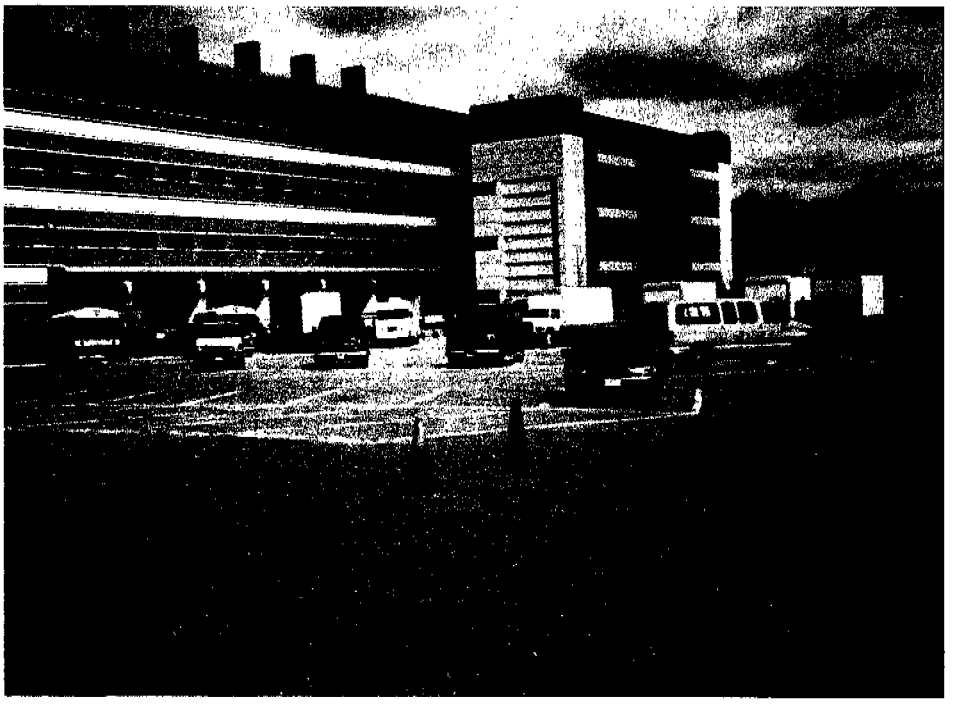
Photograph 1. Former Health Physics Laboratory. Facing northwest.

Photograph 2. Dumpster by former Health Physics Laboratory. Facing north.

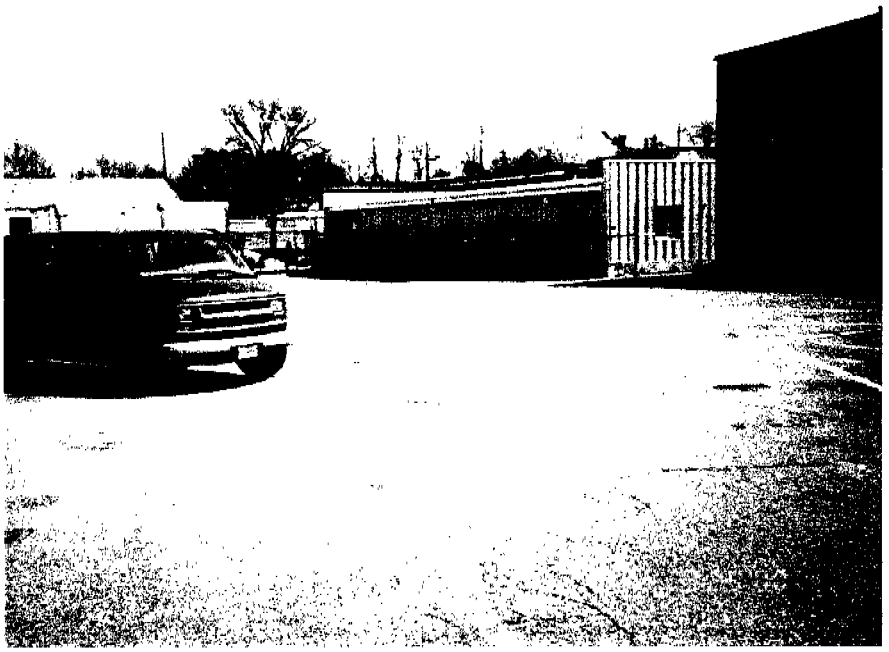
Photograph 3. Southeast corner of installation near Fabric Care Facility (Building 606). Facing northeast.

Photograph 4. Southeast corner of the installation facing east.

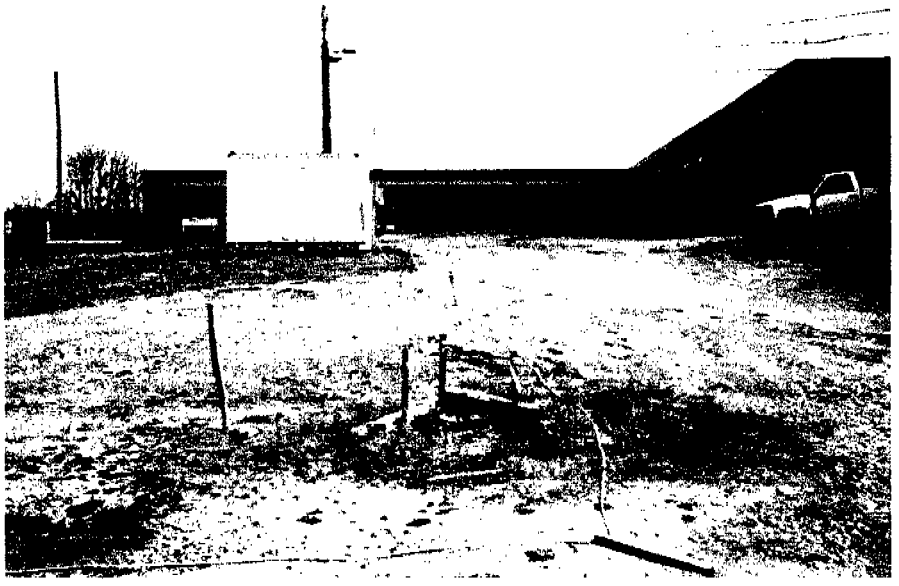
Photograph 5. Fuel pump by Building 604 in the motor pool area. Facing north.



Photograph 6. Walter Reed Army Institute of Research from the motor pool. Fuel pumps are to the right. Medical waste was encountered near the buses to the left.



Photograph 7. Motor pool facing east. Pump and treat system is behind tan building.



Photograph 8. Pump and treat system is in white shed. Facing east.

Photograph 9. Facing south across the ballfield. Helipad is behind the ballfield.

Photograph 10. Waste in wooded area west of ballfield, on edge of a cleared area. Waste consisted of metal, wood, and construction debris.

Photograph 11. West of ballfield, in wooded area. Facing cleared area.

Photograph 12. Intermittent drainage in the Historic District northwest of Building 104. Facing south.

Photographic 13. Building 101 in the Historic District. Facing west.

Photograph 14. Stream drainage through the middle of the Historic District. Facing southwest. No waste was observed in the drainage in the Historic District.