

## **Environmental Baseline Survey**

### **William Beaumont General Hospital Historic District**

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**Fort Bliss, Texas**

**Prepared for:**

**Directorate of Environment**

**Fort Bliss, Texas**

**December 2002**

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## EXECUTIVE SUMMARY

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This report documents the Environmental Baseline Survey (EBS) of the William Beaumont General Hospital Historic District (WBGHHD) area of Fort Bliss, Texas. The EBS was funded by the Army Office of Historic Properties, Office of the Assistant Secretary of the Army for Installations and Environment and was performed by Plexus Scientific Corporation (Plexus). This report describes the property's environmental conditions and will be used to determine the property's suitability for lease.

The initial 48 buildings of WBGHHD were built between 1920 and 1921. During World War II, WBGHHD expanded to include 174 buildings. In 1969, the Army began construction of the William Beaumont Army Medical Center, a new 12-story hospital located west of the WBGHHD area.

The property was divided into nine sections for purposes of conducting the EBS (Sections A through I), as shown in Figure ES-1. Plexus reviewed documents, historical aerial photographs and city directories for El Paso County, as well as searched federal and state regulatory databases, conducted a site reconnaissance and conducted interviews with Fort Bliss personnel in carrying out this EBS.

It was found that petroleum product contamination occurred or possibly occurred in several areas of Section D of the WBGHHD area. Seven petroleum storage tanks were removed from Section D. Soil contamination was found at two 20,000-gallon concrete underground storage tanks (UST), which is an Installation Restoration Program (IRP) site and a recognized environmental condition. The Texas Commission on Environmental Quality (TCEQ) requested site closure for the seven tanks; however, it has not been approved. A vehicle maintenance area is located north of Building 7139 with a sump that had an oily sheen and odor. It is possible that there was a release of petroleum products from this area.

A disposal area for demolition debris was found within 800 feet of a drainage ditch in the western portion of the WBGHHD area in Section H. From aerial photographs, it appears that the debris was disposed of in the ditch in the early 1980s. From the surface, concrete, pipes, rebar and bricks were visible. It is likely that asbestos containing material (ACM) is mixed with the debris and that the disposal area is a recognized environmental condition.

Pesticides have been applied on the subject property since construction began in the 1920s. Although, there is no evidence at this time that these chemicals were misapplied or stored in the WBGHHD area, it is likely that pesticides were stored and applied at a former greenhouse area in Section C. However, there was no observation or indication during Plexus' site reconnaissance or from Plexus' records review, of current usage or storage of pesticides in the WBGHHD.

One polychlorinated biphenyl (PCB) transformer was removed from Building 7145 in Section D before January 1998, and six PCB-contaminated transformers were located in Sections B, C, D and G in January 1998.

Asbestos containing material (ACM) was identified or suspected in most portions of the WBGHHD area. Friable ACM is present or suspected in Buildings 7000, 7113, 7115, 7124, 7125, 7134, 7136, 7139, 7159, 7175 and 7186. Non-friable ACM is present or suspected in Buildings 7000, 7113, 7124, 7125, 7136, 7139, 7151, 7153, 7157-7159, 7162, 7166, 7167, 7175, 7183-7192 and 7194. Also, many of the roofs most likely contain non-friable asbestos shingles, and some potential asbestos shingles and transite panels are present on the ground. Friable ACM is present on underground steam pipes that are present in Sections C, D and E as shown in Figure ES-1.

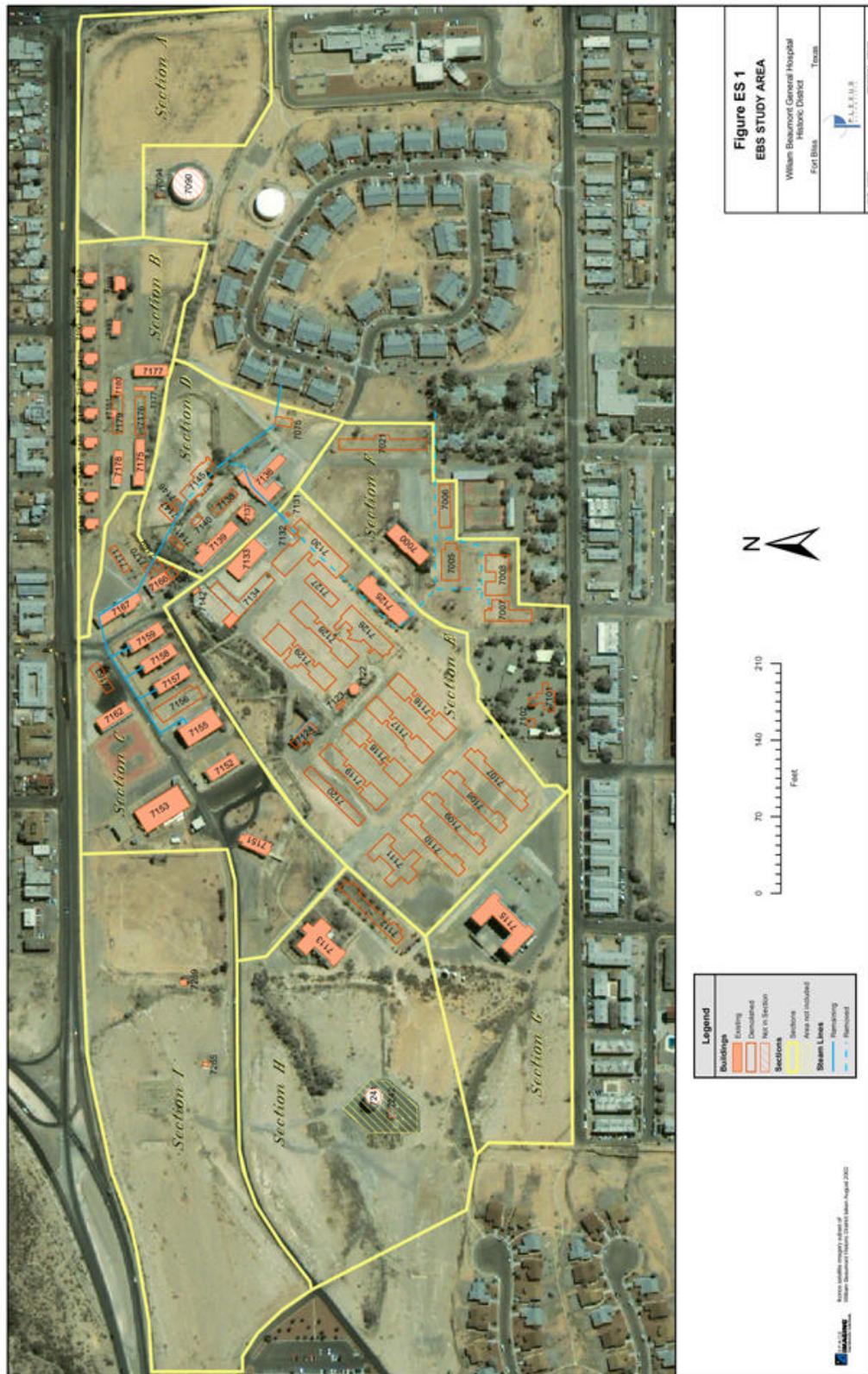


Figure ES-1. EBS Study Area.

There is a potential for lead-based paint in Buildings 7000, 7113, 7115, 7124, 7125, 7134, 7136, 7137, 7139, 7151–7153, 7157–7159, 7162, 7166, 7167, 7175, 7177, 7183–7192, 7194 7289.

A radon survey was conducted between 1989 and 1990. The survey found that two of the results tested above 4 picocuries per liter (pCi/L) at two locations at the basement of Building 7115 (11.2 and 7.8 pCi/L respectively) in the WBGHHD area were. Follow-up long-term measurement conducted for the basement and first floor of Building 7115 supplied results that were less than 4 pCi/L.

In summary, based on a review of available records, a release of hazardous substances or petroleum products is not suspected for most of the WBGHHD area, with the exception of Section D, where a petroleum release occurred. Lease of the property is possible with disclosure of the petroleum contamination in Section D, the demolition debris landfill in Section H and the presence of ACM and lead-based paint in many of the buildings.

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## LIST OF ACRONYMS

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<b>ACM</b>	Asbestos-containing material
<b>AFH</b>	Army Family Housing
<b>AHERA</b>	Asbestos Hazard Emergency Response Act
<b>AR</b>	Army Regulation
<b>ASHERA</b>	Asbestos School Hazard Emergency Response Act
<b>AST</b>	Aboveground Storage Tank
<b>ASTM</b>	American Society of Testing and Materials
<b>ATM</b>	Alpha Track Monitor
<b>bgs</b>	below ground surface
<b>BRAC</b>	base realignment and closure
<b>BTEX</b>	benzene, toluene, ethyl benzene, and total xylene
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>CERCLIS</b>	Comprehensive Environmental Response, Compensation and Liability Information System
<b>CERL</b>	Construction Engineering Research Laboratory
<b>CFR</b>	Code of Federal Regulations
<b>cm</b>	centimeter
<b>CORRACTS</b>	Corrective Action Report
<b>DEH</b>	Directorate of Engineering and Housing
<b>DoD</b>	U.S. Department of Defense
<b>EBS</b>	Environmental Baseline Survey
<b>EDR</b>	Environmental Data Resources, Inc.
<b>EPED</b>	El Paso Engineering Department
<b>ESA</b>	Environmental Site Assessments
<b>ESE</b>	Environmental Science and Engineering, Inc.
<b>EQR</b>	Environmental Quality Report
<b>FIFRA</b>	Federal Insecticide, Fungicide, and Rodenticide Act
<b>FOSL</b>	Finding of Suitability to Lease
<b>HTRW</b>	hazardous, toxic, and radiological wastes
<b>IRP</b>	Installation Restoration Program
<b>LPST</b>	Leaking Petroleum Storage Tank
<b>LQG</b>	Large Quantity Generator

<b>LUST</b>	Leaking Underground Storage Tanks
<b>m</b>	meter
<b>MTBE</b>	methyl-tert-butyl-ether
<b>NACI</b>	National Asbestos Consultants, Inc.
<b>NESHAP</b>	National Emissions Standards for Hazardous Air Pollutants
<b>NGVD</b>	National Geodetic Vertical Datum
<b>NPL</b>	National Priorities List
<b>NRCS</b>	Natural Resource Conservation Service
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PAH</b>	Polynuclear Aromatic Hydrocarbon
<b>PCB</b>	polychlorinated biphenyl
<b>pCi/L</b>	picocuries per liter
<b>Plexus</b>	Plexus Scientific Corporation
<b>ppm</b>	parts per million
<b>R&amp;A</b>	Rollag & Associates
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RQ</b>	Reportable Quantity
<b>SCAI</b>	Sun City Analytical, Inc.
<b>SOW</b>	Scope of Work
<b>SQG</b>	Small Quantity Generator
<b>SSSC</b>	Self Service Supply Center
<b>SWL</b>	Solid Waste Landfill
<b>TCEQ</b>	Texas Commission on Environmental Quality
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TNRCC</b>	Texas Natural Resource Conservation Commission
<b>TSCA</b>	Toxic Substances Control Act
<b>TSD</b>	Treatment, Storage & Disposal Facilities
<b>USACE</b>	U.S. Army Corps of Engineers
<b>USACERL</b>	United States Army Construction Engineering Research Laboratories
<b>USAETL</b>	U.S. Army Engineer Topographic Laboratories
<b>USAEC</b>	US Army Environmental Center
<b>USEPA</b>	U. S. Environmental Protection Agency
<b>USGS</b>	United States Geological Survey
<b>UST</b>	Underground Storage Tank

**UXO** unexploded ordnance  
**VIVA** VIVA Environmental, Inc.  
**WBAMC** William Beaumont Army Medical Center  
**WBGHHD** William Beaumont General Hospital Historic District

# 1 INTRODUCTION

Plexus Scientific Corporation (Plexus), under contract with the Army Office of Historic Properties, conducted an Environmental Baseline Survey (EBS) at the William Beaumont General Hospital Historic District (WBGHHD) area (i.e., subject property) located at Fort Bliss, El Paso County, Texas (Figures 1-1 and 1-2).

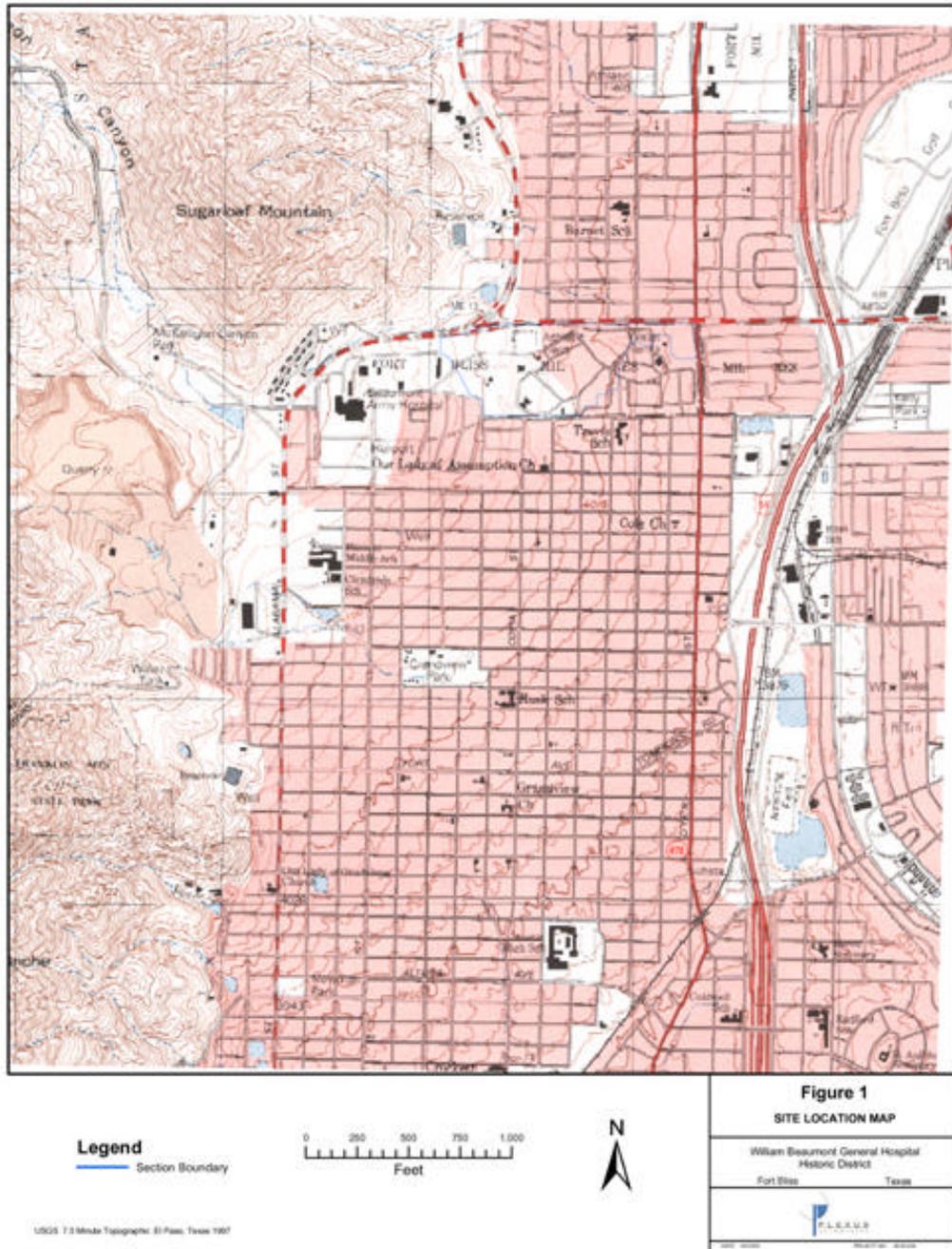


Figure 1-1. Site Location Map.

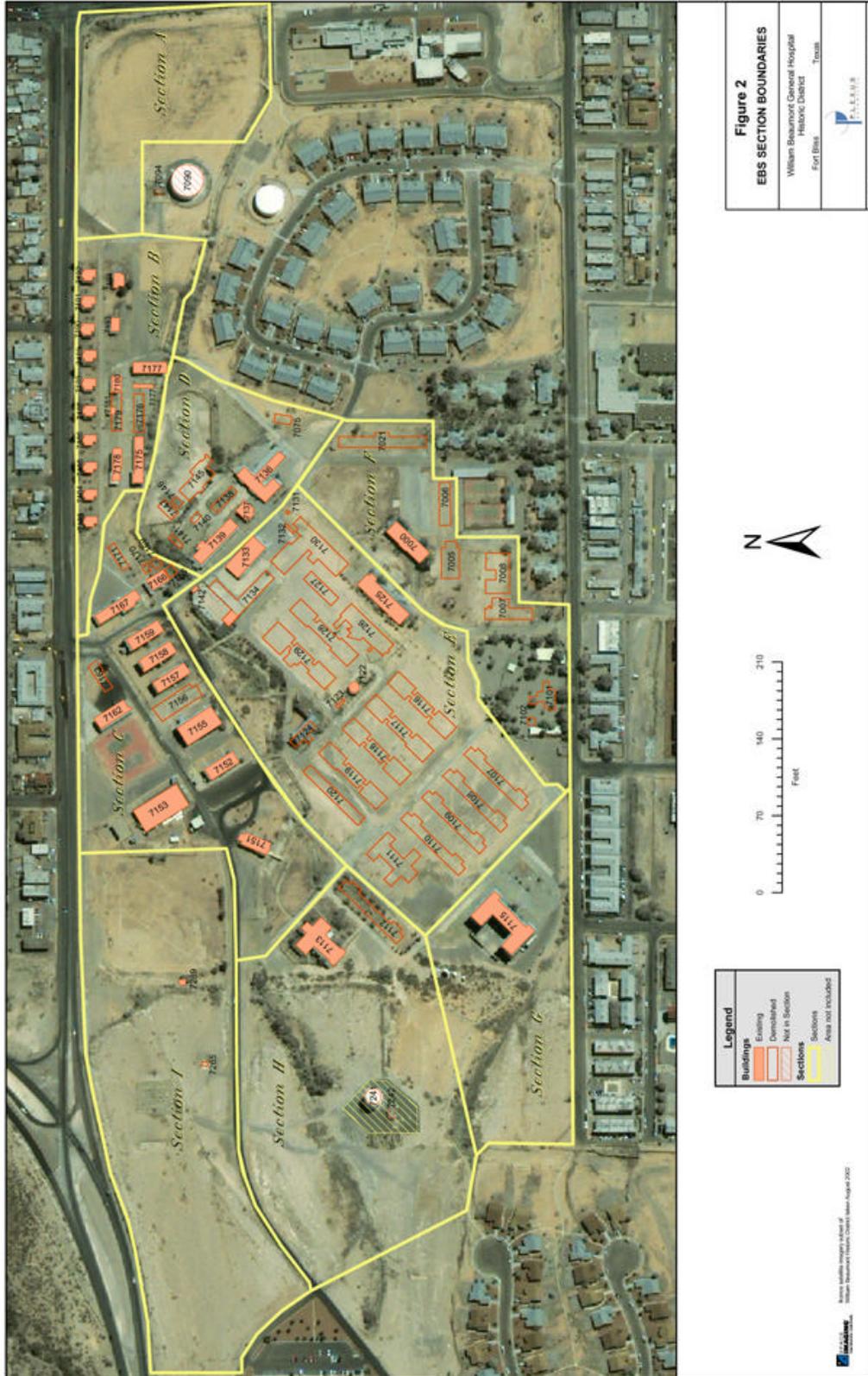


Figure 1-2. EBS Section Boundaries.

## 1.1 PURPOSE

An EBS documents the environmental condition of a property and is required for compliance with Title 40, Code of Federal Regulations, Part 373, § 373.1 (40 CFR 373.1), as well as U.S. Army Regulation (AR) 200-1, Environmental Protection and Enhancement. As defined in AR 200-1, an “EBS is a study of the environmental conditions of United States Army (Army) controlled properties and proposed acquisitions, focusing on hazardous substances or other regulated hazards.” An EBS may be conducted for the following purposes:

- Provide a basis for determining whether property is suitable for transfer, lease or assignment.
- Serve as a foundation study for installation closure
- Satisfy legal requirements including:
  - Notification requirements under Section 120(h)(5) of CERCLA; and
  - State or local real property transfer requirements.

The provisions of 40 CFR 373 require that a notice accompany contracts for the sale of, and deeds entered into for the transfer of, federal property on which hazardous substances may have been stored, disposed of or released. That requirement is stipulated in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). According to Section 120(h) of that Act, a notice is required if certain quantities of designated hazardous substances have been stored on the property for 1 year or more—specifically, quantities exceeding 1) 1,000 kilograms or the reportable quantity (RQ) (whichever is greater) of the substances specified in 40 CFR 302.4; or 2) 1 kilogram of acutely hazardous waste as defined in 40 CFR 261.30. A notice is also required if hazardous substances have been disposed of, or released on the property in an amount greater than or equal to the RQ. AR 200-1 requires that an EBS address asbestos, lead-based paint, radon and other substances potentially hazardous to health.

This report will be used to develop the Finding of Suitability to Lease (FOSL) for the WBGHHD property. The suitability of the property, as defined by the Army in AR 200-1, is determined by the presence or absence of threats to human health and the environment.

This assessment was performed in accordance with American Society for Testing and Materials (ASTM) Standard Practice E-1527-00, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.” The purpose of a Phase I Environmental Site Assessment (ESA) is to define good commercial and customary practice for conducting an ESA of a parcel of property with respect to the range of contaminants within the scope of CERCLA and petroleum products.<sup>1</sup> As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner defense to CERCLA liability; i.e., this practice constitutes “all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice” as defined in 42 USC 9601(35)(B).

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<sup>1</sup> Petroleum products are included within the scope of both practices because they are of concern with respect to many parcels of “commercial real estate” and current custom and usage is to include an inquiry into the presence of petroleum products when conducting an ESA. Inclusion of petroleum products with the scope of this practice is not based upon the applicability, if any, of CERCLA to petroleum products (ASTM E-1527-00).

The goal of the Phase I ESA process is to identify, to the extent feasible, the presence of “recognized environmental conditions.” ASTM defines a “recognized environmental condition” as follows:

“The presence or likely presence of any hazardous substance or petroleum products on a 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 structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to the public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions.”

## 1.2 SCOPE OF WORK

This Scope of Work (SOW) for this EBS was performed in accordance with the following guidance documents:

- “Environmental Quality, Environmental Protection and Enhancements,” AR 200-1 (paragraph 15-6), dated January 17, 2003, prepared by the U.S. Department of the Army.
- “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process,” ASTM Standard Practice E-1527-00.

This EBS evaluates the existence of hazardous waste or toxic substances contamination and the potential threat to human health and the environment at the subject property and identifies potential violations under federal and/or applicable state/local environmental laws and provides recommendations for correcting deficiencies or problems. This document will be used to assist the Army in the lease process for the subject property.

## 1.3 LIMITATIONS

This EBS has been conducted to permit formulation of an opinion as to the environmental condition of, and concerns relative to, the land, facilities and real property assets of the WBGHHD property. Opinions in this report that are relative to the existence of conditions that may threaten human health and the environment are based upon information derived from the most recent subject property reconnaissance (conducted October 17 to 19, 2002) and from other activities described herein.

*The conditions observed by Plexus are subject to change and such changes could render our opinions invalid. Furthermore, Plexus cannot warrant or guarantee that not finding indicators of hazardous materials or petroleum products means that such materials do not exist on the subject property. The presence or absence of contamination can only be confirmed through the collection and laboratory analysis of environmental medial samples, which is beyond the scope of this EBS.*

*The findings and opinions conveyed via this report are based on information obtained from a variety of sources believed to be reliable. The accuracy and completeness of such information varies among information sources and as such Plexus is not responsible for errors and omissions contained in information provided, and assumes no responsibility for information provided by others. This*

*information is considered to be accurate unless our reasonable inquiries indicated otherwise. New information or changes in property use could require revision of the findings and conclusions contained in this report.*

Plexus utilized the services of Environmental Data Resources, Inc. (EDR) for the review of regulatory databases. EDR relies upon data from federal, state and local government sources that have sometimes been found to be inaccurate. Neither EDR nor Plexus can warrant the accuracy or reliability of the information included in the EDR database report. Plexus also obtained and reviewed reasonably ascertainable information (e.g., environmental and historical reports, management plans, maps and personal interviews) from the Fort Bliss Directorate of Environment and other available public information (historical aerial photographs, maps and city directories) from local, state and federal offices. This information was used to assess the current and historical uses of the subject property. Sources of historical use information relating to the subject property and the surrounding properties was acquired and reviewed according to the reasonable availability of the information, the time limits provided for data acquisition and review (as permitted) by the project schedule and cost, and judgment of personnel to the likely value of the information for indicating environmental conditions.

#### **1.4 USER RELIANCE**

This report was prepared for the exclusive use of the Fort Bliss Directorate of the Environment. Use of the report and the findings therein by a third party requires the written consent of the Fort Bliss Directorate of the Environment. Reliance on this report by any party other than those identified could result in reliance on assumptions whose extent and nature would distort the meaning and impact of the findings and opinions related in this report.

#### **1.5 ORGANIZATION OF THE EBS REPORT**

The remainder of this report expounds on the EBS setting, method and findings. Section 2 describes the methods used to conduct the EBS. Section 3 provides a description of the WBGHHD property, an overview of facility operations and history of the land use, and a summary of the property's environmental setting. Findings of the EBS organized by relevant environmental "issues" (e.g., contaminant, contamination matrix, facility or operation) are included in Section 4. Section 4.9 addresses the environmental condition of adjacent properties that have the potential to affect the environmental condition of the subject property; Section 4.10 addresses outstanding regulatory compliance issues.

The subject property was divided into "sections" in order to reduce the property into manageable sections for purposes of the historical documentation review and the site reconnaissance. Section 5 is a summary of the findings for each of the sections of the subject property. The conclusions resulting from the EBS for the subject property are included in Section 6. A list of references is provided as Section 7.

## **2 SURVEY METHODS**

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### **2.1 APPROACH**

The property was divided into “sections” to aid data collection, management, and retrieval. Site information was collected and organized by study section. The sections were based on the following considerations:

- Boundaries must be readily identifiable in the field.
- Boundaries must be of a manageable size for survey.
- Study sections must encompass all of the installation property.
- No land area can fall into more than one section.

Accordingly, section boundaries were generally designated at the center of roads, the lined drainage ditches and along fence lines. Section designation was made as sections A through I, which as shown in Figure 1-2.

### **2.2 DOCUMENTS REVIEWED**

All applicable and readily available state and federal environmental databases were searched for documentation of environmental concerns relating to the site or nearby properties that may impact the site. A map-based radius search report, which identifies sites within the 1-mile radius required by the ASTM Standard Practice for Site Assessments (Phase I Environmental Site Assessment Process (E 1527) was generated. The environmental database search was conducted in accordance with ASTM E 1527-00 Section 7.2.1.1. The data from the search was integrated including site elevation relative to target property, linking of sites presented by distance to target property, EPA Waste Code Addendum, and detailed information provided for each site. With the exception of the search radius specified by ASTM Standard Number E 1527-00 for the regulatory database review, the term “vicinity of the site” is defined as properties located within an approximate 1/8-mile radius of the site.

A review of reasonably accessible documents from Fort Bliss personnel and from U.S. Army Environmental Center (USAEC) and aerial photos of the property to determine land uses on the site for the past 50 years was performed. Plexus has assessed the intensity of past land use and its impacts on the land.

### **2.3 AERIAL PHOTOGRAPHS**

Information concerning the past usage of the subject property and the adjoining properties was obtained by reviewing historical aerial photographs supplied by EDR, the City of El Paso Engineering Department (EPED), and Rollag & Associates (R&A) in El Paso, Texas. Aerial photographs dated 1936, 1956, 1960, 1965, 1973, 1974, 1979, 1986, 1994, 1995 and 2001 were reviewed. Aerial photographs dated 1936, 1974, 1979, and 1994 were obtained from the EDR. Aerial photographs dated 1986 and 2001 were obtained from R&A. Aerial photographs dated 1956, 1960, 1965, 1973, 1979, 1986 and 1995 were obtained from the EPED. Plexus attempted to obtain aerial photographs either predating 1936 or from the 1940s from the Natural Resource Conservation Service (NRCS) in El Paso, Texas;

however, with the exception of an aerial photograph from 1968, no other aerial photographs for the subject property from the NRCS were available. Information obtained from the review of historical aerial photography is included in Section 5 of this report, and the complete review of historical aerial photography is included in Appendix B. A copy of the 2001 aerial photograph is shown in Figure 1-2.

## 2.4 DATABASE SEARCHES

A review of federal and state regulatory databases maintained by the U.S. Environmental Protection Agency (USEPA) and the Texas Commission on Environmental Quality (TCEQ) was conducted by EDR. The EPA and TCEQ database searches and the results are described in the report by EDR (contained in Appendix C). Table 2-1 summarizes the databases reviewed, the search radius and the number of sites identified in the applicable database within the specified search radius.

**Table 2-1. Database Search Summary.**

<b>Database Reviewed</b>	<b>Number of Sites</b>	<b>Search Distance</b>
National Priorities List (NPL)	0	1.25 mile
Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)	0	1.25 mile
State Sites	0	1.25 mile
Corrective Action Report (CORRACTS)	0	1.25 mile
Resource Conservation and Recovery Act (RCRA) – Treatment, Storage & Disposal Facilities (TSD)	0	0.75 mile
RCRA – Large Quantity Generator (LQG)	0	0.5 mile
RCRA – Small Quantity Generator (SQG)	2	0.5 mile
Leaking Underground Storage Tanks (LUST)	5	0.75 mile
Registered Underground Storage Tanks/Aboveground Storage Tanks (ASTs/USTs)	7	0.5 mile
Solid Waste Landfill (SWL) Facilities	0	0.75 mile

The nearest regulated facilities to the subject property are the William Beaumont Army Medical Center (WBAMC) located to the west of the WBGHHD area and Chevron Gasoline Station/Good Time Stores located at the corner of Fred Wilson Road and Dyer Street. WBAMC is listed on the ERNS database. The Chevron Station/Good Time Store is listed in the Resource Conservation and Recovery Act– Small Quantity Generator (RCRA-SQG), UST, and Leaking Underground Storage Tanks (LUST) databases. The LUST information listed in the report states that there is no groundwater impact, no apparent threats or impacts to receptors and final concurrence was issued and the case closed. The EDR report listed Orphan Sites, where the locations of these facilities were not confirmed by EDR due to incomplete or inaccurate address information. None of the Orphan sites listed in the EDR report were identified within the vicinity of the property.

## **2.5 POLK'S CITY DIRECTORIES AND SANDBORNS**

Plexus reviewed available city directories at the El Paso County Public Library in El Paso, Texas. The 1940, 1950–51, 1955, 1960, 1965, 1970, 1975, 1981, 1985, 1990, 1995, 1998–99 and 2002 editions of the El Paso directories were reviewed. Available editions predating 1940 did not provide coverage for the study area. The results of this search are provided in Appendix D.

Plexus attempted to obtain Sandborn Fire Insurance maps for the area through EDR, but none were available.

## **2.6 SITE RECONNAISSANCE**

Plexus personnel conducted an on-site reconnaissance of the subject property from October 17 to October 19, 2002. The reconnaissance was performed using a two-person team of qualified environmental professionals. Selected photographs taken during the site reconnaissance are contained in Appendix E. Observations recorded during the site reconnaissance were recorded in Field Checklists contained in Appendix F. A summary of the findings from the reconnaissance is included in Section 5 of this report.

## **2.7 INTERVIEWS**

Several interviews of key facility employees were conducted to aid in identifying environmental conditions at the installation. The following list summarizes the personnel interviewed and the topics discussed. Summaries of the interviews are included in Appendix G.

- Rafael Corral, Biologist, pesticide use.
- Louis Diaz: Sewer, stormwater, steam lines, septic tanks locations.
- David Dodge, Installation Restoration Program (IRP) Manager: Overall potential environmental concerns, past uses of property.
- Daniel Duran, Pollution prevention/spill response: chemical use and spills.
- David Felix, Asbestos and lead management: asbestos, PCBs, radon, lead-based paint.
- Bob Lenhart, Geologist: USTs, aboveground storage tanks (AST).
- Thomas Liddiard, Engineer: Removal of asbestos and underground steam lines.

## **3 SITE DESCRIPTION**

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### **3.1 SITE LOCATION AND DESCRIPTION**

The main cantonment of Fort Bliss is located in the western tip of Texas, bordering the city of El Paso along U.S. Highway 54. The installation, including its ranges and airfield, encompasses approximately 1.13 million acres of land that is partly owned and partly leased by the U.S. Government. Over the course of its history, Fort Bliss has evolved from a small infantry outpost to a major cavalry post to an anti-aircraft training and guided missile testing center. Today, Fort Bliss is home to the Army's Air Defense School and the U.S. Army Sergeants Major Academy. The WBGHHD property, which consists of approximately 100 acres, is situated northwest of Fort Bliss's main cantonment area, between Fred Wilson Road and Hayes Avenue (USACERL, 1996).

### **3.2 FACILITY HISTORY**

The construction of the WBGHHD's initial 48 buildings between 1920-21 signaled the beginning of Fort Bliss's role as a major military medical center. Over the next two decades WBGHHD served as both Fort Bliss's station hospital and as a general hospital for the western portion of the Army's Eighth Service Command. During World War II, WBGHHD expanded to include 174 buildings. Its capabilities also expanded as the hospital began providing specialized medical care to wounded soldiers returning from all theaters of the war. In addition, a medical technicians school established at WBGHHD trained thousands of medical personnel who went on to serve at stations both at home and abroad. Following the war, WBGHHD continued to serve the medical needs of Fort Bliss and surrounding military installations until the Army's needs outgrew the capacity of the hospital. In 1969, the Army began construction of a new, 12-story hospital to the west of the WBGHHD area. Completed in 1972, the new facility became known as William Beaumont Army Medical Center (WBAMC). WBAMC is the southwest's major regional Army medical center (USACERL, 1996).

#### **3.2.1 Legal Description**

A legal description has not been provided for the WBGHHD area.

#### **3.2.2 Occupancy History**

The Army has occupied the WBGHHD area since 1920. Prior to that, the land was undeveloped (USACERL, 1996).

#### **3.2.3 Previous Environmental Investigations**

An environmental assessment was conducted for the WBGHHD area concerning demolition and construction in this historic district. Issues such as air quality, noise, and water resources were investigated and a proposed plan of demolition of up to 40 structures was developed (Fort Bliss and USACE CERL, 1999). The only sampling events that were conducted in the WBGHHD area involve the removal of ASTs and USTs, which are discussed in Section 4.2.

### **3.3 SITE UTILITIES**

#### **3.3.1 Water Systems**

The water supplied to the WBGHHD area is obtained from wells on other portions of Fort Bliss. The water is pumped to water tanks 7088 and 7090. These tanks supplied water to most of the WBGHHD area. Tank 7240 supplied water to the family housing in the western portion of the area and Building 7115 (Fort Bliss, 1959).

#### **3.3.2 Sanitary Sewer Systems**

The sewage system consists of a collection system of vitrified clay discharging a 15-inch main at another portion of Fort Bliss, which empties into a 16-inch-diameter sewer of the City of El Paso, Texas. It was designed to serve a population of 6,000 and was based on a per capita flow of 50 gallons per day. All joints in the vitrified clay pipe are treated oakum and cement mortar. Sewage is disposed into the City of El Paso intercepting sewers under a Fort Bliss contract with the City of El Paso (Fort Bliss, 1959).

#### **3.3.3 Stormwater**

There are several drainage ditches on the western portion of the WBGHHD area that generally run west to east. On the eastern portion of the WBGHHD, there is a stone- and cement-lined drainage ditch that begins near Building 7151, runs eastward and ends at a drain at the property edge by Dyer Street (Plexus 2002).

#### **3.3.4 Steam Lines**

The underground steam distribution system originated at the steam plant (former Building 7145). The steam lines provided steam to most of the buildings at the WBGHHD area for heating, cooking, hot water heating, and sterilizing (Fort Bliss, 1959). Since the steam plant (Building 7145) was demolished, these steam lines have been abandoned in place and are no longer in use, although some portions have been removed.

#### **3.3.5 Electrical System**

Electricity is obtained from the main portion of Fort Bliss. Overhead and underground electrical distribution lines are present throughout the WBGHHD area (Fort Bliss, 1959). There are three former transformer houses on the WBGHHD property. It appears that there were at least three additional transformer houses that are no longer present (Fort Bliss, 1950).

### **3.4 LAND USE**

With the exception of several buildings (7115, 7133, 7152 and 7162) and the area west of Building 7153 that is used for storage of landscaping equipment, the land is not currently in use. Building 7115 is used for an Army nursing school and Army Reserve offices. Building 7133 is used for storage by the Veterans Administration. Building 7152 is used by WBAMC as an auditorium for training. Building 7162 is being used as a pass office for the Fred Wilson Road gate. The WBGHHD area was formerly used as an Army general hospital as described in Section 3.3 (Plexus, 2002). The specific former uses of buildings are discussed in Section 5.

## **3.5 ENVIRONMENTAL SETTING**

The WBGHHD area is situated to the northwest of the Fort Bliss main cantonment between Fred Wilson Road and Hayes Avenue. The northern and southern boundaries of WBGHHD are adjacent to privately owned residential and commercial properties. The recently constructed Army Family Housing (AFH), Armed Services YMCA, and Dyer Street are to the east. Directly west of the WBGHHD are WBAMC, additional AFH and the Franklin Mountains. The WBGHHD environment is an urban setting in proximity to the undeveloped foothills of the Franklin Mountains. The physical setting of the subject property and the surrounding is shown on the U.S. Geological Survey (USGS) 7.5 Minute ‘El Paso, Texas.’ quadrangle map (USGS, 1997).

### **3.5.1 Topography**

The terrain of the WBGHHD property is rocky and rolling, characteristic of the foothill location at the base of the Franklin Mountains. The mountains rise abruptly to an elevation of 7,200 feet just west of the WBGHHD area (Fort Bliss, 1959). Based on review of the USGS 7.5 Minute ‘El Paso, Texas’ quadrangle map, the subject property elevation ranges from approximately 4,125 feet above the National Geodetic Vertical Datum (NGVD) of 1929 at the northwestern end of the subject property to approximately 3,950 feet at the eastern end. Based on the topographic map, the general topographic downgradient direction is toward the east (USGS, 1997).

### **3.5.2 Meteorology**

The climate of WBGHHD is characterized by arid and semi-arid desert conditions, with cool nights and hot days (Fort Bliss, 1979; Alvarez and Berckner, 1980) in the summer and cool days and cold nights in the winter. The warmest month is July, which records a mean daily maximum temperature of 35.0 degrees Celsius (°C) (USAETL Terrain Analysis Center, 1978). December is the coldest month, with a mean low temperature of 0.6°C. The recorded temperature is higher than 32.2°C approximately 87 days per year; temperatures measure 0.0 °C or lower 34 days each year. Annual rainfall averages 20 centimeters (cm) (Fort Bliss, 1979). The midsummer months receive the greatest amount of rainfall, with an average monthly precipitation of 1.6 cm, and annual snowfall averages 12.7 cm. The annual evaporation rate is 254 cm (Fort Bliss, 1980). Windstorms are prevalent in March and April, with wind from the north at an average speed of 3.37 meters per second (ESE, 1983).

### **3.5.3 Soils**

Soils in the WBGHHD area reportedly disturbed by development and demolition are now identified as urban soils. The soils are heavily disturbed and contain substantial amounts of fill material used in the construction of WBGHHD (Fort Bliss and USACE CERL, 1999).

### **3.5.4 Geology**

The following section was adapted from the *DRAFT Pest Management Plan for U.S. Army Air Defense Artillery Center and Fort Bliss, Texas*, February 1997.

Fort Bliss is located in the Hueco Bolson, a part of the transition zone between the Basin and Range, and Great Plains tectonic provinces in an area referred to as the Rio Grande Rift. The Rio Grande Rift is characterized by evidence of quaternary faulting, high heat flow, Tertiary volcanic activity, and a minor number of earthquakes. The Hueco Bolson is a marginal Basin and Range structure, lying between the

Franklin and Hueco Mountains and is the southernmost extension of the Tularosa Basin of New Mexico. The Franklin Mountains are a tilted fault-block sequence of Paleozoic rocks underlain by Precambrian granite, totaling approximately 8,000 feet [2,440 meters (m)] of section. Their counterparts on the eastern side of the Bolson, the Hueco Mountains, are described below.

Bolson sediments consist of late Cenozoic Camp Rice and Fort Hancock Formations (fluvial and lacustrine sands, gravels, and clays), in addition to recent valley fill and Aeolian sand. Deformation of the bolson, active in its developmental stages in the Tertiary, continues at a reduced scale. Several north-south trending depressions in the Hueco Bolson represent recent faults with even cut caliche deposits. Minor earth tremors have been reported on the east side of the Bolson.

Geophysical investigations have revealed a deep asymmetric trough fault-bounded on the west, where the maximum depth of fill is estimated to be approximately 9,000 feet (2,740 m). The thickness of the fill in the area of WBGHHD is estimated to be approximately 1,000 feet. Three distinct refracting horizons were found within the Bolson fill. The upper two horizons are relatively uniform in thickness. The third unit is noticeably thicker on the west and thins to the east.

In general, the bedrock surface slopes gently southward until it approaches the Rio Grande Valley, where it drops into a roughly northwesterly trending trough.

The Hueco Mountains, located east of Fort Bliss, are a range of hills comprising mainly Paleozoic sedimentary rocks, which rise approximately 984 feet (300 m) above the floor of the Hueco Raison. Small hills surrounded by alluvium to the west of the main mountain block would appear to be faulted-off outliers.

Precambrian granites are exposed at the southern end of the range. About 1,500 feet (450 m) of lower Paleozoic sandstone and limestone overlie the granite. These are overlain by a thick sequence of 3,400 feet (1,035 m) of Carboniferous and Permian limestones in the northern part of the area; these latter formations also comprise the present surface of the plateau (Diablo Plateau) to the east of the Hueco Mountains. Cherty and sandy limestones of the Helms Formation Mississippian are followed by the gray fossiliferous Magdalena Limestone (Pennsylvania); this unit contains a 49-foot-thick (15-m) gypsum bed in the northern part of the area on McGregor Range. An angular unconformity separates the Magdalena from the Hueco Limestone, which is of Pennsylvanian/Permian age (Wolfcamp Series), and forms the capping rock on the Hueco Mountain escarpment. The Hueco Limestone consists of massive bedded limestones interbedded with reddish shales and a basal conglomerate.

### **3.5.5 Hydrogeology**

The following section was adapted from the *DRAFT Pest Management Plan for U.S. Army Air Defense Artillery Center and Fort Bliss, Texas*, February 1997.

Groundwater resources on the eastern side of the Hueco Bolson are sparse and of generally poor quality when compared with those on the west side of the Hueco Bolson. The City of El Paso derives its drinking water from the west side. Bolson deposits are composed of deep alluvial accumulations washed into intermontane areas from the surrounding highlands. The water-bearing sediments that form this aquifer are generally unconsolidated, alternating and discontinuous beds of silt, clay, sand, gravel and boulders with associated caliche, gypsum, conglomerate, volcanic ash, tufts and basalts.

Precipitation and to a minor extent infiltration from the Rio Grande and Pecos Rivers are the principal sources of recharge to the alluvial and bolson deposits. Groundwater movement in this area begins with recharge along the foothills of the mountains and plateaus, where the sediments are coarse grained and permeable and possibly located along the channels of ephemeral streams in the basins. Generally, recharge does not occur unless precipitation is sufficient to cause surface flow through the foothill areas in the ephemeral streams, otherwise the water is either directly evaporated or lost from the shallow subsurface by evapotranspiration.

Groundwater moves from recharge areas to discharge in the topographically lower parts of the basins. Fresh water is generally located in recharge areas that flank the topographically higher basin edge and may occur downgradient in distinct lenses intertongued with less permeable sediments that contain older, more saline water. Total dissolved solids, chloride and sulfate concentrations increase along the groundwater flow path by interaction with rock matrix, dissolution of associated evaporate deposits, and/or concentration by evapotranspiration.

Basinward, slightly saline to saline groundwater may discharge naturally through evaporation, which can result in accumulation of salts on the land surface, may leave the topographically closed basin through the rocks that underlie the basin, or discharge directly to surface drainage such as the Rio Grande River.

Currently, large amounts of groundwater are withdrawn for municipal and industrial use in the El Paso area from the Hueco and lower Mesilla Bolsons. Overproduction of groundwater may result in a rise in dissolved constituents due to mixing of fresh water with slightly saline to saline water withdrawn from the sediments that underlie, overlie or adjoin the fresh-water bearing zones.

The water table is generally between 290- and 379-feet (88.4- and 115.5-m) deep. The water flow in this part of the Hueco Bolson is southward towards the Rio Grande River. Flow data are almost nonexistent for the eastern side of the bolson. Although the underlying lake bed sediments are less permeable and have a considerable clay content, alluvial deposits tend to be coarser grained at greater depths, thus allowing water movement. The limestone bedrock is generally fairly compact (often crystalline) and has a low porosity. However, many fractures and solution cavities have been reported by drillers and this suggests a means by which water may move especially from depth.

## 4 FINDINGS

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### 4.1 HAZARDOUS MATERIALS

This section discusses the environmental conditions associated with use, storage and disposal of hazardous materials. This includes identification, to the extent possible, of the type, quantity, and location of hazardous materials and treatment and storage areas for hazardous materials and wastes.

Hazardous materials and waste management are governed by specific environmental regulations. In the following discussion, the terms hazardous waste and hazardous materials are substances defined as hazardous by CERCLA, 42 U.S.C. 9601-9675, as amended; and the Solid Waste Disposal Act, as amended by RCRA, 42 U.S.C. 6901-6992. In general, these include substances that because of their quantity or concentration, or physical, chemical, or infectious characteristics may present substantial danger to public health or welfare or the environment when released into the environment.

Due to the length of time since the WBGHHD area was actively used, limited information is available for hazardous materials used or stored on the site. Prior to the demolition of Building 7145, hazardous materials were removed (VIVA, 1999a). These materials were:

- Cyclohexylamine (UN2357); one 55-gallon drum;
- Sodium Hydroxide, liquid (UN1823); one 55-gallon drum;
- Sodium Hydroxide, solid (UN8124); one 20-gallon canister;
- Sulfamic Acid, Solid (UN2967); one 30-gallon drum; and
- Cyclohexylamine (UN2357) two 5-gallon pails.

It is expected that these materials were stored in Building 7145 regularly in quantities similar to what was removed. These materials were used at Building 7145 for boiler feed water treatment since 1939, when Zeolite water softeners were installed. A Permutit Zeo-Karb with a decarbonator was added in 1949 (Fort Bliss, 1959).

Based on the documented storage of hazardous materials at Building 7145, there is no evidence that there was storage greater than the reportable quantities.

An unidentified solid material with deteriorated packaging on a pallet was present in Building 7142. Since this building is the pool filter house, the material is likely chlorine pool chemical or filter powder (Plexus, 2002).

### 4.2 PESTICIDE USE AND STORAGE

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) regulates the registration and use of pesticides. Pesticide management activities are subject to Federal regulations in 40 CFR 162, 165, 166, 170 and 171. Enacted in October 1972, the Federal Environmental Pesticide Control Act regulates the manufacture and sale of pesticides. Soils contaminated by the storage, mixing or handling (but not application) of pesticides and herbicides are a special waste and may be a RCRA hazardous waste because of the characteristic of toxicity.

Information concerning the past usage of pesticides of the subject property was included in a *DRAFT Pest Management Plan for U.S. Army Air Defense Artillery Center, Fort Bliss, Texas*, dated February 1997, and prepared by the Fort Bliss Directorate of Environment. According to personnel with the Fort

Bliss Directorate of Environment, the Pest Management Plan was not finalized and is the most up-to-date copy of the Pest Management Plan for the facility. No previous editions of the Pest Management Plan were available for review at the time of this investigation. An inventory of pesticides stored and used at Fort Bliss was included as Appendix P of the 1997 Pest Management Plan and provided as Appendix H of this report.

The use of pesticides (insecticides, herbicides, fungicides, avicides, and rodenticides) at Fort Bliss is also documented in the *Installation Assessment of the Headquarters, U.S. Army Air Defense Center and Fort Bliss, Tex. Report 335*, dated October 1983, prepared by Environmental Science and Engineering, Inc. (ESE).

Pest control services are provided to all tenant activities at Fort Bliss. The 1983 Installation Assessment indicated that pest control services include: 1) household, structural, health-related, and nuisance insect and rodent control programs; 2) weed control at security fences, parking areas and utility sites; and 3) programs involving turf areas (e.g., golf courses) and ornamental trees and shrubs (ESE, 1983). All pesticide application is reportedly conducted by in-house personnel with the exception of self-help pest control as discussed below.

Chemicals were considered to be the most effective control available, but pest resistance rendered many pesticides ineffective. In recent years, the trend has been to use pesticides that have limited residual action (Fort Bliss, 1997).

Included in Appendix O of the 1997 Pest Management Plan is a list of buildings/areas that receive ongoing pest control services. Protocol for some of the buildings/areas (former, inactive or active) that may have applied to the subject property included the following:

- Inspect mess facilities inside and outside and apply chemicals to target pests in all Mess Halls quarterly. Reinspect to determine source of infestation on-call no more than on a monthly basis. Report causes of infestation. Also inspect basements for leaks in plumbing, which create harborage for roaches and infestations at target species.
- Inspect all vacant quarters both inside and outside, treat target pests, report source of infestation (leaking plumbing, open sub-floor or loft ventilators). Treat sewer if adjacent to quarters and water meters.
- Inspect and spray WBAMC wards monthly.
- Inspect WBAMC buildings outside, basement, utility runs and treat target pests—report cause of infestations.
- Spray ball fields and playground for ants on-call.

According to the Pest Management Plan (Fort Bliss, 1997) and conversations with personnel from the Fort Bliss Directorate of Environment, no pesticides are presently stored on the WBGHHD property. Pesticides and application equipment are stored offsite on the Fort Bliss main cantonment.

The Installation Assessment indicated that at the time of the 1983 investigation, pesticides were stored and used by the DEN Entomology Section, Directorate of Engineering and Housing (DEH) Grounds Maintenance Section and DPCA golf course.

DEN Entomology Section – Prior to 1980, pesticides had been stored in metal buildings west of Building 1160 and in Buildings 1166 and 1135. In 1983, insecticides, rodenticides, and avicides were stored in Buildings 60–276 and 1235 (i.e., the same locations as documented in the 1997 Pest Management Plan). It was reported that the formulation and mixing of the pesticides occurred primarily outside Buildings 60–276.

Empty pesticides cans are triple – rinsed and the used pesticides containers are disposed of as ordinary solid wastes, in accordance with Federal regulations. Rinseates from empty containers and equipment washing were poured onto the ground rather than retained as a diluent for subsequent mixing operations. This open dumping of pesticide-related waste was in violation of USEPA and U.S. Army regulations. Subsequent to the 1983 Installation Assessment, it was reported that contaminated rinseates were used as a solution base for preparation of further pesticide solutions (ESE, 1983).

DEH Grounds Maintenance Section – According to the 1983 Installation Assessment, the Grounds Maintenance Section has been responsible for the application and storage of herbicides on Fort Bliss since 1914. Herbicides were stored in Building 11160.

DPCA Golf Course – Pesticides used on the golf course were stored in Building 3007. Mixing occurred on the golf course.

The inventory of pesticides stored and used at Fort Bliss in Appendix H identifies the pesticides stored in Building 60–276 in January 1997, herbicides stored in Buildings PB 60–75 in September 1996, pesticides/herbicides stored in the golf course storage area in October 1996 and the pesticides stored in the veterinary clinic in October 1996. An inventory of pesticides stored in Buildings 60–276, 1235, 3007 and 11160 during the 1983 Installation Assessment is also included in Appendix H. According to the 1997 Pest Management Plan, an inventory of the pesticides at Fort Bliss was to be conducted annually. Pesticide inventories for other years at Fort Bliss were not provided to Plexus at the time of this investigation.

Minor amounts of pesticides are also provided offsite for sale or distribution at the Commissary (Building 1717), Post Exchange Garden Shop (Building 1735), Family Housing Self-Help and the Self Service Supply Center (SSSC). Pest control items are available to family housing residents through the Self-Help Center, Building 1276. Self-Help items include: Maxforce bait stations, glue traps, boric acid, snap traps and ant bait stations. The only pesticide available from the SSSC is Insecticide, d-Phenothrin (Fort Bliss, 1997).

A greenhouse area (Buildings 7166, 7169, 7170 and 7171) was also formerly located in the north-central portion of the subject property (eastern edge of Section C). It is likely that pesticides were stored in this area. No indication of the past storage or usage of pesticides was observed during Plexus' site reconnaissance conducted on October 17, 2002. Any substantial surface spillage or runoff from the misuse or misapplication of pesticides in this area likely flowed into a concrete drainage ditch that is located topographically downgradient of the former greenhouses.

Pesticides have been applied on the subject property since construction in the 1920s. The documented application of these chemicals on the subject property is a concern. Although there is no evidence of the misapplication of these chemicals, the potential historic storage and mixing activities in areas such as the greenhouse are a concern.

### **4.3 PETROLEUM AND PETROLEUM PRODUCTS**

"Petroleum" includes any petroleum product or its derivatives, including aviation fuel and motor oil. Application of petroleum product, such as road asphalt, in or on the ground in a manner intended for use, shall not constitute a disposal or release. USTs are subject to Federal regulations within RCRA, 40 CFR Part 289, Technical Standards and Corrective Action Requirement for Owners and Operator of USTs. The Hazardous and Solid Waste Amendments of 1984 mandated these regulations.

Based on the review of available file/database information, correspondence with regulatory personnel, and a site reconnaissance conducted by Plexus, the WBGHHD operated with eight petroleum ASTs and USTs. Other storage tanks were also identified on properties in the area of the subject property. A description of these offsite facilities is included below and in Section 2.4. Petroleum storage occurred in Sections D and G, possibly in Section B and near Sections A and H, as discussed in the following subsections.

#### **4.3.1 SECTION A (Out-Parcel)**

One 230-gallon AST is present in the vicinity of pump house Building 7094, and a large water tank (identified as Facility 7090) is located in the southwestern portion of Section A. This AST is used to store diesel for emergency generator operation in the event of an electrical outage for the transfer pump. The AST was observed in secondary concrete containment. Based on available file information, a discharge has not been reported for the 230-gallon AST (Fort Bliss, 2001). This area is enclosed with a chain-link fence. According to personnel with the Fort Bliss Directorate of Environment, the AST/water tank area is not included as part of the subject property.

#### **4.3.2 SECTION B**

A Detail Site Plan and Building Use Map for Fort Bliss, revised September 1, 1950, indicated the presence of a "gas station" (identified as Building 7197) located at the southeastern corner of Section B, within the motor pool parking area. The building use map identified a "steel gas tank, pump" to be approximately 7 feet in diameter and 14-feet long. The description did not indicate whether the suspected tank was an AST or UST (Fort Bliss, 1950). No additional file information regarding this tank was available during this investigation. No evidence indicating the past or current presence of a gas station, building, storage tanks or pumps were observed in this portion of Section B during the October 17, 2002 site reconnaissance conducted by Plexus. Fort Bliss Directorate of Environment personnel are also unaware of the former presence of a "gas station" or "steel gas tank, pump" at this location. In addition, the review of historical aerial photographs did not indicate the presence of a "gas station" at this location.

#### **4.3.3 SECTION D**

Building 7145, located in the northern portion of Section D, was utilized as a high-pressure steam boiler plant. The steam plant consisted of six natural gas-fired water tube boilers with a total of 3,600 horsepower. The plant contained fuel oil burning equipment as standby in case of gas failure (Fort Bliss, 1959). The steam plant was constructed in 1921 and demolished between December 2001 and February 2002. A fuel oil pump house, Building 7146, was located adjacent to the west of the steam plant building. Former petroleum storage tanks located in the area of the steam plant are listed in Table 4-1 and shown in Figure 4-1.

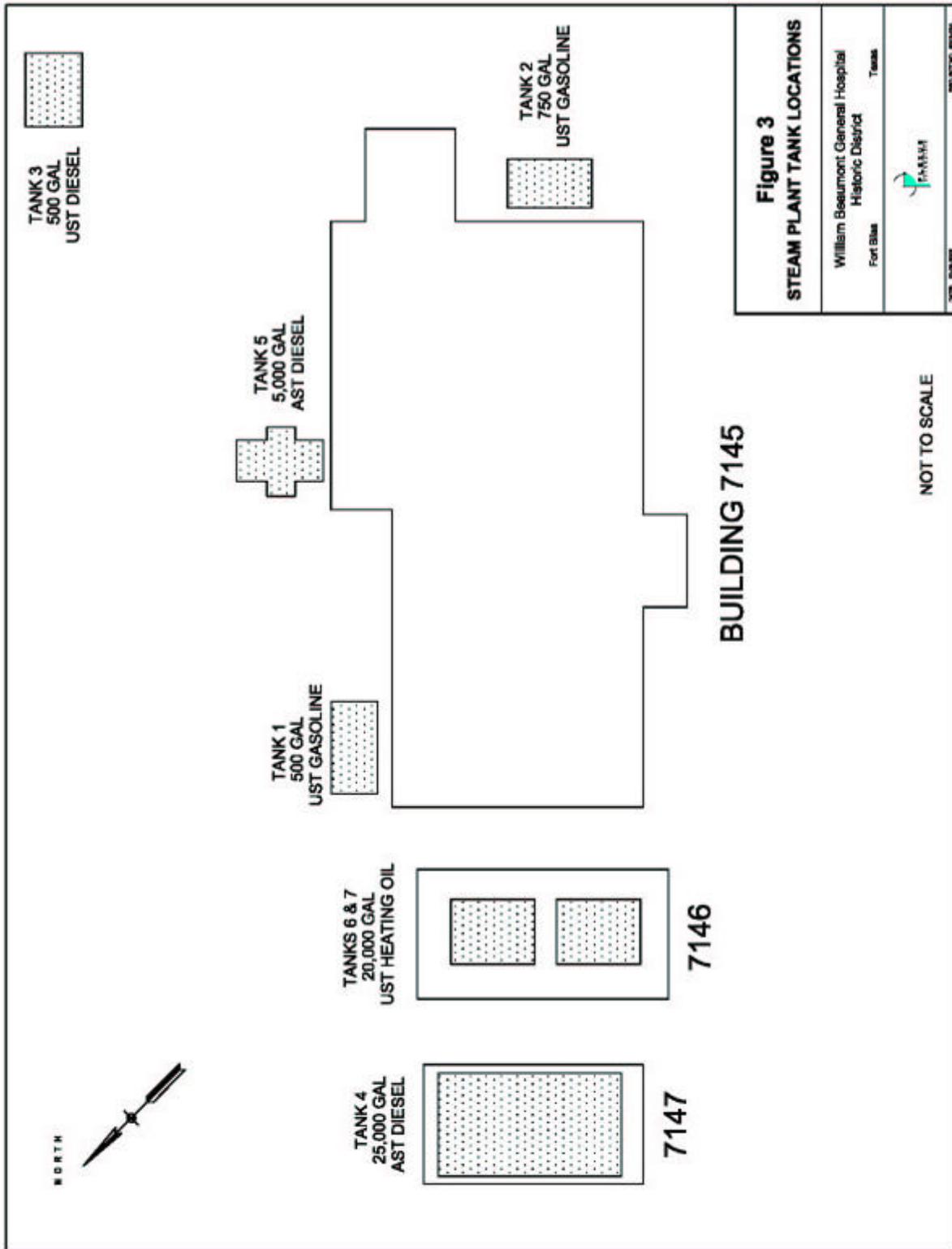


Figure 4-1. Steam Plant Tank Locations.

Table 4-1. WBGHHD Area Steam Plant Tanks.

Tank No.	Type (AST/UST)	Content	Size (gallons)	Material	Location	Install Date	Removal Date
1	UST	Gasoline	500	Steel	Northwest corner Building 7145	?	8-17-95
2	UST	Gasoline	750	Steel	Southeast corner Building 7145	?	8-17-95
3	UST	Diesel	500	Steel	Northeast of Building 7145	?	8-18-95
4 (7147)	AST	Fuel Oil	25,000	Steel	Northwest of Building 7146	?	8-18-95
5	AST	Diesel	5,000	Steel	North side of Building 7145	?	8-18-95
6	UST	Fuel Oil	20,000	Concrete	Beneath Building 7146	1921	4-26-02
7	UST	Fuel Oil	20,000	Concrete	Beneath Building 7146	1921	4-26-02

#### 4.3.3.1 Tanks 1 through 5

In 1995, Laidlaw Environmental Services, Inc. (Laidlaw) was contracted by the Directorate of Contracting, Fort Bliss Army Base to remove Tanks 1 through 5 located in the vicinity of the former steam plant. Tank removal activities were summarized in a report entitled, *Petroleum Storage Tank Removal, Final Closure Report, Building 7145, Ft. Bliss Army Base, Ft. Bliss, Texas*, dated September 1995, prepared by Laidlaw. Subsequent to removal of the tanks in August 1995, the tanks were cleaned and hauled offsite for proper disposal.

A total of 18 soil samples were collected for laboratory analyses from Tank Areas 1 through 4 during the August 1995 tank removal activities. One soil sample was also collected from the stockpiled soil near Tanks 2 and 3. No soil samples were collected from the area of Tank 5, since the tank had been temporarily placed in the vicinity of Building 7145 and the original location of the tank was unknown. The soil samples were collected from the surface in the areas of the ASTs, and soil samples were collected from the sidewalls of the excavations for the USTs. The soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using USEPA Method 8020 and Total Recoverable Petroleum Hydrocarbons (TRPH) using USEPA Method 418.1. BTEX and TRPH concentrations were detected in soil samples collected from all four tank locations. All detected BTEX concentrations were below applicable State Plan A Groundwater Protective Soil Concentrations (State Plan A Category III Target Concentrations) (Beneficial Groundwater Use Category III) (TNRCC, 1994). TRPH was detected at a maximum concentration of 460 milligrams per kilogram (mg/kg) in a soil sample collected from the north wall of Tank 2 excavation. No applicable State Plan A Category III Target Concentrations were established for TRPH. All of the remaining detected concentrations of TRPH ranged from 10 mg/kg to 240 mg/kg (Laidlaw, 1995).

The UST excavations were backfilled with excavated stockpiled material and imported backfill to offset the tank voids. Low-level concentrations of toluene, ethylbenzene, total xylenes and TRPH were detected in the soil samples collected from the stockpile soil (Laidlaw, 1995).

In March 1997, site assessment activities were performed by Malcolm Pirnie in the area of Building 7145. The assessment activities consisted of the installation of 14 soil borings in the areas of former Tanks 1 through 5. Soil borings were installed to maximum depths of 14 feet below ground surface (bgs). Soil samples collected from the soil borings were analyzed for BTEX, methyl-tert-butyl-ether (MTBE), TRPH, and polynuclear aromatic hydrocarbons (PAHs). Based on information included in the Site Closure Request Form prepared by the Directorate of Environment in September 1998, none

of the analyzed concentrations were reportedly detected above applicable State Plan A Category III Target Concentrations. The Site Closure Request Form for the site (Facility ID No. 0005147) was submitted to the Texas TCEQ [formerly Texas Natural Resource Conservation Commission (TNRCC)], and a site closure with no further action was requested. According to Mr. Bob Lenhart with the Fort Bliss Directorate of Environment, recent inquiries by to the TCEQ in Austin, Texas, regarding the status of the review of the 1999 Site Closure Request Form indicated that the review had not been completed.

#### **4.3.3.2 Tanks 6 and 7**

The area for Tanks 6 and 7 is an IRP site identified in October 1999. In November 1999, SafeNet Environmental Services, LLC (SafeNet) performed a soil investigation at the location Tanks 6 and 7. The soil investigation included the installation of three soil borings. Laboratory analysis of soil samples from the soil borings indicated that soils had been impacted with PAHs at concentrations above TNRCC action levels and TRPH above TNRCC screening levels. The exact depth of the hydrocarbon impact was unknown because the angle at which the soil borings were drilled is unknown. However, the actual depth below the ground surface where the samples were collected is likely less than 30 feet bgs (Fort Bliss, 2002).

Because TNRCC action levels and screening levels were exceeded, Fort Bliss submitted a Release Determination Report to the TNRCC on November 22, 1999. In the report, Fort Bliss recommended that the site be listed as a Leaking Petroleum Storage Tank (LPST) facility and requested that a LPST Identification Number be issued for the site. The LPST identification number for the site is 115412 (Fort Bliss, 2002).

As part of a Preliminary Site Investigation in December 2000, Malcolm Pirnie installed one deep soil boring to ascertain the site stratigraphy and to collect soil samples for laboratory analysis of BTEX compounds and TRPH. The laboratory results of the soil samples indicated that none of the analyzed compounds exceeded UST action levels and a Risk-Based Assessment was recommended. In December 2001, three additional soil borings were installed to further evaluate the vertical and horizontal extent of hydrocarbon impacted soil in the former tank area. The soil borings were drilled to depths ranging from 37 to 55 feet bgs, and soil samples were collected and analyzed for BTEX, PAHs, and TRPH. TRPH concentrations in soil samples collected from two of the soil borings installed in the vicinity of Tanks 6 and 7 exceeded TNRCC screening levels. However, individual BTEX and PAH constituent concentrations in the soil samples (from all soil borings) were below State Plan A Category III Target Concentrations (Fort Bliss, 2002).

In addition, based on the presence of water in one of the soil borings installed near the retaining wall, a monitoring well was installed at this boring location to a depth of approximately 38.5 feet bgs during the December 2001 sampling event. It was later determined that the water was a result of a broken water line located at nearby Building 7139 (located near the top of the retaining wall). Subsequent to turning off the water at the leak point, the perched water in the monitoring well receded. It is estimated that the water table aquifer at the subject property is reportedly between 350 and 400 feet bgs. With the exception of low-level PAH and TPRH concentrations, no petroleum-related compounds were detected in the groundwater sample collected from the monitoring well (Fort Bliss, 2002).

IT/OHM was contracted by the U.S. Army Corps of Engineers (USACE) to remove Tank Numbers 6 and 7, located beneath former pump house Building 7146. The two 20,000-gallon concrete USTs were used to store No. 2 heating oil that was pumped directly to the steam plant. Tank removal activities conducted from April 23, 2002 through April 26, 2002, were summarized in a report entitled *Tank*

*Removal Report, Underground Storage Tanks (LPST No. 115412), Building No. 7146, Fort Bliss, Texas, dated July 2002, prepared by IT/OHM (IT/OHM, 2002).*

The tanks were suspected to be empty; however, prior to removal of the tanks, approximately 13,000 gallons of water was removed from the tanks. The contact water was stored onsite in two holding tanks, analyzed for disposal purposes and then treated at the recycling facility on the Fort Bliss main cantonment area (IT/OHM, 2002).

The concrete tanks were demolished and removed using a track-hoe on April 26, 2002. The bottom depth of the USTs was approximately 9 feet bgs. The concrete with rebar was staged on plastic sheeting for proper disposal. All product lines and ancillary equipment was disconnected, removed and staged with the concrete. During excavation activities, it was determined that the stability of the nearby retaining wall may be compromised due to its proximity to the excavation. Therefore, the west end of the western concrete tank was not removed. During removal of the concrete tanks, petroleum-affected soil was removed and placed in six poly-lined rolloff containers. The final excavation dimensions were approximately 37-feet wide, 60-feet long and 16-feet deep (IT/OHM, 2002).

During the excavation, soil samples were collected for waste characterization every 50 cubic yards of excavated soil. The soil samples were analyzed for BTEX, PAHs and TRPH. The analytical results indicated that a few of the samples exceeded the Health-Based Soil Concentration but were below the applicable State Plan A Category III Target Concentrations (IT/OHM, 2002).

Confirmation soil samples were collected from the excavation for laboratory analyses. The laboratory results indicated that one sample on the east wall detected chrysene at Plan A Category III Target Concentrations for PAHs. Some detected concentrations of PAHs (chrysene, benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene) also exceeded the Health-Based Soil Concentrations. Most of the exceedances were from samples collected at 8 feet bgs or deeper. For this specific situation it was decided by TNRCC that by recalculating inhalation and ingestion exposure scenarios to match future green-belt land use scenarios, the application of the health-based standards could be relaxed and still provide adequate protection of public health without further excavation (IT/OHM, 2002).

The impacted soils along the sidewalls were removed and placed at the bottom of the 16-foot-deep excavation. Additional confirmation samples were collected from the sidewalls and analyzed for PAHs. The detected concentrations of the PAHs for the additional samples were below Plan A Category III Target Concentrations. The stockpiled soil was also placed at the bottom of the excavation to a depth of 16 feet bgs. Backfill, consisting of concrete screened material from an offsite source, was then placed and compacted in the excavation from 8 feet bgs to the surface (IT/OHM, 2002).

A Site Assessment Report, dated June 24, 2002, was prepared by the Directorate of Environment, Fort Bliss, and submitted to the TNRCC in Austin, Texas. The Site Assessment Report summarized the aforementioned assessment and tank removal activities conducted in the area of Tanks 6 and 7 between November 1999 and April 2002. The Directorate of Environment, Fort Bliss requested that a Site Closure be granted for LPST ID No. 115412. To date, TNRCC (now TCEQ) has not commented on or approved that closure request (Fort Bliss, 2002).

#### **4.3.4 SECTION G**

VIVA Environmental, Inc. (VIVA) was contracted to remove one 300-gallon UST located on the southeastern side of Building 7115. The steel UST was reportedly used to store No. 2 heating oil and

was removed on November 2, 1998. Tank removal activities were summarized in a report entitled, *Underground Storage Tank Removal Report, Building #7115, William Beaumont Army Medical Center, Ft. Bliss, Texas*, dated January 18, 1999, prepared by VIVA.

No free product was encountered in the tank or fuel line during the removal activities. Subsequent to removal of the tank from the excavation, the tank was visually inspected for signs of damage, holes, openings, corrosion and failure condition. “The tank indicated no sign of failure, cracks, or holes at the time of removal” (VIVA, 1999b). The product line, which connected inside the building, was also removed and both the tank and piping were hauled offsite for proper disposal (VIVA, 1999b). The vent line, as identified during the October 18, 2002, site reconnaissance by Plexus, was not removed from the side of the building (Plexus, 2002).

The excavation was also visually inspected and “no release of heating oil in the tankhold or native soil was observed after tank removal” (VIVA, 1999b). No soil sampling was conducted during the tank removal activities due to TNRCC regulatory exemption for small heating oil tanks. The excavation was backfilled with clean fill material to original grade (VIVA, 1999b).

#### **4.3.5 SECTION H (Out-Parcel)**

One 250-gallon AST is present in the vicinity of pump house Building 7242, and a large water tank (7241) is located in the southeastern portion of Section H. This double-walled steel AST is used to store diesel for emergency generator operation in the event of an electrical outage to provide power for the transfer pump. Based on available file information, a discharge has not been reported for 250-gallon AST (Fort Bliss, 2001). This area is enclosed with a chain-link fence, and according to personnel with the Fort Bliss Directorate of Environment, is not included as part of the subject property.

#### **4.4 POLYCHLORINATED BIPHENYL EQUIPMENT**

A general class of chemicals produced by chlorination of biphenyls (PCBs) persist in the environment, accumulate in organisms, and concentrate in the food chain. PCBs were used in electrical equipment—mainly in capacitors and transformers—because they are electrically nonconductive and stable at high temperatures. PCBs were also used in some hydraulic oils and paints. PCBs are regulated under the Toxic Substances Control Act (TSCA), which banned the manufacture and distribution of PCBs except for those used in enclosed systems. By definition, PCB equipment contains 500 parts per million (ppm) PCBs or greater. PCB-contaminated equipment contains PCB concentrations of 50 ppm or greater, but less than 500 ppm (40 CFR 761.3).

Two multiphase PCBs investigations have been conducted at Fort Bliss. The first investigation of PCB and non-PCB transformers began in 1989 and was completed in 1995. The second was conducted in 1994 and 1995 and involved investigating all remaining hydraulic equipment (transformers, capacitors and ballasts). During the first investigation, 37 transformers that contained dielectric fluid with PCB concentrations greater than 500 ppm were identified and disposed. Approximately 350 transformers were PCB-contaminated with PCB concentrations between 50 and 500 ppm. Some were removed and disposed, but most remained in service. The remaining PCB-contaminated transformers will be removed at the end of their useful lives and replaced with non-PCB transformers. The non-PCB transformers (<50 ppm PCB) were labeled “non-PCB.” All equipment investigated during the second phase was labeled “non-PCB” (Weston, 1997a).

Among the PCBs files at the Fort Bliss Directorate of the Environment, the following information was found. One PCB transformer and six PCB-contaminated transformers were located in the WBGHHD area in November 1997. Three transformers having PCB concentration of about 145 ppm were located at Building 7113 (Weston, 1997b). Two transformers that were found to contain 357 and 1,000 ppm PCBs were located at Building 7145 (Weston, 1997b). The 1,000-ppm was removed from Building 7145 by January 1998 (Weston 1998b). A transformer with 253 ppm PCBs was located at Building 7152 (Weston, 1997b). A transformers located near Building 7186 was found to have a concentration of 63 ppm PCBs (Fort Bliss, 1999).

Four transformers with less than 50 ppm PCBs were identified in the file information. Two transformers located near Building 7186 were found to have a concentration of less than 20 ppm PCBs (Fort Bliss, 1999). Two transformers located near Building 7151 contain less than 2 ppm PCBs (Fort Bliss, 1990c).

During the site reconnaissance, most of the pole-mounted transformers that were observed had non-PCB stickers and appeared to be in good condition. Most of the transformers also showed no indication of leaks. Two non-PCB transformers located near the bandstand in Section E had discolored soil underneath them; however, it was suspected that the soil coloration was due to previous day's rain (Plexus, 2002).

#### **4.5 ASBESTOS-CONTAINING MATERIALS**

Asbestos consists of six naturally occurring fibrous minerals. Three of the individual minerals, chrysotile, amosite and crocidolite, were used in building materials. Due to its strong, incombustible and corrosion resistant fibers, asbestos was widely used in commercial building products beginning in the early 1900s, reaching its production peak from World War II through the 1970s. Asbestos fibers can cause a number of serious maladies if inhaled or ingested.

Asbestos-containing material (ACM) is defined as any material or product that contains more than 1% asbestos. ACM is regulated by the USEPA, the Occupational Safety and Health Administration (OSHA) and may also be further regulated by state and local governments. Asbestos fiber emissions into the ambient air are regulated in accordance with § 112 of the Clean Air Act, which established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). These standards address the demolition or renovation of buildings with ACM. Regulations of the Asbestos Hazard Emergency Response Act (AHERA) and OSHA cover protection for employees who work around ACM. In 1990, the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) was enacted. Section 15 of ASHARA amended AHERA to require accreditation for any person who 1) inspects for ACM in a public/commercial building, or 2) designs/conducts a response action with respect to friable ACM in such a building.

There are two primary categories of ACM. Friable ACM is any material containing more than 1% asbestos that when dry, can be crumbled, pulverized or reduced to powder by hand pressure (Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy). Non-friable ACM is any material that contains more than 1% asbestos, but does not meet the other criteria for friable ACM. Asbestos is considered a special waste if it is friable; however, if it is wetted and managed in accordance with NESHAP, it is a solid waste.

Some common examples of ACM are spray acoustic ceilings, acoustic tiles, various plasters, duct wrap, non-bituminous roofing felt, wallboard and thermal insulation on pipes and boilers. Friable ACM may pose a threat to human health and is regulated. Non-friable ACM is typically bound with cement, vinyl,

asphalt or some other type of hardening binder, and consequently, does not pose a threat to human health and is not regulated. Some examples of non-friable asbestos building products are transite (asbestos cement board) siding, vinyl asbestos floor tiles and asphalt roofing shingles.

Various surveys and removals have occurred in buildings in the WBGHHD area, although an overall survey has not been conducted. In Building 7000, non-friable ACM in the forms of floor tile and adhesive (basement and first floor), adhesive under ceiling tile (basement), and friable heating and domestic water lines and fittings (basement) were found (NACI, 1990). In Building 7113, friable pipe insulation was found in at the southwestern corner of first floor, non-friable floor tile and mastic was found in about one-third of the first floor and most of second floor, and non-friable transite panels was found in a room on second floor (SCAI, 1996). Friable ACM, in the form of 12 elbows, was removed from the basement of Building 7125 (Fort Bliss, 1990a). Non-friable roof flashing was identified at Building 7134 (SCAI, 1995). Unspecified non-friable ACM was removed from Buildings 7145 and 7166 (Fort Bliss, 1993b). Friable pipe insulation and soil ACM were removed from crawl space of Building 7151 (Fort Bliss, 1993a). Friable pipe insulation was removed from the crawl space of Buildings 7157, 7158 and 7159 (Fort Bliss, 1988b, 1989a, and 1989b). Floor tile and mastic was removed from the restroom area of Building 7162 (LVI Services, 2002). Unspecified non-friable ACM was removed from Building 7167 (Fort Bliss, 1994). Non-friable green floor tile and mastic was identified in Building 7175 (SCAI, 1995). Non-friable white floor tile was identified in Building 7183 (SCAI, 1995). Friable pipe insulation was removed from the crawl space of Building 7183 (Fort Bliss, 1988a). Non-friable brown floor tile was identified in Building 7184 (SCAI, 1995). Non-friable brown floor tile and mastic and friable pipe insulation were identified in Building 7186 (SCAI, 1995). Non-friable mastic to white floor tile was identified in Building 7188 (SCAI, 1995). Non-friable white floor tile and mastic was identified in Building 7189 (SCAI, 1995). Non-friable mastic to white floor tile and green floor tile and mastic were identified in Building 7190 (SCAI, 1995). Friable ACM contamination on the ground was identified at Buildings 7190, 7191 and 7192 (SCAI, 1995). Non-friable green floor tile was identified at Building 7194 (SCAI, 1995).

The overall potential for remaining ACM in buildings exists with concern to the following:

- Roof materials – roof and flashing materials were not generally sampled and the condition and quantity of ACM in regard to most of the roofs is unknown.
- Underground piping – most buildings on this site were fed by steam piped from Building 7145. In most cases, a set of asbestos covered steam supply and return lines fed these buildings underground. Some of the pipes and insulation have been removed, while some remain (Department of Army, 1996). Based on discussions with Louis Diaz and Tom Liddiard of the Department of Public Works some of the removed and remaining steam lines were confirmed (Figure 4-2). It was not determined to what extent steam lines remain in the Section B, as well as whether they were removed when the buildings in Section E were demolished.
- Most of the buildings contain some floor tile. Some have been removed or tested as discussed above, but other areas have no documentation of testing of the floor tile or mastic.

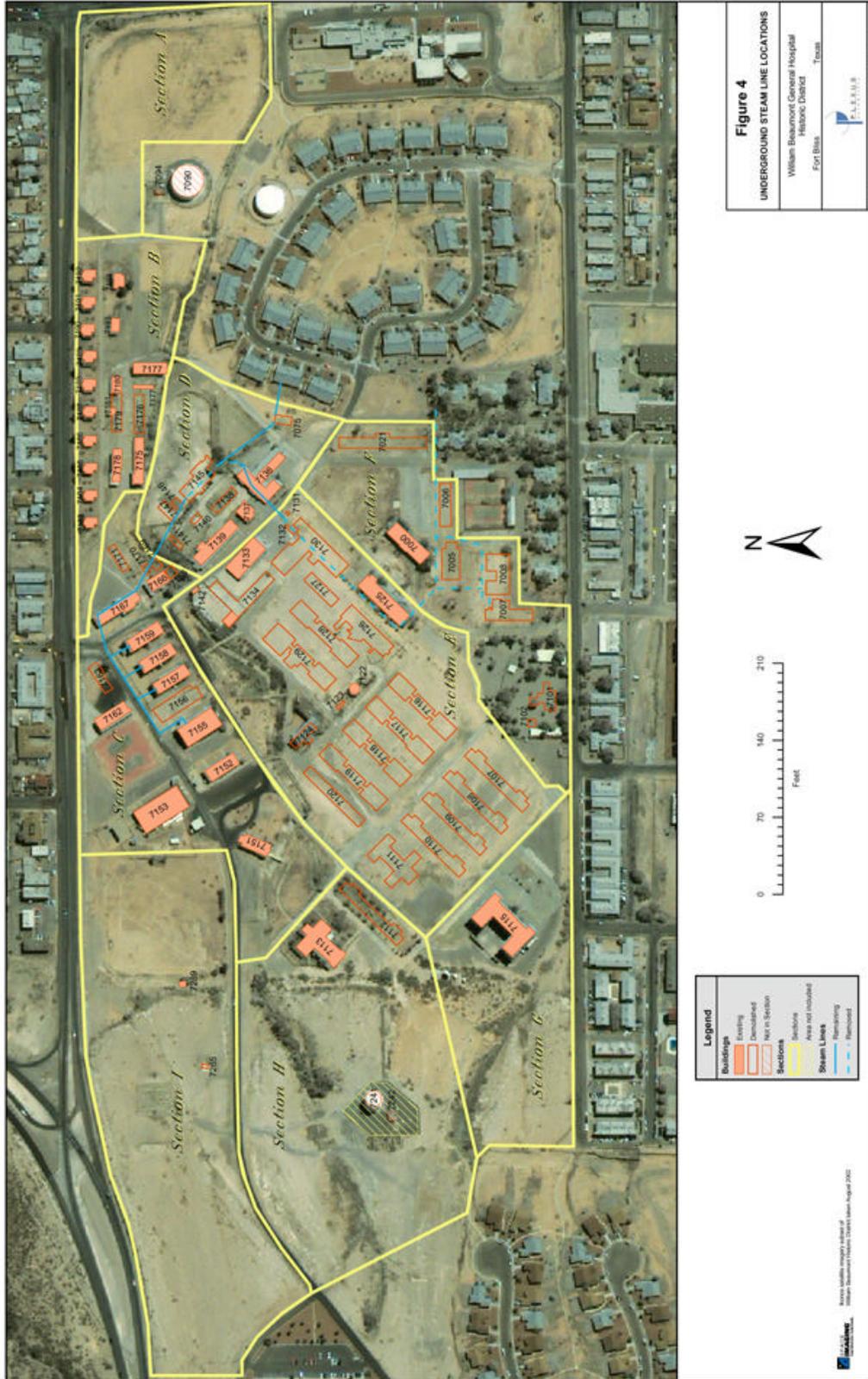


Figure 4-2. Underground Steam Line Locations.

## **4.6 LEAD AND LEAD-BASED PAINT**

Lead was originally added to paint to increase the paint's durability and its ability to withstand the elements. Lead can cause permanent damage to the brain and many other organs and causes reduced intelligence and behavioral problems. It can also cause abnormal fetal development in pregnant women. The Consumer Product Safety Commission banned the use of lead-based paint in residences in 1978.

To protect the public from exposure to lead from paint, dust and soil, Congress passed the Residential Lead-Based Paint Hazard Reduction Act of 1992, also known as Title X. Section 1018 of the law directed the Department of Housing and Urban Development and the USEPA to require disclosure of known information on lead-based paint and lead-based paint hazards before the sale or lease of most housing built before 1978. The Act requires that buyers of residential property (except efficiencies, housing for senior citizens, housing for the handicapped and short-term lessees) be informed that buildings built before 1978 may contain lead-based paint. Notice requirements are specified in the Act. Testing is not required, and there is no notification requirement for nonresidential properties. Lead-based paint and contaminated soils or debris containing lead-based paint from nonresidential structures are a special waste and may be a RCRA hazardous waste because of the characteristic of toxicity.

Most facilities and buildings constructed before the U.S. Department of Defense (DoD) ban on the use of lead-based paint in 1978 are likely to contain one or more coats of such paint. In addition, some facilities constructed immediately after the ban may also contain lead-based paint, because inventories of such paints that were in the supply network were likely to have been used up at these facilities. Construction of the buildings at the WBGHHD area was completed in 1943, and it is likely that the majority of the structures have been painted with lead-based paints. Lead-based paints were found at Buildings 7113, 7183, 7185, 7187, 7190, 7191 and 7192 (Fort Bliss, 1996; SCAI, 1995).

## **4.7 RADIOLOGICAL SOURCES OR CONTAMINATION**

Installation records must be reviewed as part of the EBS to determine whether radioactive materials or commodities were used, stored or disposed of at the facility.

Buildings 7126, 7128 and 7136 used x-ray machines (Fort Bliss, 1950; Plexus, 2002). Medical uses of radioisotopes occur in the Nuclear Medicine Service, the Clinical Investigation Service, the Radiation Therapy Service, and the Department of Pathology at WBAMC (ESE, 1983). It is likely that similar radioisotope use occurred at WBGHHD. There is no indication that other types of radioactive materials were used, stored or disposed of at the WBGHHD area or that there is any radiological contamination.

## **4.8 RADON**

Radon is a colorless, odorless, naturally occurring radioactive gas generated from the radioactive decay in the uranium-radium pathway. Radon emanating from oils, soil gas and groundwater can enter through cracks and other openings in building structures and become a component of breathable air within buildings. Exposure to radon is associated with an increased risk of lung cancer. The USEPA suggests that remedial action be considered if the average annual radon level in the living area of a residence exceeds 4 picocuries per liter (pCi/L).

In response to concerns with the potential health effects associated with radon exposures and in accordance with the Indoor Radon Abatement provisions of Subchapter III of the Toxic Substances Control Act, 26 U.S.C. 2661 to 2671, DoD has conducted studies to determine radon levels in a

representative sample of its buildings. In addition, as part of its voluntary approach to reducing radon exposure, DoD has applied the USEPA guidelines for residential structures with regard to remedial actions. DoD policy is to ensure that any available and relevant radon assessment data pertaining to BRAC property being transferred will be included in property transfer documents. DoD policy is not to perform radon assessment and mitigation prior to transfer of BRAC property unless otherwise required by applicable law.

The USEPA has determined El Paso County to be in a Level 3 radon zone. The predicted indoor screening levels of radon gas are expected to be less than 2 pCi/L. A radon survey was conducted between 1989 and 1990 at Fort Bliss using alpha track monitors (ATMs) reported by Terradex. The radon level at 12 locations was greater than 4 pCi/L (Vail, 1991). The 2 elevated results (11.2 and 7.8 pCi/L) at the WBGHHD area were found at two locations at the basement of Building 7115. Follow-up long-term measurement was conducted for the basement and first floor of Building 7115 (Commander, WBAMC, undated). Results from 15 ATMs at Building 7115 were all less than 4 pCi/L (Fort Bliss, 1990b).

#### **4.9 ENERGETIC MATERIALS AND UNEXPLODED ORDNANCE**

Energetic materials and unexploded ordnance (UXO) present a significant, high visibility concern for transferring installations. With respect to its threat to human health and the environment, energetic materials and UXO differ from other hazards in several ways. Hazardous, toxic and radiological wastes (HTRW) generally present a threat to human health and the environment through repeated and accumulated exposures to certain contaminants above acceptable exposure limits. Energetic materials and UXO present an immediate risk of acute physical injury from either fire or explosion resulting from accidental or unintentional detonation.

Since none of the buildings in the WBGHHD area were used for explosives purposes and no training occurred in the area, all the buildings would be classified as 0 (facilities were never directly exposed to contamination). There is no indication that explosives were ever handled in the area.

#### **4.10 ADJACENT PROPERTIES**

There are no ongoing environmental investigations/remediations or other hazardous conditions adjacent to the property.

The adjacent properties include WBAMC to the west; Army housing to the east, southeast and southwest; residential property on most of the property to the north and south; Chevron Station to the northeast; Aki's Custom Sewing to the north; and Auto J & A General Mechanics to the north. Five heating oil USTs with a total capacity of 84,000 gallons and interstitial monitoring and overfill protection are present at WBAMC (Fort Bliss, 2001).

#### **4.11 APPLICABLE REGULATORY COMPLIANCE ISSUES**

There are no lawsuits, notices of violation or warning letters in the Environmental Quality Report (EQR) for the WBGHHD area.

Tables 4-2, 4-3, and 4-4 show the hazardous substances and petroleum products known to have been stored in the WBGHHD area, the two IRP sites within the WBGHHD area and the other known or

potential hazards at the WBGHHD identified during the EBS. A summary of the nine sections is shown in Table 4-5.

**Table 4-2. Review of Hazardous Substances & Petroleum Products.**

Storage Site or Area	Substances Stored (include chemical abstracts services number, where appropriate)	Largest Quantity Stored	Dates of Storage	Notification of Storage Required Under CERCLA §120(h)?	Has a Release Occurred? (If Yes → See Wrksht B)
Bldg 7145 UST (Section D)	Diesel	500 gal	19??–1995	Yes	No
Bldg 7145 UST (Section D)	Gasoline	1,250 gal	19??–1995	Yes	No
Bldg 7145 AST (Section D)	Diesel	5,000 gal	19??–1995	Yes	No
Bldg 7146 USTs (Section D)	Heating oil	40,000 gal	1929–1986	Yes	Yes
Bldg 7147 ASTs (Section D)	Heating oil	25,000	1941–1986	Yes	No
Bldg 7115 UST (Section G)	Heating oil	300 gal	19??–1998	Yes	No
Bldg 7145 (Section D)	Cyclohexylamine (UN2357) Sodium Hydroxide, liq (UN1823) Sodium Hydroxide, sol (UN8124) Sulfamic Acid, Solid (UN2967) Cyclohexylamine (UN2357)	55 gal 55 gal 20 gal 30 gal 10 gal	19??–1998	No	No

**Table 4-3. Review of CERCLA, IRP, or Cleanup Sites.**

Site or Area Where Release or Disposal of CERCLA Hazardous Substances Occurred	Comments (Include a brief description of any response action taken)
Bldg 7146 USTs (Section D)	Petroleum release and contamination has been documented. The two 20,000-gallon concrete USTs have been removed. Soil samples from 2 borings had TRPH concentrations that exceeded TNRCC screening levels. However, individual BTEX and PAH constituent concentrations in the samples were below State Plan A Category III Target Concentrations. A Site Assessment Report, dated June 24, 2002, was submitted to TNRCC and a Site Closure has been requested, although the closure request has not been approved. Further information can be found in Section 4.2.3.2.
Bldg 7265 (Section I)	No evidence of hazardous release was found (Dodge, 2002)

**Table 4-4. Review of Other Known Or Potential Hazards.**

Site or Area	Status and Description of Hazards			List of Restrictions
	Known	Potential	Description	
Building 7000	X		Potential friable asbestos pipe insulation and non-friable asbestos floor tile.	Disclose presence of ACM in FOSL.
Building 7113	X		Friable asbestos pipe insulation and non-friable asbestos floor tile and transite panels.	Disclose presence of ACM in FOSL.
Building 7115		X	Potential friable asbestos pipe insulation.	Disclose presence of potential ACM in FOSL.
Building 7124		X	Potential friable asbestos tank insulation and non-friable asbestos floor tile.	Disclose presence of potential ACM in FOSL.
Building 7125		X	Potential friable asbestos pipe insulation and non-friable asbestos floor tile.	Disclose presence of potential ACM in FOSL.
Building 7134		X	Potential friable asbestos insulation is present from collapsed roof.	Disclose presence of potential ACM in FOSL.
Building 7136	X		Friable asbestos pipe insulation and potential non-friable asbestos floor tile.	Disclose presence of ACM in FOSL.
Building 7139		X	Potential friable asbestos pipe insulation and non-friable asbestos floor tile.	Disclose presence of potential ACM in FOSL.
Buildings 7151, 7153, 7157, 7158		X	Potential non-friable asbestos floor tile.	Disclose presence of potential ACM in FOSL.
Building 7159	X		Friable asbestos pipe insulation and potential non-friable asbestos floor tile.	Disclose presence of ACM in FOSL.
Buildings 7162, 7166, 7167		X	Potential non-friable asbestos floor tile.	Disclose presence of potential ACM in FOSL.
Building 7175		X	Potential friable asbestos pipe insulation and non-friable asbestos vinyl floor tile.	Disclose presence of potential ACM in FOSL.
Building 7183	X		Non-friable asbestos white floor tile.	Disclose presence of ACM in FOSL.
Building 7184	X		Non-friable asbestos brown floor tile.	Disclose presence of ACM in FOSL.
Building 7185		X	Potential non-friable asbestos floor tile.	Disclose presence of potential ACM in FOSL.
Building 7186	X		Friable asbestos pipe insulation and non-friable asbestos brown floor tile and mastic.	Disclose presence of ACM in FOSL.
Building 7187		X	Potential non-friable asbestos floor tile.	Disclose presence of potential ACM in FOSL.
Building 7188	X		Non-friable asbestos mastic to white floor tile.	Disclose presence of ACM in FOSL.
Building 7189	X		Non-friable asbestos white floor tile and mastic.	Disclose presence of ACM in FOSL.

Site or Area	Status and Description of Hazards			List of Restrictions
	Known	Potential	Description	
Building 7190	X		Non-friable asbestos mastic to white floor tile and green floor tile and mastic.	Disclose presence of ACM in FOSL.
Building 7191		X	Potential non-friable asbestos floor tile.	Disclose presence of potential ACM in FOSL.
Building 7192		X	Potential non-friable asbestos floor tile.	Disclose presence of potential ACM in FOSL.
Building 7194	X		Non-friable asbestos green floor tile.	Disclose presence of ACM in FOSL.
Underground steam pipes	X		Friable ACM pipe insulation (see Figure 4-2 for locations).	Disclose presence of ACM in FOSL.
Demolition debris disposal area in Section H		X	Potential friable and non-friable ACM.	Disclose presence of ACM in FOSL.
Buildings 7000, 7113, 7115, 7124, 7125, 7134, 7136, 7137, 7139, 7151–7153, 7157–7159, 7162, 7166, 7167, 7175, 7177, 7183–7192, 7194, 7289		X	Presence or assumed presence of lead-based paint; in good condition.	Disclose presence or assumed presence of lead based paint in FOSL with health warning information required by Lead-Based Paint Poison Prevention Act.

Table 4-5. WBGHHD Area Section Summary Table.

Section	Comment
A	From a review of available records, a release of hazardous substances or petroleum products is not suspected.
B	From a review of available records, a release of hazardous substances or petroleum products is not suspected.
C	From a review of available records, a release of hazardous substances or petroleum products is not suspected.
D	A release of petroleum products has occurred and site closure has been requested.
E	From a review of available records, a release of hazardous substances or petroleum products is not suspected.
F	From a review of available records, a release of hazardous substances or petroleum products is not suspected.
G	From a review of available records, a release of hazardous substances or petroleum products is not suspected.
H	From a review of available records, a release of hazardous substances or petroleum products is not suspected.
I	From a review of available records, a release of hazardous substances or petroleum products is not suspected.

## 5 SECTION SUMMARIES

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The approximately 67 plus acre Fort Bliss WBGHHD property was divided into smaller sections in order to facilitate the review of historical documentation and reduce the site reconnaissance into manageable sections. The section letters have no significance with relationship to the building numbers and were designated as Plexus environmental professionals began reconnaissance of each section. The section boundaries are solely designed to act as a management tool for the authors and readers of this document and do not represent a division of the parcel into smaller parcels for transference. The following paragraphs summarize the highlights of each section. The referenced photos are located in Appendix E.

### 5.1 SECTION A

As shown in Figure 2 in Appendix E, Section A is located in the northeastern portion of the WBGHHD area near the intersection of Dyer Street and Fred Wilson Road. There are no buildings located in this section. A baseball field was located in this section and evidence of an irrigation system is present; however, it appears to be no longer in use. High-pressure gas line valves are located aboveground near the northeastern corner of the section (Photo A-1). A pole-mounted transformer (#01069) is located outside the fence at the corner of Fred Wilson Road and Dyer Street. A lined storm water ditch is located along the southern portion of the section (Photo A-3). Water tank 7090 and pump house Building 7094 are located adjacent to Section A (Photo A-4) (Plexus, 2002).

### 5.2 SECTION B

As shown in Figure 2 in Appendix E, Section B is located in the northeastern portion of the WBGHHD area, north of the lined storm water ditch. There are 17 structures located on Section B: Buildings 7175, 7178, 7177, 7180, 7181, 7183, 7184, 7185, 7186, 7187, 7188, 7189, 7190, 7191, 7192, 7193 and 7194, which are listed in Table 5-1. Building 7175, located on southern portion of Section B, was utilized as a utility shop. The rectangular building, constructed in 1942, consists of a single-story building constructed from stucco. Most of the building is carpeted and appears to have been used as office space. Building 7177, located on the southern portion of Section B, was used as medical repair shop. The rectangular building, built in 1942, is a single-story stucco structure. The building contains a 4-foot by 8-foot steel-lined pit and a ventilation hood (Photos B-6 and B-7). The building was used for spray painting in the late 1950s (Fort Bliss, 1959). Building 7178, located on the western portion of Section B, was used as a Non-Commissioned Officer (NCO) garage and utility warehouse. The rectangular building was built in 1937 and consists of two unconnected one-story sections made of stone. The building is mostly empty and contains a concrete floor with no drains. Buildings 7180 and 7193, located in the central portion of Section B, are rectangular, one-story stone structures built in 1937 and utilized as garages. Building 7181, located in the central portion of Section B, is a small stucco structure that was utilized as a transformer vault. The transformer equipment is no longer present, but the debris on the floor obscures any potential staining (Photo B-8). Buildings 7183 through 7192, located along the northern edge of Section B, are single-story brick structures with 8 foot by 8 foot basements and crawl spaces. The buildings were utilized as NCO family housing and were built in 1921. Building 7194, located in the western portion of Section B, is a single-story brick structure with a basement. The building was utilized as NCO family housing and was built in 1925 (Fort Bliss, 9155, 1959). Suspected friable ACM was identified in Building 7175. Suspected non-friable ACM was seen in Buildings 7175, 7189 and 7194 and was likely to also be present in Buildings 7183–7192 (Photos B-5 and B-B-10) (Plexus, 2002).

Table 5-1. WBGHHD Area Building Summary.

Bldg No	Section	Existing/ Demolished	Construction Date	Demolition Date	Known Use(s)
7000	F	Existing	1941	N/A	Post HQ/Admin Bldg
7005	F	Demolished	1922	1999–2001	Red Cross Bldg/Medical Library
7006	F	Demolished	1941	1999–2001	Nurses' Quarters
7007	F	Demolished	1921	2001–2002	Nurses' Lounge
7008	F	Demolished	1921	1999–2001	Nurses' Quarters
7021	F	Demolished	1943	2001–2002	Nurses' Quarters
7075	D	Demolished	1942	1995–2001	Rec. Facility/Admin. Bldg.
7101	F	Demolished	1921	1979–1986	Officer Housing
7102	F	Demolished	1921	1979–1986	Officer Garage
7107	E	Demolished	1943	1979–1986	Patient Ward
7108	E	Demolished	1943	1979–1986	Patient Ward
7109	E	Demolished	1943	1979–1986	Patient Ward
7110	E	Demolished	1943	1979–1986	Patient Ward
7111	E	Demolished	1943	1986–1994	Mess Hall
7112	H	Demolished	1943	1979–1986	Patient Ward
7113	H	Existing	1943	N/A	Red Cross Bldg/Child Dev. Ctr.
7115	G	Existing	1943	N/A	Neuropsychiatry Ward
7116	E	Demolished	1921	1974–1979	Patient Ward
7117	E	Demolished	1921	1974–1979	Patient Ward
7118	E	Demolished	1921	1974–1979	Patient Ward
7119	E	Demolished	1921	1974–1979	Patient Ward
7120	E	Demolished	1943	1974–1979	Lab & Dental Clinic
7122	E	Existing	1925	N/A	Bandstand
7123	E	Demolished	1960–65	1974–1979	Garbage House & Storage
7124	E	Existing	1942	N/A	Food Service/Clinic
7125	E	Existing	1921	N/A	Receiving/Admin Bldg
7126	E	Demolished	1921	1986–1994	Pavilion/X-Ray Unit
7127	E	Demolished	1921	1986–1994	Lab/Mortuary/Radio Station
7128	E	Demolished	1921	1986–1994	Ward & X-Ray
7129	E	Demolished	1921	1979	Ward & Operating Room
7130	E	Demolished	1943	1986–1994	Mess Hall
7131	E	Demolished	1921	1986–1994	Storage Building
7132	E	Demolished	1933	1986–1994	Garbage House
7133	E	Existing	1933	N/A	Medical Supply Warehouse
7134	E	Existing	1974–1979	N/A	Swimming Pool Bathhouse
7134	E	Demolished	1921	1979	Warehouse/Occupational Therapy
7136	D	Existing	1923	N/A	Medical Warehouse/Vet Facility
7137	D	Existing	1923	N/A	Guard House/Admin Bldg
7138	D	Demolished	1938	1974–79	Vehicle Shed
7139	D	Existing	1921	N/A	Vehicle Garage

<b>Bldg No</b>	<b>Section</b>	<b>Existing/ Demolished</b>	<b>Construction Date</b>	<b>Demolition Date</b>	<b>Known Use(s)</b>
7140	D	Demolished	1920s	1974-79	Oil & Paint Storage
7141	D	Demolished	1920s	1974-79	Sterilizer House
7142	E	Existing	1974-1979	N/A	Swimming Pool Filter House
7145	D	Demolished	1921	2001	Steam Plant
7146	D	Demolished	1929	2002	Heating Oil USTs
7147	D	Demolished	1941	1995	Heating Oil AST
7151	C	Existing	1943	N/A	Chapel
7152	C	Existing	1943	N/A	Theater
7153	C	Existing	1943	N/A	Bowling Alley
7155	C	Existing	1925	N/A	Gymnasium
7156	C	Demolished	1921	1986-1994	Post Exchange
7157	C	Existing	1921	N/A	Barracks
7158	C	Existing	1921	N/A	Patient Wards
7159	C	Existing	1921	N/A	Admin Offices
7162	C	Existing	1921	N/A	Post Exchange Annex/Pass Office
7163	C	Demolished	1921	1986-94	Fire Station
7165	C	Demolished	1936-1956	1970s	Greenhouse
7166	C	Existing	1922	N/A	Post Office/Library/HQ Bldg
7167	C	Existing	1921	N/A	Mess Hall/Kitchen/Library/HQ Bldg
7169	C	Demolished	1936-1956	1970s	Greenhouse
7170	C	Demolished	1936-1956	1970s	Greenhouse
7171	C	Demolished	1936-1956	1970s	Greenhouse
7175	B	Existing	1942	N/A	Utility Shop
7176	B	Demolished	1942	1974-1979	Storage Facility
7177	B	Existing	1942	N/A	Medical Repair Shop
7178	B	Existing	1937	N/A	NCO Garage & Utility Warehouse
7179	B	Demolished	1921	1974-1979	Storage Facility
7180	B	Existing	1937	N/A	Garage
7181	B	Existing	Unknown	N/A	Former Transformer Vault
7183	B	Existing	1921	N/A	NCO Family Housing
7184	B	Existing	1921	N/A	NCO Family Housing
7185	B	Existing	1921	N/A	NCO Family Housing
7186	B	Existing	1921	N/A	NCO Family Housing
7187	B	Existing	1921	N/A	NCO Family Housing
7188	B	Existing	1921	N/A	NCO Family Housing
7189	B	Existing	1921	N/A	NCO Family Housing
7190	B	Existing	1921	N/A	NCO Family Housing
7191	B	Existing	1921	N/A	NCO Family Housing
7192	B	Existing	1921	N/A	NCO Family Housing
7193	B	Existing	1937	N/A	Garage
7194	B	Existing	1925	N/A	NCO Family Housing
7265	I	Demolished	1942	Unknown	Incinerator

Bldg No	Section	Existing/ Demolished	Construction Date	Demolition Date	Known Use(s)
7289	I	Existing	1960–65	N/A	Baseball Field Restrooms

Two buildings were removed from Section B. Building 7176 was located on south central portion of Section B and was utilized as a shop and storage facility. It was built in 1942 and demolished sometime between 1974 and 1979. Building 7179 was located on the central portion of Section B and utilized as a storage facility. It was built in 1921 and removed during the time between 1974 and 1979 (Fort Bliss, 1955 and 1959). In addition, a gas station (Building 7197) was shown on the Master Plan drawing in the southeastern portion of Section B (Fort Bliss, 1950). However, no indication of this facility is visible on any of the aerial drawings or in the present location.

There are six pole-mounted transformers in Section B, which appear to be in good condition and have non-PCB stickers. Suspected ACM is located in Section B in the forms of roofing materials on the building roofs and pieces on the ground, as well as pipe insulation outside Building 7175. A concrete pad that contains cutoff posts is located south of former Building 7176 and is sloped to drain into the lined storm water ditch (Photo B-2). It is unclear what this area was used for, although it was not used by the fire department. Two potential sumps are located near former Building 7176, which are filled with debris (Photos B-3 and B-4) (Plexus, 2002).

### 5.3 SECTION C

As shown on Figure 2 in Appendix E, Section C is located in the northern portion of the WBGHHD area near the Fred Wilson Road Gate. Ten structures are located on Section C – Buildings 7151, 7152, 7153, 7155, 7157, 7158, 7159, 7162, 7166 and 7167. Building 7151, located on the southwestern portion of Section C, is a one-story stucco structure with a loft. The rectangular building was built in 1943 and was utilized as a chapel. Building 7152, located on the southern portion of Section C, is a one-story rectangular building. The building was built in 1943 and utilized as a theater. Building 7153, located on the northwestern portion of Section C, was utilized as a bowling alley. The rectangular building was built in 1943 and is a one-story stucco structure. An air compressor for the sprinkler system in Building 7153 had some staining on the floor (Photo C-2). Building 7155, in the central portion of Section C, is a one-story stucco structure that was built in 1925 and utilized as a gymnasium. Buildings 7157, 7158, and 7159, located in the northeastern portion of Section C, were utilized as barracks, patient wards and administrative offices. The two-story stucco buildings with porches were built in 1921 and are rectangular in shape. Building 7159 contains a basement and boiler room. Building 7162, in the north central portion of Section C, was utilized as a Post Exchange annex and warehouse, arts and crafts building, and is currently used as a pass office for the Fred Wilson Road gate. The rectangular building is a one-story stucco structure built in 1921. Building 7166, located in the northeastern portion of Section C, was utilized as a post office, library, and headquarters building. The rectangular building was built in 1922 and is a one-story stucco structure with a basement. Building 7167, located in the northeastern portion of Section C, was used as a mess hall/kitchen, library, and headquarters building. The one-story stucco was built in 1921 and is rectangular in shape (Fort Bliss, 1955 and 1959). Suspected friable ACM was identified in Building 7159 and suspected non-friable ACM was seen in Buildings 7151, 7153, 7157, 7158, 7159, 7162, 7166 and 7167 (Plexus, 2002).

Six demolished buildings were also located on Section C. Building 7156 was located on the central portion of Section C and utilized as the Post Exchange. It was built in 1921 and demolished during the time between 1986 and 1994. Building 7163 was located in the northeastern portion of Section C and utilized as a fire station, was built in 1921 and removed during the time between 1986 and 1994.

Buildings 7166, 7169, 7170 and 7171 were located on the northeastern portion of Section C and were utilized as greenhouses. They were built at some time between 1936 and 1956 and demolished during the 1970s (Fort Bliss, 1955 and 1959).

There are seven pole-mounted transformers in Section C, which appear to be in good condition. Landscaping maintenance equipment and products, including small quantities of fuel are located west of Building 7153. Some petroleum staining is visible on the pavement in this area (Plexus, 2002).

## 5.4 SECTION D

As shown in Figure 2 in Appendix E, Section D is located in the northeastern portion of the WBGHHD area, northeast of Lazear Street. There are three structures located on Section D—Buildings 7136, 7137 and 7139. Building 7136, located on the southern portion of Section D, was utilized as a medical warehouse and a veterinary facility. The rectangular structure with two wings was built in 1923 and is a one-story stucco structure with a basement. One room in the Building 7136 had a sign for radiation area, which is probably where x-rays were conducted during use as a veterinary facility (Photos D-9 and D-10). Building 7137, located in the southern portion of Section D, was utilized as a guardhouse and administration building. The square building was built in 1923 and is a one-story stucco structure. Building 7139, located on the eastern portion of Section D, was utilized as a vehicle garage and shop. The roughly rectangular structure was built in 1921 and is a one-story stucco structure (Fort Bliss, 1955 and 1959). A vehicle service area is located behind Building 7139, as well as a sump that contains water with an oily sheen and petroleum odor. Suspected friable and non-friable ACM was identified at Buildings 7136 and 7139 (Photo D-11 through D-13) (Plexus, 2002).

Six buildings and one AST were removed from Section D. Building 7075, located on the southeastern corner of Section D, was built in 1942 and utilized as a recreation facility and administration building and removed between 1995 and 2001. Building 7138, located on the eastern portion of Section D, was built in 1938 and utilized as a vehicle shed and demolished during the period between 1974 and 1979. Buildings 7140 and 7041, located on the western portion of Section D, were built in the early 1920s and were utilized for storage and removed during the period between 1974 and 1979. Building 7140 was used for oil storage and paint storage. Building 7145 was located in the central portion of Section D and was utilized as a steam plant. It was built in 1921 and demolished in 2001 and contained natural gas fired boilers, with fuel oil burning equipment as standby in case of gas failure (Fort Bliss, 1955 and 1959). Chemical feed water treatment was conducted and boiler chemicals were removed from the building in 1999 as discussed in Section 4.1. Three USTs and one AST associated with Building 7145 were removed in 1995. Building 7146 housed two 20,000 gallon heating oil USTs that were built in 1929 and removed in 2002. Facility 7147 was a 25,000-gallon heating oil AST that was built in 1941 and removed in 1995 (Photo D-7).

There are 5 transformers located in Section D, which appear to be in good condition. Suspected ACM was identified on insulated pipes on the ground behind the northern corner of Building 7136. Debris, including pallets, metal, pipes and concrete, is located in several areas of the section. North of Building 7139 is a vehicle maintenance area and a sump that contains water with an oily sheen and oily odor (Photos D-2 through D-4). Soil disturbance is present north of Building 7139, which is likely due to a broken water pipe (Photo D-5). Coal was stored near the former steam plant (Photo D-6) (Plexus, 2002). Removal of the USTs and ASTs in Section D and the associated sampling efforts are discussed in Section 4.2.3.

## 5.5 SECTION E

As shown on Figure 2 in Appendix E, Section E is located in the central portion of the WBGHHD area, southeast of Beaumont Drive. Five buildings are located on Section E: Buildings 7124, 7125, 7133, 7134 and 7142. Building 7124, located on the central portion of Section E, was utilized as a food service building and clinic. The two-story, L-shaped, wood structure with a basement was built in 1942. Building 7125, located on the southeastern side of Section E, was utilized as a receiving building and administration building. The rectangular building is a one-story stucco structure with a basement built in 1921. Building 7133, located on the northeastern side of Section E, was used as a medical supply warehouse and storage building. The rectangular structure was built in 1933 and is a one-story stucco structure with a basement. Plexus did not inspect Building 7133 since it could not be accessed. Building 7134, located on the northern corner of Section E, was utilized as a swimming pool bathhouse. Building 7142, also located on the northern corner, is the swimming pool filter house, was built between 1974 and 1979 (Photo E-1) (Fort Bliss, 1955 and 1959). It currently contains a solid material with deteriorated packaging on a pallet, which is possibly chlorine pool chemical or filter powder (Photo E-5). Suspected friable ACM was identified in Buildings 7124, 7125 and 7134, and suspected non-friable ACM was identified in Buildings 7124 and 7125 (Photo E-6) (Plexus, 2002).

Nineteen buildings were removed from Section E Buildings 7107, 7108, 7109 and 7110, were located along the southwestern side of Section E. They were used as patient wards, built in 1943 and removed during the period between 1979 and 1986. Building 7111 was located along the southwestern side of Section E, used as a mess hall, built in 1943 and removed during the period between 1986 and 1994. Buildings 7116, 7117, 7118 and 7119 were located on the southwestern portion of Section E. They were used as patient wards, built in 1921 and removed during the period between 1974 and 1979. Building 7120 was located on the northwestern side of Section E, utilized a lab and dental clinic, built in 1943 and removed between 1974 and 1979. Building 7123 was located on the central portion of Section E, used as a garbage house and storage, built between 1960 and 1965 and removed between 1974 and 1979. Building 7126 was located on the southeastern side of Section E, utilized as the surgical pavilion and x-ray unit, built in 1921 and demolished between 1986 and 1994. Building 7127 was located on the southeastern side of Section E, utilized as a lab and mortuary and a radio station, built in 1921 and demolished between 1986 and 1994. Building 7128 was located on central portion of Section E, utilized as a ward and x-ray, built in 1921 and demolished between 1986 and 1994. Building 7129 was located on central portion of Section E, utilized as a ward and operating room, built in 1921 and demolished in 1979. Building 7130 was located along the southeastern side of Section E, used as a mess hall, built in 1943 and removed during the period between 1986 and 1994. Building 7131 was located on the southeastern side of Section E, used a storage building, built in 1921 and removed between 1986 and 1994. Building 7132 was located on the southeastern side of Section E, used as a garbage house, built in 1933 and removed between 1986 and 1994. An earlier Building 7134 was located on the northern portion of Section E, utilized as a warehouse and occupational therapy building, built in 1921 and removed in 1979 (Fort Bliss, 1955 and 1959).

Twelve pole-mounted transformers were identified in Section E, most of which had non-PCB stickers. Two of the transformers that had non-PCB stickers were not connected and may have been leaking, although the soil discoloration may have been due to the previous day's rain (Photo E-2). Suspected ACM was identified on insulated pipes outside Building 7125, on pipes under a small section of sidewalk that remains south of Building 7133 (Photo E-4), and in the form of pieces of transite panels on the ground. Pieces of demolition debris are present on the ground on much of Section E (Plexus, 2002).

## 5.6 SECTION F

As shown on the Figure 2 in Appendix E, Section F is located in the southeastern portion of the WBGHHD area, southeast of Beaumont Street. Three buildings are present on Section F—Building 7000 and two transformer houses. Building 7000, located on the northwest side of Section F, was utilized as post headquarters and an administration building. Suspected friable and non-friable ACM was identified in Building 7000. The rectangular building was built in 1941 and is a one-story stucco structure with a basement (Fort Bliss, 1955 and 1959). The two former transformer houses no longer contain any transformer equipment (Photos F-2 and F-3) (Plexus, 2002).

Seven buildings have been removed from Section F. Building 7005 was located along the southeastern edge of Section E, used as a Red Cross Building and medical library, built in 1922 and was demolished between 1999 and 2001. Building 7006 was located on the southeast side of Section F, utilized for nurses' quarters, built in 1941 and removed between 1999 and 2001. Building 7007 was located in the southern portion of Section F, used as a nurses' lounge and nurses mess', built in 1921 and removed in 2001 or 2002. Building 7008 was located on the southeastern side of Section E, utilized as nurses' quarters, built in 1921 and removed between 1999 and 2001. Building 7021 was located on the northeastern portion of Section F, used as nurses' quarters, built in 1943 and demolished in 2001 or 2002. Buildings 7101 and 7102 were located in the southwestern corner of Section F, were used as officer family housing and garage, respectively, were built in 1921 and removed in the period between 1979 and 1986 (Fort Bliss, 1955 and 1959).

There are two pole-mounted transformers in Section B, which appear to be in good condition and have no leaks. Suspected ACM is located in Section B, in the forms of roofing materials on the building roofs and pieces on the ground, as well as pipe insulation outside Building 7000. Demolition debris is present on the ground over much of the section (Plexus, 2002).

## 5.7 SECTION G

As shown on Figure 2 in Appendix E, Section G is located in the southwestern portion of the WBGHHD area, north of Hayes Avenue. Building 7115 is present on the eastern portion of Section G. This three-story concrete building with a basement was built in 1943 and was used as a neuropsychiatry ward and nurses training program (Fort Bliss, 1955 and 1959). A 300-gallon heating oil UST was removed from the southeast side of Building 7115 in 1998 and showed no signs of leaks (VIVA, 1999b). The vent pipes remains connected to the building (Photo G-1). The floor beneath an air compressor located in the basement had visible staining (Photo G-2). Suspected friable ACM was identified in several areas of Building 7115 (Photo G-3) (Plexus, 2002).

One building was removed from Section G. Building 7112 was located in the southeastern portion of Section G. It was used as a patient ward, built in 1943 and removed during the period between 1979 and 1986.

Four pole-mounted transformers were identified in Section G, which appear to be in good condition. Two new-looking transformers were on a pad in the southern portion of the section (Plexus 2002).

## 5.8 SECTION H

As shown on Figure 2 in Appendix E, Section H is located in the western portion of the WBGHHD area, south of Sternberg Street. Building 7113 is located on Section H. Building 7113, located on the

eastern portion of Section H, was utilized as a Red Cross building and a child development center. The one-story stucco structure was built in 1943 and has three wings (Fort Bliss, 1955 and 1959). There is a room on the second floor that has non-friable asbestos fire proofing paneling (Photo H-6). Staining is visible on the floor below an air compressor on the first floor (Photo H-7) (Plexus, 2002).

Three pole-mounted transformers are present in Section H, which have non-PCBs stickers and appear to be in good condition. Demolition debris is present in 800 feet of the drainage ditch that runs southwest to northeast in Section H (Photos H-2 through H-5). From aerial photographs, it appears the material was dumped between 1979 and 1986, as the ditch is visibly less prominent in the 1986 aerial photograph.

A 250-gallon diesel AST is used at Building 7242, which is located inside the fenced area with water tank 7241 (Photo H-1) (Plexus, 2002). The area within the fence contains water tank 7241, Building 7242, and the AST and will continue to serve the water needs of the William Beaumont area. This area is not part of the study area.

## **5.9 SECTION I**

As shown on Figure 2 in Appendix E, Section I is located in the western portion of the WBGHHD area, north of Sternberg Street. Building 7289 is present on the eastern portion of Section I and was used as baseball field restrooms. The small square building was built between 1960 and 1965. Three buildings have been removed from Section I. Building 7265 was located in the south central portion of Section I and was used as a natural gas incinerator for. The brick building was built in 1942 (Fort Bliss, 1955 and 1959). It had a capacity of only 50 pounds and about 20 pounds of ash/bone waste were produced daily. Periodically, the incinerated waste was placed in the active sanitary landfill (Dodge, 2002). The incinerator was dismantled and the site demolished 1990. The site was closed by TNRCC in January 1991. The concrete pad and vinyl floor tiles are still visible on Section I (Photo I-1). The incinerator area is an IRP site, but no evidence of hazardous releases was found and no contaminants of concern were identified (Dodge, 2002).

## 6 CONCLUSIONS

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The following conclusions about the WBGHHD can be drawn from this EBS:

- Seven tanks that stored petroleum products were removed from the steam plant area in Section D. The petroleum soil contamination from the 20,000-gallon USTs at Building 7146 is a recognized environmental condition and an IRP site. Site closure for the seven tanks has been requested from the TCEQ and is waiting approval.
- A heating oil UST was removed from outside Building 7115 in 1998 and no signs of leaks release were found.
- Two diesel ASTs are located near Sections A and H, which are used by water tank pump houses. Each has a secondary containment and has no record of leaks.
- There is a vehicle maintenance area in Section D north of Building 7139 with a sump that had an oily sheen and odor. It is possible that there was a release of petroleum products from this area.
- A disposal area for demolition debris was found in 800 feet of a drainage ditch in the western portion of the WBGHHD area. From aerial photographs, it appears that the debris was disposed of in the ditch in the early 1980s. From the surface, concrete, pipes, rebar and bricks were visible. It is likely that ACM is mixed with the debris and that the disposal area is a recognized environmental condition.
- A greenhouse area (Buildings 7166, 7169, 7170 and 7171) was also formerly located in the north central portion of the WBGHHD area (eastern edge of Section C). It is likely that pesticides were stored in this area, although no indication of past storage or usage of pesticides was observed during Plexus' site reconnaissance or from the records review.
- Pesticides have been applied on the subject property since construction in the 1920s. However, there is no evidence that these chemicals were misapplied or stored in the WBGHHD area.
- One PCB transformer was removed from Building 7145 in Section D before January 1998 and six PCB-contaminated transformers were located in Sections B, C, D and G in January 1998.
- Friable ACM is present or suspected in Buildings 7000, 7113, 7115, 7124, 7125, 7134, 7136, 7139, 7159, 7175 and 7186.
- Non-friable ACM is present or suspected in Buildings 7000, 7113, 7124, 7125, 7136, 7139, 7151, 7153, 7157-7159, 7162, 7166, 7167, 7175, 7183-7192 and 7194. In addition, many of the roofs probably contain non-friable asbestos shingles and some potential asbestos shingles and transite panels are present on the ground.
- Friable ACM is present on underground steam pipes that are present in Sections C, D, and E as shown on Figure 4 in Appendix E.
- There is a potential for lead based paint in Buildings 7000, 7113, 7115, 7124, 7125, 7134, 7136,

7137, 7139, 7151–7153, 7157–7159, 7162, 7166, 7167, 7175, 7177, 7183–7192, 7194 and 7289.

- A radon survey was conducted during 1989 and 1990 in the WBGHHD area. There were two readings above 4 pCi/L in the basement of Building 7115. These two readings were 11.2 and 7.8 pCi/L. A follow-up long-term measurement conducted for the basement and first floor of Building 7115 supplied results that were less than 4 pCi/L.

In summary, based on a review of available records, a release of hazardous substances or petroleum products is not suspected for most of the WBGHHD area, with the exception of Section D, where a petroleum release occurred. Lease of the property can occur with disclosure of the petroleum contamination in Section D, the demolition debris landfill in Section H, and the presence of ACM and lead-based paint in many of the buildings.

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