DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
PO BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

February 27, 2014

Environmental Engineering and Compliance Section
Planning and Environmental Center

Ms. Christine Bergren, Building F
Texas Commission on Environmental Quality
Waste Permits Division
Municipal Solid Waste Permits Section
12100 Park 35 Circle
Austin, TX 78753

Dear Ms. Bergren:

On behalf of the United States Army III Corps and Fort Hood Directorate of Public Works-Environmental Division, the United States Army Corps of Engineers- Fort Worth District (USACE) is submitting this Type V Municipal Solid Waste registration application for approval from the Texas Commission on Environmental Quality (TCEQ). This registration application is for the Fort Hood Biotreatment Facility located at the Fort Hood military installation in Coryell County, TX.

USACE is submitting one original and three copies of Part I through IV of the registration application. Please note the original document was signed with an embossed seal; therefore, duplicates of the original document do not display the seal of the registered engineer. This registration application is being submitted under the provisions of Title 30 of the Texas Administrative Code (30 TAC) §330.9(f).

The required $150.00 application fee has been electronically submitted through the TCEQ's ePay system. A copy of this submission has been included as Attachment C under Part I.

During the course of your review, if you need additional information or have any questions, please contact Abram Pinon at 817-886-1885 or at abram.pinon@usace.army.mil.

Sincerely,

Bobby L. Shelton, P.E.
Chief, Environmental Compliance and Engineering Section

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL DIVISION

FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

TYPE V MSW
REGISTRATION APPLICATION

PART I-IV

Submitted by:

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544

Prepared by:

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT

February 2014

Executive Summary

Fort Hood is a 340 square mile U.S. Department of Army installation that occupies parts of Bell and Coryell Counties. Fort Hood is located in the hill country of Texas, approximately 60 miles north of Austin and 50 miles southwest of Waco. Average temperature is 94°F in the summer and 49°F in the winter; annual precipitation is 30-35 inches.

In February 2007, the Fort Hood Directorate of Public Works-Environmental Division (FHDPW-ED) submitted an initial application for a biotreatment facility to the Texas Commission on Environmental Quality (TCEQ) to meet the requirements of 30 Texas Administrative Code (TAC) §332 (Composting rules). After a series of subsequent submittals, the TCEQ determined that the composting rules were not applicable and recommended that FHDPW-ED submit a Type V Municipal Solid Waste (MSW) application in accordance with 30 TAC §305 (Consolidated Permits) and §330 Municipal Solid Waste (MSW) rules. FHDPW-ED submitted its Type V application in December 2011 which the TCEQ subsequently rejected, stating in a letter dated March 21, 2012 that the submission was significantly deficient in meeting the Consolidated Permits and MSW rules.

III Corps, the Fort Hood headquarters command group, and the FHDPW recognize the benefits of diverting waste materials from the permitted Fort Hood Type I MSW landfill and are pursuing registration as a Type V Biotreatment Facility in accordance with 30 TAC §330.9(f). The purpose of the facility is to properly manage two types of waste sources: (1) soils and spill clean up material contaminated with petroleum, oils, and lubricants and (2) dry sediments from Fort Hood grit-chambers, oil-water separators, and stormwater structures. III Corps and FHDPW-ED will own and operate the registered facility which will be known as the Fort Hood Biotreatment Facility.

Jimmy D. Baggett
2/18/2014
CORPS OF
ENGINEERS

The following presents the information requested in Subchapter B of 30 TAC 330. The application is divided into four parts as defined in the regulations.

Part I -	General Information
Part II -	Existing Conditions
Part III -	Facility Design Information
Part IV -	Site Operating Plan

FHDPW-ED will process up to 2,500 cubic yards per year of waste and intends to reuse 100% of the processed waste material. The reusable material will meet levels that are below the Tier I Residential Soil protective concentration limits. FHDPW-ED proposes to process this material five days per week, Monday through Friday, between 7:30 a.m. and 4:15 p.m.

Facility Name: Fort Hood Biotreatment Facility
Permittee/Registrant Name: III Corps & Ft. Hood DPW
MSW Authorization #:
Initial Submittal Date: 02/27/2014
Revision Date:

Texas Commission on Environmental Quality

Part I Form

New Permit/Registration and Amendment Applications for an MSW Facility

1. Reason for Submittal

☒ Initial Submittal ☐ Notice of Deficiency (NOD) Response

2. Authorization Type

☐ Permit ☒ Registration

3. Application Type

☒ New ☐ Major Amendment
☐ Major Amendment (Limited Scope)

4. Application Fees

☐ Pay by Check ☒ Online Payment

If paid online, e-Pay Confirmation Number: 582EA000160303

5. Application URL

Is the application submitted for Type I Arid Exempt (AE) and/or Type IV AE facility?

☐ Yes ☒ No

If the answer is "No", provide the URL address of a publicly accessible internet web site where the application and all revisions to that application will be posted.
http:// www.hood.army.mil/dpw/HTML/pnotice.aspx

6. Application Publishing

Party Responsible for Publishing Notice:

☒ Applicant ☐ Agent in Service ☐ Consultant

7. Alternative Language Notice

Is an alternative language notice required for this application? (For determination refer to Alternative Language Checklist on the Public Notice Verification Form TCEQ-20244-Waste)

☒ Yes ☐ No

8. Public Place Location of Application

Name of the Public Place: Killeen Public Library-Main Library

Physical Address: 205 E. Chruch Avenue

City: Killeen County: Bell State: Texas Zip Code: 76541

(Area code) Telephone Number: (254) 501-8990

9. Consolidated Permit Processing

Is this submittal part of a consolidated permit processing request, in accordance with 30 TAC Chapter 33?

☐ Yes ☒ No ☐ Not Applicable

If "Yes", state the other TCEQ program authorizations requested:

10. Confidential Documents

Does the application contain confidential documents?

☐ Yes ☒ No

If "Yes", cross-reference the confidential documents throughout the application and submit as a separate attachment in a binder clearly marked "CONFIDENTIAL."

11. Permits and/or Construction Approvals

Select all that apply	Received	Pending	Not Applicable
Hazardous Waste Management Program under the Texas Solid Waste Disposal Act	☐	☐	☐
Underground Injection Control Program under the Texas Injection Well Act	☐	☐	☐
National Pollutant Discharge Elimination System Program under the Clean Water Act and Waste Discharge Program under Texas Water Code, Chapter 26	☒	☐	☐
Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA). Nonattainment Program under the FCAA	☐	☐	☐
National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA	☐	☐	☐

Select all that apply	Received	Pending	Not Applicable
Ocean Dumping Permits under the Marine Protection Research and Sanctuaries Act	☐	☐	☐
Dredge or Fill Permits under the CWA	☐	☐	☐
Licenses under the Texas Radiation Control Act	☐	☐	☐
Other Environmental Permits			
Title V-Air (0-01659)	■	☐	☐
MSW (1866)	■	☐	☐
	☐	☐	☐
	☐	☐	☐

12. General Facility Information

Facility Name: **Fort Hood Biotreatment Facility**

MSW Authorization No. (if available):

Regulated Entity Reference No. (if issued)*: RN 105463475

Physical or Street Address (if available): Bldg. 1955, 37th Street and North Avenue

City: Fort Hood County: Coryell State: Texas Zip Code: 76544

(Area Code) Telephone Number: (254)535-0658

Latitude (Degrees, Minutes Seconds): 31 Deg., 8 Min., 53 Sec.

Longitude (Degrees, Minutes Seconds): 97 Deg.,45 Min.,29 Sec.

Benchmark Elevation (above mean sea level): 915 ft.

Provide a description of the location of the facility with respect to known or easily identifiable landmarks: Centrally located on Ft. Hood; approximately 900 feet northwest of the North Avenue and 37th Street intersection.

Detail access routes from the nearest United States or state highway to the facility:

Enter Fort Hood main gate from U.S. Highway 190 West. Continue north on TJ Mills Blvd. to North Avenue. Turn right on North Avenue and then left on 37th Street. Proceed approximately 450 feet on 37th Street, and then take a left. Facility will be approximately 450 feet to the northwest.

*If this number has not been issued for the facility, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Facility as the Regulated Entity.

13. Facility Type(s)

☐ Type I ☐ Type IV ■ Type V
☐ Type I AE ☐ Type IV AE ☐ Type VI

14. Activities Conducted at the Facility

☐ Storage ■ Processing ☐ Disposal

15. Facility Waste Management Unit(s)

☐ Landfill Unit(s)	☐ Incinerator(s)
☐ Class 1 Landfill Unit(s)	☐ Autoclave(s)
☐ Process Tank(s)	☐ Refrigeration Unit(s)
☐ Storage Tank(s)	☐ Mobile Processing Unit(s)
☐ Tipping Floor	☐ Type VI Demonstration Unit
☐ Storage Area	☐ Compost Pile(s) and/or Vessel(s)
☐ Container(s)	■ Other (Specify) Material Recovery
☐ Roll-off Boxes	☐ Other (Specify)
☐ Surface Impoundment	☐ Other (Specify)

16. Description of the Revisions to the Facility

Skip this box, if "New" is selected under "Application Type".

Provide a brief description of all revisions to the permit conditions and supporting documents referenced by the permit. Also, provide an explanation of why the amendment is requested.

17. Facility Contact Information

Site Operator (Permittee/Registrant) Name: U.S. Department of the Army

Customer Reference No. (if issued)*: CN 600126262

Mailing Address: III Corps and Fort Hood DPW; Attn: IMHD-PWE (Jerry Mora)

City: Fort Hood County: Bell State: Texas Zip Code: 76544

(Area Code) Telephone Number: (254) 287-6499

E-mail Address: gerardo.mora2.civ@mail.mil

TX Secretary of State (SOS) Filing Number: N/A

*If the Site Operator (Permittee/Registrant) does not have this number, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Site Operator (Permittee/Registrant) as the Customer.

Operator Name[1]: Same as "Site Operator (Permittee/Registrant)

Customer Reference No. (if issued)*:

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-mail Address:

TX SOS Filing Number:

[1]If the Operator is the same as Site Operator/Permittee type "Same as "Site Operator (Permittee/Registrant)".
*If the Operator does not have this number, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Operator as the customer.

Consultant Name (if applicable): U.S. Army Corps of Engineers-Ft. Worth District

Texas Board of Professional Engineers Firm Registration Number: N/A

Mailing Address: 819 Taylor St., Room 3B06

City: Fort Worth County: Tarrant State: Texas Zip Code: 76102

(Area Code) Telephone Number: (817) 886-1885

E-Mail Address: abram.pinon@usace.army.mil

Agent in Service Name (required only for out-of-state):

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address:

18. Facility Supervisor's License

Select the Type of License that the Solid Waste Facility Supervisor, as defined in 30 TAC Chapter 30, Occupational Licenses and Registrations, will obtain prior to commencing facility operations.

☐ Class A ■ Class B

19. Ownership Status of the Facility

☐ Corporation	☐ Limited Partnership	■ Federal Government
☐ Individual	☐ City Government	☐ Other Government
☐ Sole Proprietorship	☐ County Government	☐ Military
☐ General Partnership	☐ State Government	☐ Other (Specify):

Does the Site Operator (Permittee/Registrant) own all the facility units and all the facility property?

☒ Yes ☐ No

If "No", provide the information requested below for any additional ownership.

Owner Name:

Street or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-mail Address (optional):

20. Other Governmental Entities Information

Texas Department of Transportation District: Waco District

District Engineer's Name: Bobby Littlefield, P.E.

Street Address or P.O. Box: 100 South Loop Drive

City: Waco County: McLennan State: Texas Zip Code: 76704

(Area Code) Telephone Number: (254) 867-2700

E-Mail Address (optional):

The Local Governmental Authority Responsible for Road Maintenance (if applicable): III Corps and Fort Hood Directorate of Public Works

Contact Person's Name: Timi Dutchuk (DPW Maintenance Division Chief)

Street Address or P.O. Box: Bldg. 4213, 77th Street

City: Fort Hood County: Bell State: Texas Zip Code: 76544

(Area Code) Telephone Number: (254) 618-8815

E-Mail Address (optional):

City Mayor Information

City Mayor's Name: N/A

Office Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

City Health Authority: N/A

Contact Person's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

County Judge Information

County Judge's Name: John E. Firth

Street Address or P.O. Box: 1st Floor, 620 East Main Street

City: Gatesville County: Coryell State: Texas Zip Code: 76528

(Area Code) Telephone Number: (254) 865-5911 ext. 2222

E-Mail Address (optional): county_judge@coryellcounty.org

County Health Authority: Coryell County Indigent Health Care

Contact Person's Name: Lana Davidson

Street Address or P.O. Box: P.O. Box 188

City: Gatesville County: Coryell State: Texas Zip Code: 76528

(Area Code) Telephone Number: (254) 865-2883

E-Mail Address (optional):

State Representative Information

District Number: 59th

State Representative's Name: Dr. J.D. Sheffield

District Office Address: 150 North Harbin Dr., Suite 402

City: Stephenville County: Erath State: Texas Zip Code: 76401

(Area Code) Telephone Number: (254) 918-5729

E-Mail Address (optional):

State Senator Information

District Number: 24

State Senator's Name: Troy Fraser

District Office Address: P.O. Box 12068

City: Austin County: Travis State: Texas Zip Code: 78711

(Area Code) Telephone Number: (254) 939-3562

E-Mail Address (optional):

Council of Government (COG) Name: Central Texas Council of Governments

COG Representative's Name: Jim Reed, AICP

COG Representative's Title: Executive Director

Street Address or P.O. Box: 2180 North Main Street

City: Belton County: Bell State: Texas Zip Code: 76513

(Area Code) Telephone Number: (254) 770-2236

E-Mail Address (optional):

River Basin Authority Name: Brazos River

Contact Person's Name: Dave Scott

Watershed Sub-Basin Name: Leon River Watershed

Street Address or P.O. Box: 4600 Cobbs Drive

City: Waco County: McLennan State: Texas Zip Code: 76714

(Area Code) Telephone Number: (254) 761-3100

E-Mail Address (optional):

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

☐ Yes ■ No

U.S. Army Corps of Engineers

The facility is located in the following District of the U.S. Army Corps of Engineers:

☐ Albuquerque, NM ☐ Galveston, TX

■ Ft. Worth, TX ☐ Tulsa, OK

Local Government Jurisdiction

Within City Limits of: N/A

Within Extraterritorial Jurisdiction of: N/A

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing or disposal of municipal or industrial solid waste?

☐ Yes ■ No

(If "Yes", provide a copy of the ordinance or order as an attachment):

Signature Page

I, Brian L. Dosa, Director, Fort Hood Public Woorks,
(Site Operator (Permittee/Registrant)'s Authorized Signatory) (Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 25 Feb 2014

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, _____, hereby designate _____
(Print or Type Operator Name) (Print or Type Representative Name)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

SUBSCRIBED AND SWORN to before me by the said Brian L. Dosa
On this 25 day of February, 2014
My commission expires on the 11 day of February, 2018
Martha A. Spicer
Notary Public in and for
Bell County, Texas
(Note: Application Must Bear Signature & Seal of Notary Public)

Part I Attachments

(See Instructions for P.E. seal requirements.)

Required Attachments	**Attachment No.**
Supplementary Technical Report	Part I., Sec. 1
Property Legal Description	Part I, Sec. 4
Property Metes and Bounds Description	Part I, Sec. 4
Facility Legal Description	Part I, Sec. 4
Facility Metes and Bounds Description	Part I, Att. A
Metes and Bounds Drawings	Part I, Att. A
On-Site Easements Drawing	Part II, Fig. II.10
Land Ownership Map	Part I, Fig. I.3
Land Ownership List	Part I, Sec. 3
Electronic List or Mailing Labels	Attached CD
Texas Department of Transportation (TxDOT) County Map	Part I, Fig. I.1
General Location Map	Part I, Fig. I.1
General Topographic Map	Part II, Fig. II.3
Verification of Legal Status	Part I, Sec. 5
Property Owner Affidavit	Part I, Sec. 4
Evidence of Competency	Part I, Sec. 6

Additional Attachments as Applicable- Select all those apply and add as necessary

- ☐ TCEQ Core Data Form(s)
- ☐ Signatory Authority Delegation
- ■ Fee Payment Receipt
- ☐ Confidential Documents
- ☐ Waste Storage, Processing and Disposal Ordinances
- ☐ Final Plat Record of Property
- ☐ Certificate of Fact (Certificate of Incorporation)
- ☐ Assumed Name Certificate

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL DIVISION

FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

TYPE V MSW
REGISTRATION APPLICATION

PART I

Submitted by:

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544

Prepared by:

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT

February 2014

Jimmy D. Baggett
2/18/2014
CORPS OF ENGINEERS

Fort Hood Biotreatment Facility
Part I
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Jimmy D. Baggett
2/18/2014
CORPS OF
ENGINEERS

1.0 SUPPLEMENTARY TECHNICAL REPORT

30 TAC §305.45(a)(8)

1.1 General Description

Fort Hood, named after Confederate General John Bell Hood, is a 340 square mile U.S. Department of Army installation that occupies parts of Bell and Coryell Counties. Fort Hood is located in the hill country of Texas, approximately 60 miles north of Austin and 50 miles southwest of Waco. Fort Hood is a training facility which also provides a high quality of life for a diverse community of over 71,000 soldiers and family members living on post. Average temperature is 94°F in the summer and 49°F in the winter; annual precipitation is 30-35 inches.

This application presents the information the Texas Commission on Environmental Quality (TCEQ) requires for the Fort Hood Directorate of Public Works-Environmental Division (FHDPW-ED) to operate a registered Municipal Solid Waste Processing Facility (MSW Type V) pursuant to 30 Texas Administrative Code (TAC) §330.9(f). This section of the code references transfer stations, however this facility will not operate as a transfer station as defined in 30 TAC §330.3(157) but will meet the requirements of 30 TAC §330.9(f)(1) and (2).

The proposed Fort Hood Biotreatment Facility is located at Building 1955, 37th Street and North Avenue, Coryell County, Texas 76544. Figure I.1 shows the general location of the facility. The III Corps and FHDPW-ED will own and operate the facility which will process waste material consisting of petroleum, oil, and lubricants (POL) spill cleanup material and dry sediments from grit-chambers, oil-water separators, and stormwater structures originating from within the Fort Hood installation. Processed material with contaminant concentrations below the 0.5-acre Tier I Residential Soil levels (i.e., protective concentration levels or the background/method quantitation levels) will be transported to areas outside the main cantonment (but not in areas impacting endangered species) for reuse. Processed material with contaminant concentrations equal to or above the 0.5-acre Tier I Residential Soil levels will be disposed at the Fort Hood Landfill (MSW Permit No. 1866). Figure I.1 shows the location of the landfill. Figure I.4 shows the end use locations for the treated soil that meets the 0.5-acre Tier I Residential Soil levels.

This registration application is being submitted under the provisions of 30 §TAC 330.9(f) such that a minimum of 10% of the incoming waste material will be recovered for reuse. Additionally, the remaining non-reusable material will be delivered to a landfill within 50 miles of the facility (unless specifically granted a variance).

1.2 Characteristics of Material

Material will consist of municipal solid waste as defined in 30 TAC §330.3(88). FHDPW-ED proposes to process the waste material with an admixture of wood chips, manure, fertilizer (if needed) and water. The waste material consists of soil contaminated with petroleum, oil, and lubricants (POLs), spill clean-up material (e.g., POL-contaminated natural fiber absorbents, etc.) and dry sediment from grit-chambers, oil-water separators and stormwater structures originating from within the Fort Hood installation. Processed material to be reused will meet the definition of recyclable material (i.e., material diverted from a non-hazardous waste stream for purposes of reuse) found in 30 TAC §330.3(122) and will not be considered solid waste. Any processed soil or sediment will become solid waste at such time it is determined that the material cannot be processed to meet Tier I Residential Soil levels.

FHDPW-ED will receive up to 2,500 cubic yards (CY) of waste material per year for processing. A minimum of 10% (250 CY/year) of the material brought to the site will be recovered for beneficial reuse.

FHDPW-ED will keep records of the total number of loads and estimated cubic yardage accepted at the facility and the number of loads reused or disposed. The quantity of material will be recorded and converted to a weight equivalent.

1.3 Other Information

This registration application has been prepared to demonstrate compliance with the requirements established in 30 TAC §330.57 through §330.65 (Subchapter B). The application is formatted to include Parts I through IV as specified in the Municipal Solid Waste Management Regulations.

2.0 MAPS

30 TAC §330.59(c)

The General Location Map, Detailed Location Map, Land Ownership Map and Material End-Use Locations Map are presented in Figures I.1 through I.4. The registration boundary will be within the property owned by FHDPW-ED as shown on Figure I.3.

3.0 LAND OWNERSHIP MAP AND LIST

30 TAC §330.59(c)(3)

Following is the owner of record of real property located within ¼ mile of the registration boundary. The property is shown on Figure I.3 and is the most current available record as of the date of this registration application. The facility is solely contained within the Fort Hood Army Installation, therefore there are no adjacent landowners. The installation was formed by Declaration of Taking No. 2, signed September 26, 1942 by the Secretary of War. The declaration of taking is filed in Civil Order Book, Vol. I, Page 343, McLennan County, TX.

LANDOWNER'S LIST

1. USAG Fort Hood
   Attn: IMHD-PWM (Jill Martin)
   4622 Engineer Drive
   Fort Hood, TX 76544

4.0 PROPERTY OWNER INFORMATION

30 TAC §330.59(d)

The Fort Hood Biotreatment Facility is located on the Fort Hood Army Installation. The Fort Hood Army Installation was formed by Declaration of Taking No. 2, signed September 26, 1942 by the Secretary of War. The metes and bounds description of the property and a drawing of the property description are included in Attachment A. A property owner affidavit is included in the Part I form.

5.0 LEGAL AUTHORITY

30 TAC §330.59(e)

The Fort Hood Biotreatment Facility is owned and operated by the U.S. Department of Army; therefore, as an agency of the Federal Government, a certificate of incorporation from the Office of the Secretary of State is not applicable.

6.0 EVIDENCE OF COMPETENCY

30 TAC §330.59(f)

FHDPW currently owns and operates the Fort Hood Type I MSW Landfill. The facility has been in operation since 1992 and serves the local Fort Hood community of soldiers, civilians, and their family members. Table 6-1 shown below summarizes the landfill information.

Table 6-1
Fort Hood Landfill

Site Name	Site Type	Permit/Registration No.	County	Dates of Operation
Ft. Hood Landfill	Type I	Permit 1866	Coryell	1992-Present

Even though the Department of Army has numerous landfills that they own and operate in the United States, the Fort Hood Landfill is owned and operated by FHDPW, which is the only landfill FHDPW has a direct financial interest in.

A licensed solid waste facility supervisor will be on site at all times during the operation of the facility, in accordance with 30 TAC §330.59(f)(3). The licensed solid waste facility supervisor will possess either a Class A or Class B license.

7.0 APPOINTMENTS

30 TAC §330.59(g)

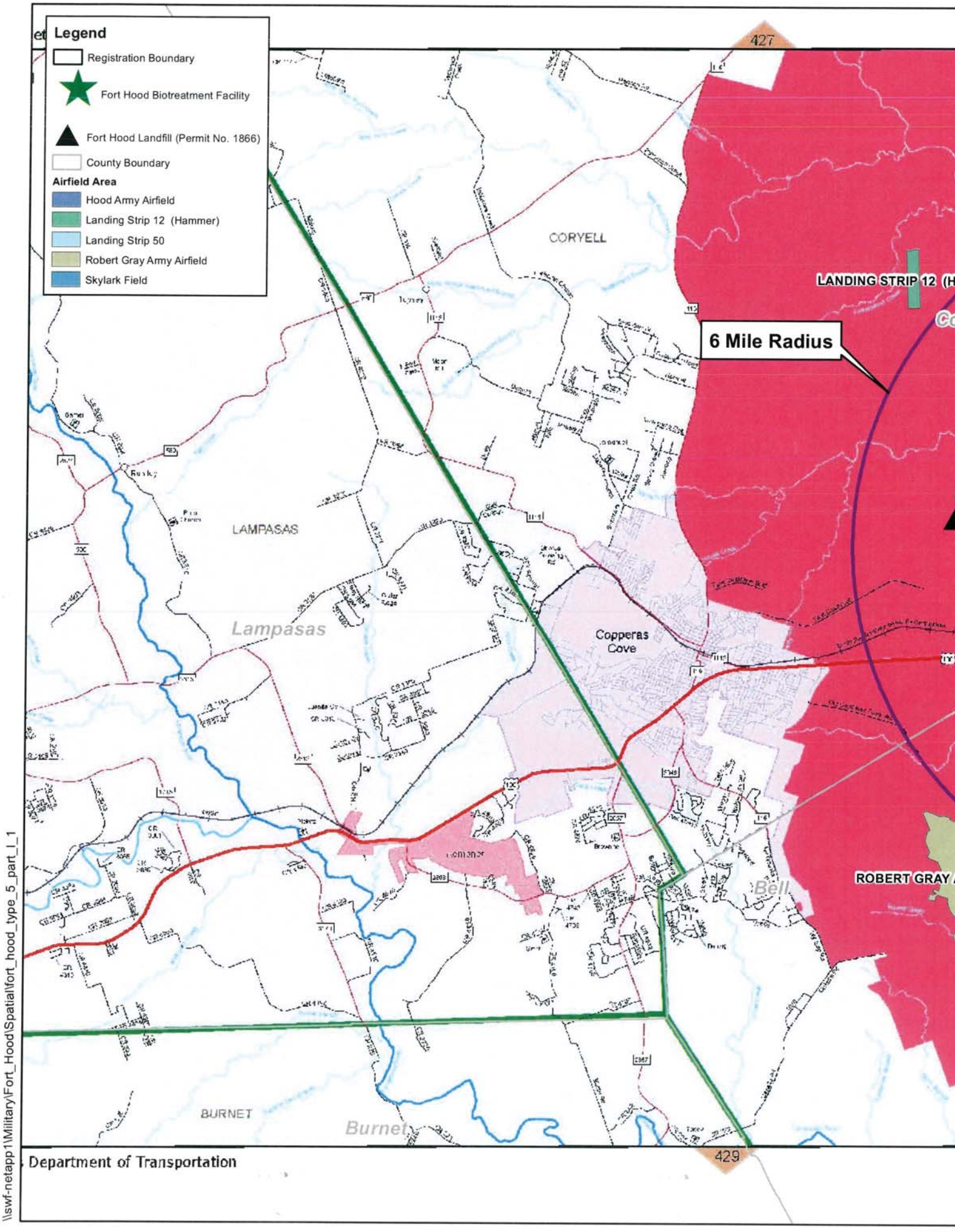
Certification that this application for the registration of the Fort Hood Biotreatment Facility has been signed by someone having authority to do so as required by 30 TAC §305.44 is provided in Part I, Attachment B.

8.0 APPLICATION FEES

30 TAC §330.59(h)

The application fee for this registration application was electronically submitted through the TCEQ's ePay system. A copy of the payment documentation is provided as Attachment C to Part I.

Figures



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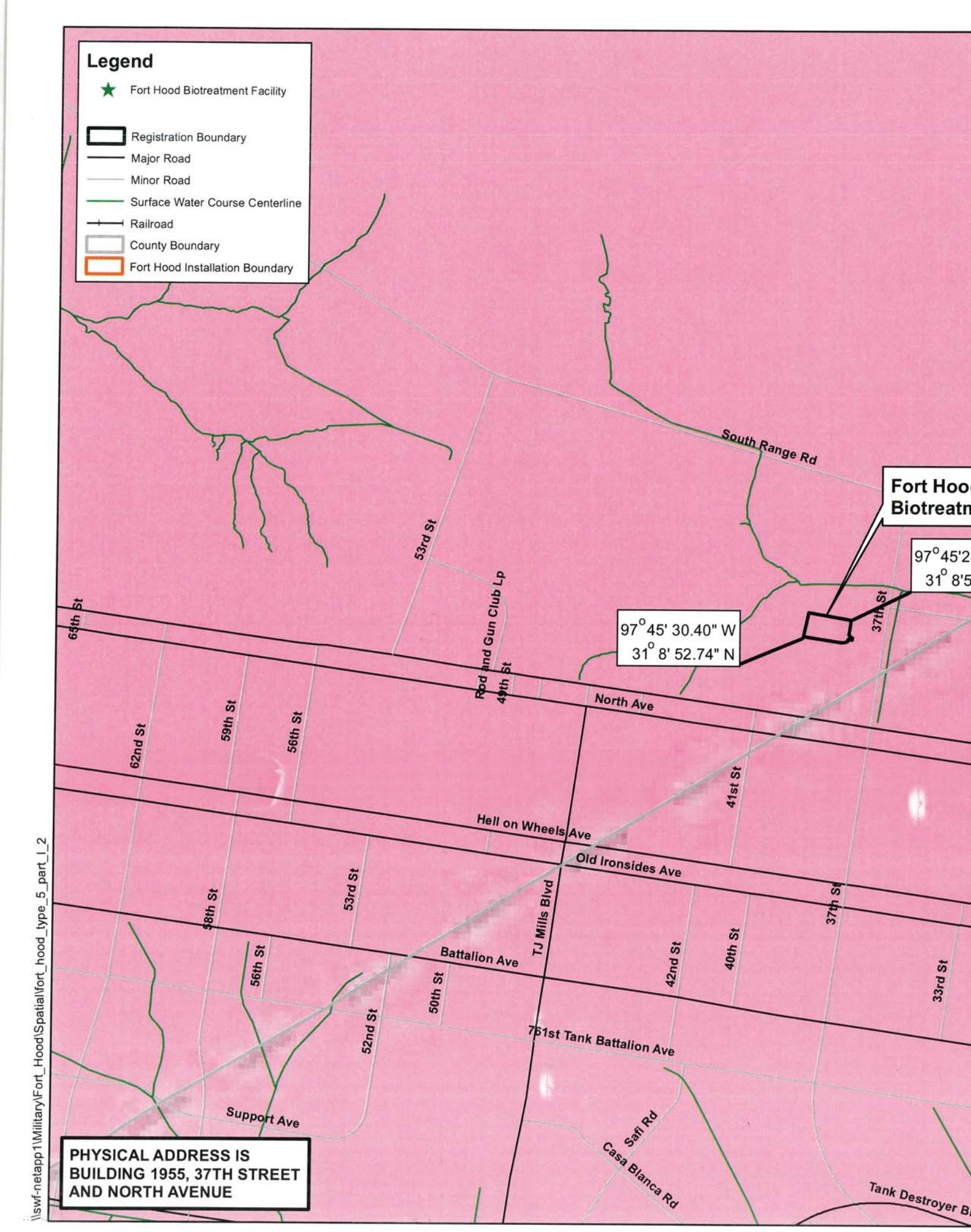
Department of Transportation



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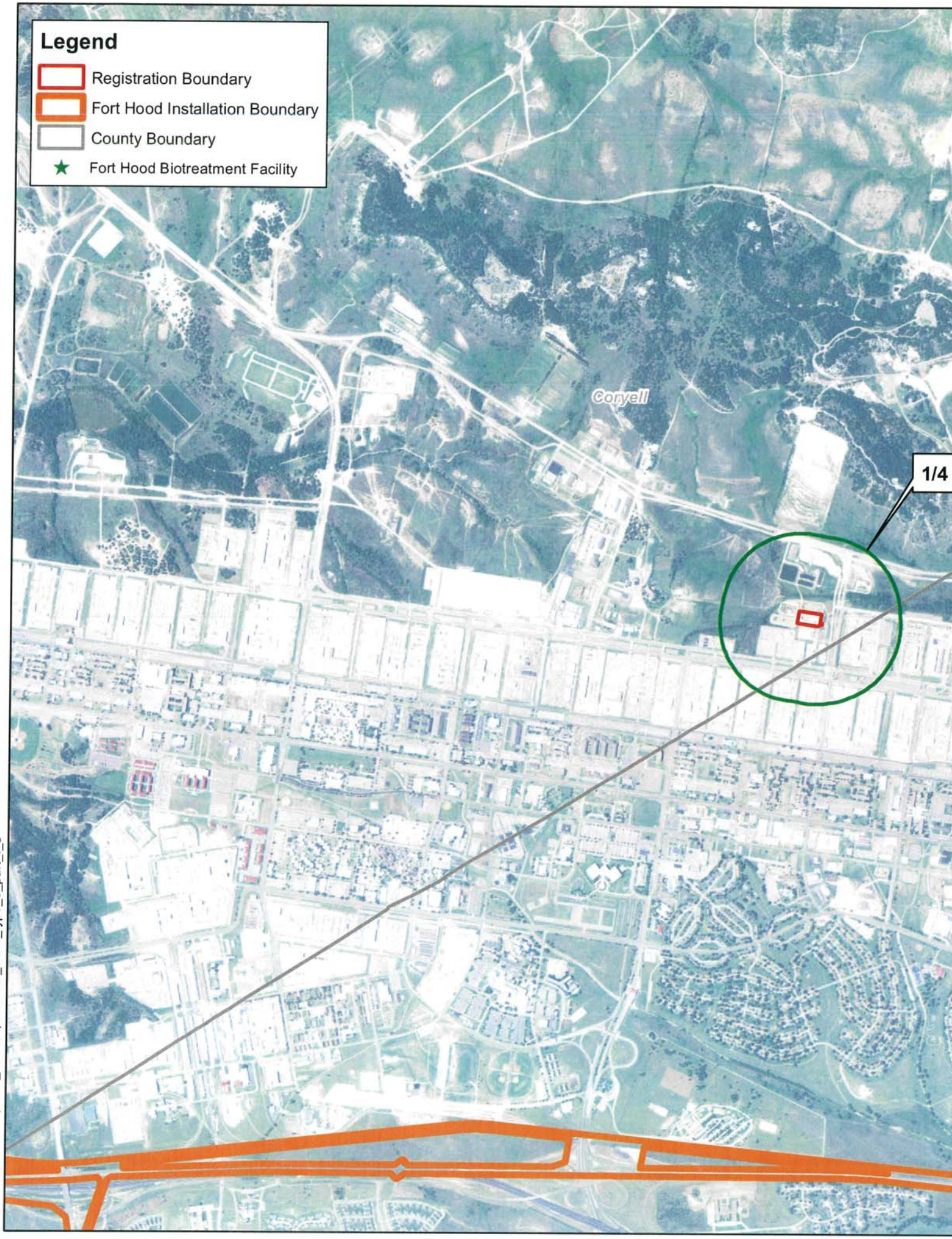
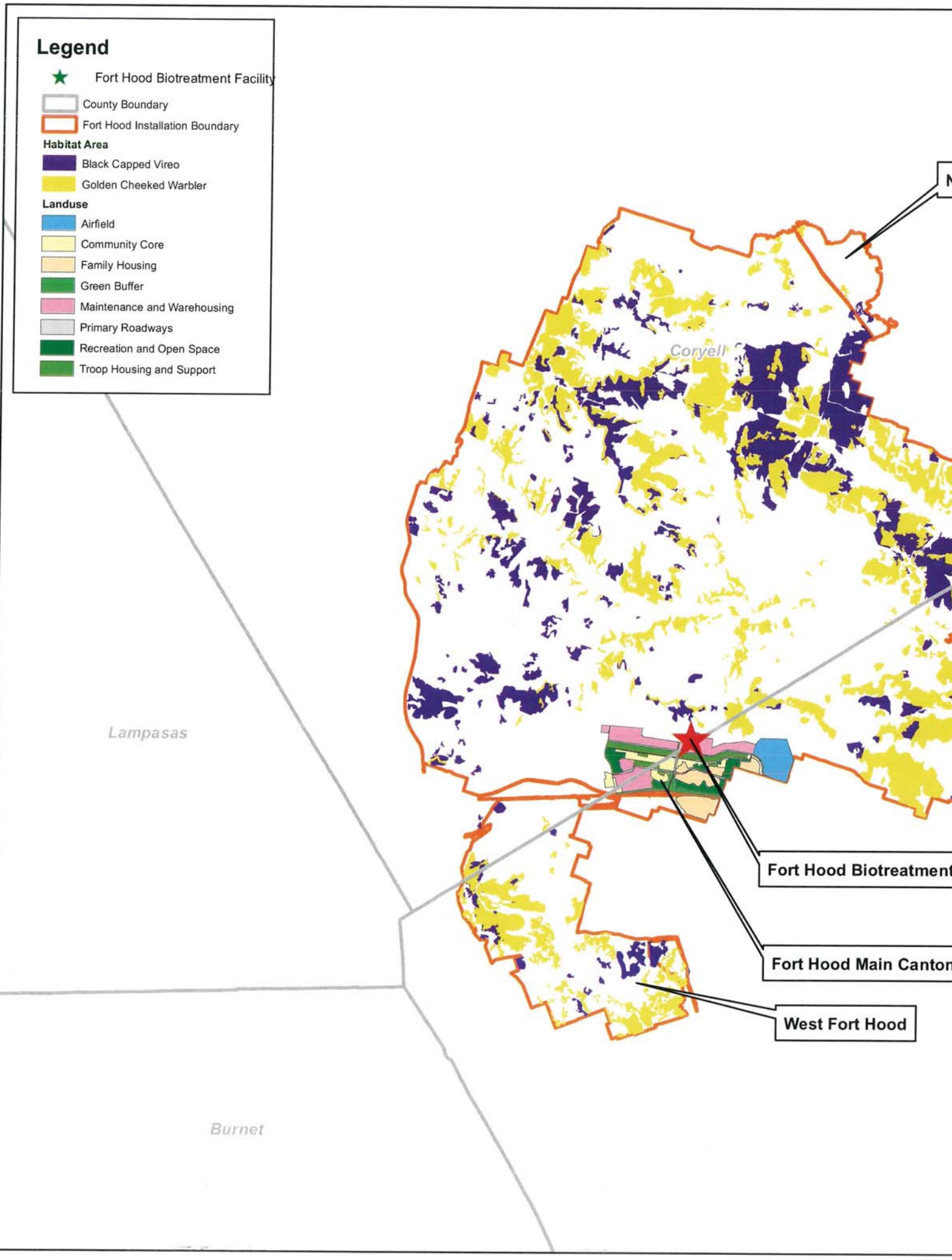


\\swf-netapp1\Military\Fort_Hood\Spatial\fort_hood_type_5_part_I_3


Legend
Fort Hood Biotreatment Facility
County Boundary
Fort Hood Installation Boundary
Habitat Area
Black Capped Vireo
Golden Cheeked Warbler
Landuse
Airfield
Community Core
Family Housing
Green Buffer
Maintenance and Warehousing
Primary Roadways
Recreation and Open Space
Troop Housing and Support
Coryell
Lampasas
Burnet
Fort Hood Biotreatment
Fort Hood Main Canton
West Fort Hood
\\swf-netapp1\Military\Fort_Hood\Spatial\fort_hood_type_5_part_I_4

Attachment A

Property Owner Information

BIO CELL
JEFF SALMON
1.869 ACRES

FIELD NOTES for a *1.869 acre* tract of land in Bell County, Texas, being part of the Z. H. Short Survey, Abstract No. 785, and the land herein described being part of that certain tract described in a Declaration of Taking No. 2, recorded in Volume 501, Page 496, Deed Records of Bell County, Texas, and being more particularly described as follows:

Commencing at a PK nail found in the south right of way of Rancier Avenue and in the west right of way of Garner Street, being the northeast corner of Lot 1, Block 2, J. W. Norman Subdivision, an addition to the City of Killeen, Texas, being of record in Volume 532, Page 57, Plat Records of Bell County, Texas;

THENCE N. 43° 10' 19" W., 9602.02 feet, to a 3" fence post found, for the *Point of Beginning* and northeast corner of this tract;

THENCE following a chain link fence and the east line of herein described tract, the following eight (8) courses and distances:

1) **S. 08° 34' 18" W., 131.37 feet**, to a 3" chain link fence post found, for a corner of this tract;
2) **S. 37° 31' 25" E., 25.93 feet**, to a 3" chain link fence post found, for a corner of this tract;
3) **S. 81° 00' 53" E., 17.64 feet**, to a 6" chain link fence post found, for a corner of this tract;
4) **S. 08° 51' 40" W., 20.49 feet**, to a 6" chain link fence post found, for a corner of this tract;
5) **N. 81° 13' 52" W., 36.29 feet**, to a 3" chain link fence post found, for a corner of this tract;
6) **S. 08° 34' 07" W., 17.42 feet**, to a 3" chain link fence post found, for a corner of this tract;
7) **S. 59° 53' 09" W., 20.24 feet**, to a 3" chain link fence post found, for a corner of this tract;
8) **S. 81° 10' 50" W., 37.33 feet**, to a 3" chain link fence post found, for the most southerly, southeast corner of this tract;

THENCE **N. 81° 38' 45" W., 333.98 feet**, continuing with a chain link fence, to a 3" chain link fence post found, for the southwest of this tract, from which the centerline intersection of 37th Street and West Range Road bears *S. 37° 34' 07" E., 983.12 feet;*

THENCE **N. 10° 38' 48" E., 213.56 feet**, continuing with a chain link fence, to a 6" chain link fence post found, for the northwest of this tract;

THENCE **S. 81° 15' 52" E., 377.75 feet**, continuing with a chain link fence, to the Point of Beginning, containing **1.869 acres** of land.

The bearings for the above described tract of land are based on the Texas State Plane Coordinate System, Central Zone, NAD 83, as per GPS observations.

See accompanying drawing.

STATE OF TEXAS

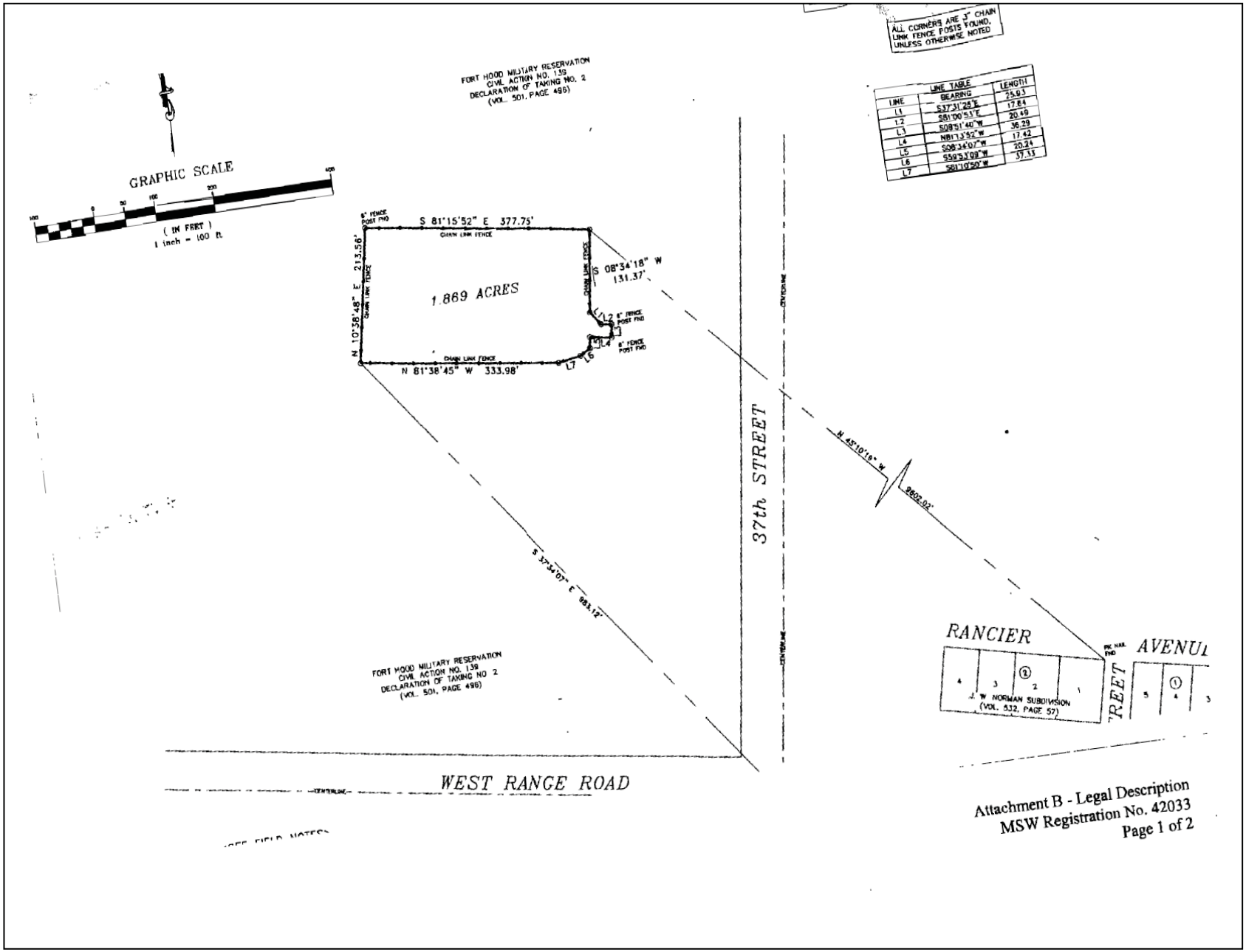
COUNTY OF BELL

KNOW ALL MEN BY THESE PRESENTS, that I, Rex D. Haas, Registered Professional Land Surveyor, do hereby certify that I did cause to be surveyed on the ground, the above described tract and that this description is true and correct to the best of my knowledge and belief.

IN WITNESS THEREOF, my hand and seal this the 3rd day of December, 2007, A. D.

Rex D. Haas
Registered Professional
Land Surveyor, No. 4378

STATE OF TEXAS
REGISTERED
REX D. HAAS
4378
PROFESSIONAL
LAND SURVEYOR



Attachment B - Legal Description
MSW Registration No. 42033
Page 1 of 2

Attachment B

Signatory Certification

Signatory Certification

I, Brian Dosa, certify under penalty of law, have the authority to sign this registration application in accordance with 30 Texas Administrative Code (TAC) §305.44(a)(3).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

25 Feb 2014

Brian Dosa, Director, Fort Hood Directorate of Public Works — Date

Attachment C

Application Fees

TCEQ ePay Receipt

Transaction Information

Trace Number:	582EA000160303
Date:	02/07/2014 02:45 PM
Payment Method:	CC - Authorization 0000061998
Amount:	$150.00
ePay Actor:	Abram Pinon

Payment Contact Information

Name:	Marcia L Cannon
Company:	Usace-Ft Worth
Address:	P O Box 17300, Fort Worth, TX 76102
Phone:	817-886-1978

Cart Items

Voucher	Fee Description	AR Number	Amount
201172	MSW PERMIT/REGISTRATION/AMEND/MOD/TEMP AUTHORIZATIONS APPLICATION FEE		$100.00
201173	30 TAC 305.53B MWP NOTIFICATION FEE		$50.00

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL DIVISION

FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

TYPE V MSW
REGISTRATION APPLICATION

PART II

Submitted by:

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544

Prepared by:

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT

February 2014

Jimmy D. Baggett
2/18/2014
CORPS OF
ENGINEERS

Fort Hood Biotreatment Facility
Part II
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James D. Baggett
2/18/2014
CORPS OF
ENGINEERS

1.0 EXISTING CONDITIONS SUMMARY

30 TAC §330.61(a)

The III Corps and Fort Hood Directorate of Public Works-Environmental Division (FHDPW-ED) are pursuing registration of a Type V Biotreatment Facility in accordance with 30 Texas Administrative Code (TAC) §330.9(f). The purpose of the facility is to properly manage two types of waste sources: petroleum, oil, and lubricants (POL) spill cleanup material and dry sediments from grit-chambers, oil-water separators, and stormwater structures. Although 30 TAC §330.9(f) addresses transfer stations, this facility will not operate as a transfer station as defined in 30 TAC §330.3(157), but will meet the registration requirements of 30 TAC §330.9(f)(1) and (2).

III Corps and FHDPW-ED own and operate the facility. Since the TCEQ has not approved the facility for operation, the treated material is stored at the facility. When there is no more space available, all material is then transported to the Fort Hood Landfill. The current site conditions consist of a concrete impervious surface that drains to a sump located along the western perimeter of the facility. In the late 1990's, a 6-inch to 8-inch thick 3,000 psi concrete slab was placed above an existing water filtration pond to facilitate the development of a biotreatment facility. The water filtration pond was originally constructed in the mid-1980's as part of a closed loop water recirculation system designed to capture and treat waste water from vehicle washing that is currently ongoing north of the Fort Hood Biotreatment Facility. Below the concrete surface is ballast material consisting of sand and/or rock of various thickness, 3-inches of bedding material, a 30-mil PVC liner, and a 3-inch thick layer of cushion material.

The location of the facility is approximately 3,900 feet northeast of the Battalion Avenue and TJ Mills Boulevard intersection, as shown on Figure II.6. The facility includes storage structures, a staging area for incoming waste material, concrete bins used for storing admixture material, and an area where material processing occurs. All scheduled vehicle maintenance activities (including but not limited to oil and other fluid changes) will be done off-site at an authorized facility.

The Fort Hood Biotreatment Facility will process multiple waste streams to carry out the biotreatment process. In doing so, FHDPW-ED will also divert organic materials from the waste stream for reuse rather than sending them to the Fort Hood Landfill. The site has adequate separation from its neighbors and is compatible with existing land use.

FHDPW-ED is preparing this registration for a Type V facility in accordance with 30 TAC §330.9(f) which requires that the operator recover a minimum of 10% by weight or weight equivalent of the total incoming waste stream for reuse and the remaining will be transported to a landfill within 50 miles of the facility. However, FHDPW-ED intends to recover 100% of the received waste material, if possible.

2.0 WASTE ACCEPTANCE PLAN

30 TAC §330.61(b)

2.1 General

The Fort Hood Biotreatment Facility will receive POL spill clean-up material and dry sediment from Fort Hood grit-chambers, oil-water separators, and stormwater structures. The material will be exposed to an admixture of common vegetative debris, horse manure, and water to promote biodegradation. Processed material with contaminant levels less than the Tier I Residential Soil levels will be reused. Processed material with contaminant levels equal to or exceeding the Tier I Residential Soil levels will be disposed of off-site at a permitted off-site location.

2.2 Sources and Characteristics of Waste

Waste delivered to the Fort Hood Biotreatment Facility will be exclusively from Coryell and Bell counties within the Fort Hood military installation.

Wastes that will be processed at the Fort Hood Biotreatment Facility will include:

- Soil contaminated from POL spills that occurred during military training and other installation activities;
- Non-crystalline absorbents or sorbents used to clean-up POL spills;
- Contaminated soils from petroleum storage tank (PST) or leaking petroleum storage tank (LPST) sites;
- Dried grit-chamber sediment;
- Dried oil-water separator sediment; and
- Dried sediment from stormwater structures (if impacted by POL).

Various military organizations will be generating the waste stream that will be processed by the Fort Hood Biotreatment Facility. Among these, some major contributions will be the oil-water separators that are located at maintenance facilities which are scattered throughout the installation. Additionally, sediments from the grit-chambers of five vehicle wash facilities will also be the source of waste stream that will be processed by the Fort Hood Biotreatment Facility.

Three of these vehicle wash facilities are located within the main cantonment of Fort Hood, while a separate vehicle wash facility is located at both North Fort Hood and West Fort Hood. Figure I.4 shows these three areas of Fort Hood. Soil contaminated from military training will occur during various military activities which will tend to occur in the training areas of Fort Hood, which are located north of the main cantonment. PST and LPST contaminated soil will originate from tank locations that are stationed throughout the installation. Sediment accumulation from storm water collection controls will originate from locations that are scattered throughout Fort Hood as well.

Waste material will consist of municipal solid waste as defined in 30 TAC §330.3(88). Material that will be reused will have analytical results that are below the 0.5-acre Tier I Residential Soil levels. The processed waste will meet the definition of recyclable material found at 30 TAC §330.3(122) and will not be considered solid waste.

The facility will not be able to successfully process all of the incoming Spill Cleanup waste material. This material will originate from sediments that exceed Tier I Residential Soil levels for Resource Conservation and Recovery Act (RCRA) regulated lead. See Section 2.2 of Part III for additional information. Any waste material that is received will become solid waste and disposed if the material cannot be processed to meet 0.5-acre Tier I Residential Soil levels.

2.3 Quantity of Waste

The amount of material that will be received at the facility will be a maximum of 2,500 cubic yards per year of POL contaminated waste material. On a per daily basis, the facility will receive approximately 7 cubic yards per day. However, these quantities are only estimates, and the facility does not accept incoming waste on a set schedule. The Fort Hood Biotreatment Facility will accept the maximum quantity previously specified but will accommodate the incoming waste stream on an as needed basis as long as adequate space is available. The Fort Hood Biotreatment Facility will operate five days per week, Monday through Friday, 7:30 a.m. to 4:15 p.m. and will receive a maximum of 2,500 cubic yards per year.

3.0 QUALIFICATION FOR REGISTRATION

30 TAC §330.61(b)(2)

The Fort Hood Biotreatment Facility will be a Type V municipal solid waste facility that will receive and process up to 2,500 cubic yards per year of solid waste. However, this facility will not operate as a transfer station as defined in 30 TAC §330.3(157), but will meet the registration requirements of 30 TAC §330.9(f)(1) and (2). The facility is qualified to be registered in accordance with provisions 30 TAC §330.9(f)(1) by recovering a minimum of 10% by weight or weight equivalent for reuse. The facility is qualified to be registered in accordance with provisions in 30 TAC §330.9(f)(2) by disposing of municipal solid waste unsuccessfully processed at a permitted landfill no more than 50 miles from the facility, as shown on Figure I.1 of Part I.

4.0 GENERAL LOCATION MAPS

30 TAC §330.61(c)

The following information is presented on figures submitted as part of this registration application.

- The prevailing wind direction with a wind rose is presented on Figure II.1.
- Known water wells within 500 feet of the registration boundary are shown on Figure II.8.
- Figure II.4 shows the locations of all structures and inhabitable buildings within 500 feet of the proposed facility, and include 8 structures, of which none are residences Two buildings that have occupancy during the typical work day are identified in Figure II.4 as well.
- Schools (2), licensed day-care facilities (2), churches (2), hospitals (0), cemeteries (0), ponds and lakes, and residential, commercial and recreational areas within one mile of the facility are shown on Figure II.1.
- Location of roads and surface type within 1 mile that will be used for facility access are shown on Figure II.9.

  These include:

  - 37^{th} Street (asphalt)
  - Western parallel access road to 37^{th} Street (concrete)
  - Central parallel access road to 37^{th} Street (unpaved tank trail)
  - North Avenue (asphalt)
  - Murphy Road (concrete-asphalt)
  - South Range Road (asphalt)
- The latitude and longitude of two corners of the facility are shown on Figure I.2.
- Area streams are shown on Figures II.3 and II.4.
- There are three airports within 6 miles of the facility as shown on Figure I.1 of Part I.
- The Fort Hood installation and Fort Hood Biotreatment Facility registration boundaries are shown on various maps.
- Drainage, pipeline, and utility easements within and adjacent to the facility are shown on Figure II.10.
- Facility access control features are shown on Figure II.2.

The Fort Hood Historical Old Chapel is a historical site with exceptional aesthetic quality adjacent to the facility. The chapel's location is shown on Figure II.1.

5.0 FACILITY LAYOUT MAPS

30 TAC §330.61(d)

A Facility Layout Map is provided as Figure II.2. This map provides information on:

- The outline of the material process and storage areas.
- Interior roadways
- Locations of buildings
- Fencing
- Site entrance from public access roads

Ground water monitoring wells do not exist and are not proposed for the Fort Hood Biotreatment Facility.

6.0 GENERAL TOPOGRAPHIC MAPS

30 TAC §330.61(e)

A General Topographic Map is presented as Figure II.3. Additionally, a USGS quadrangle map has been used as the basis for Figure II.1. This map is at a scale of one inch equals 2,000 feet.

7.0 AERIAL PHOTOGRAPH

30 TAC §330.61(f)

An aerial photograph of the required size and scale is provided as Figure II.5. The site boundaries and an area within a one-mile radius are shown on the figure.

8.0 LAND-USE MAP

30 TAC §330.61(g); §330.543

A Land-Use Map is presented on Figure II.6 and Figure II.1. Figure II.6 shows the existing land uses within one mile of the facility. The land usage presented on this map was obtained from the Fort Hood Directorate of Public Works and is believed to be accurate as of the date of its preparation (2013). This land use information was checked by aerial map investigation and revisions made where applicable based on current use.

All of the land within one mile of the site is located within the Fort Hood military installation. Access roads serving the facility are shown. The primary access route for traffic using the facility will be 37th Street via North Avenue and South Range Road. The most recent land use around the facility boundary consists of vehicle maintenance facility and warehouses.

No solid waste unloading, storage, and processing will occur within an easement or right-of-way. All pipeline and utility easements will be marked with a post that extends at least 6 feet above the ground, and spaced no greater than 300 feet apart, in accordance with 30 TAC §330.543(a). The buffer distances at this facility will be less than the prescribed off-set distance of 50 feet between solid waste storage and processing areas and the facility boundary. However, in accordance with 30 TAC §330.543(b)(3), the variance of the buffer zone distance does not reduce the performance goal of visual screening, odor, drainage and sediment control at the facility. Adequate access will still be provided for emergency response, maintenance, and monitoring, with a buffer distance that is less than 50 feet. Figures II.10 and 11 contain the layout of utilities, drainage, and buffer separation distances at the facility, respectively.

9.0 IMPACT ON SURROUNDING AREA

30 TAC §330.61(h)

The proposed Fort Hood Biotreatment Facility will not have an adverse impact on human health or the environment. There is no existing zoning that would prohibit the facility, and no approval or special permit is required from any local government. Fort Hood Directorate of Public Works has already granted authority for the development of the facility, which reflects the current conditions at the site.

9.1 Potential Impact to the Human or Natural Environment

Adverse impacts to the environment are not anticipated from this facility. All operations at the Fort Hood Biotreatment Facility will occur within the fenced perimeter. The current site conditions consist of a concrete impervious surface that drains to a sump located along the western perimeter of the facility. A 6-inch to 8-inch thick 3,000 psi concrete slab was placed above an existing water filtration pond to facilitate the development of a biotreatment facility. The water filtration pond was originally constructed in the mid-1980's as part of a closed loop water recirculation system designed to capture and treat waste water from vehicle washing that is currently ongoing north of the Fort Hood Biotreatment Facility. The closed loop water recirculation system incorporates the use of a series of basins, lagoons, chambers, and a small marsh to separate sediments and chemicals from the vehicle wash facility waste water. Below the concrete surface is ballast material consisting of sand and/or rock of various thickness, 3-inches of bedding material, a 30-mil PVC liner, and a 3-inch thick layer of cushion material. Figures III.4 through III.8 in Part III display the components of the Fort Hood Biotreatment Facility.

Noise generated by the periodic operation of facility equipment will be minimal and will include front-end loaders and windrow turners, as well as trucks used to deliver material to the facility. The facility is located within an area of the Fort Hood installation that contains vehicle maintenance facilities and warehouses. The operating hours of the Fort Hood Biotreatment Facility will be in general conformance with the operating hours of adjacent area operations.

9.2 Compatibility with the Surrounding Area

The Fort Hood Biotreatment Facility is located on the northern perimeter of the main cantonment of Fort Hood. The location of the facility is suitable with adjacent operations which are part of

the maintenance and warehouse area of the Fort Hood main cantonment. The facility is located near North Avenue and Old Ironsides Avenue, which experiences constant vehicular traffic, to include oversized military vehicles. In addition, East Range Road lies north of the facility, which serves as a major access route for military vehicles participating in activities at the military ranges located north of the facility.

Development within one mile of the facility is infrequent. The majority of the area to the south is already developed with a variety of services in place. These services include two museums, one lodging establishment, one post office, two banks, two dental clinics, six community services buildings, two swimming pool facilities, one theater, three fitness centers, two recreation centers, and three restaurants.

Residential use includes multifamily and single family subdivisions located to the south and southeast of the facility, respectively. The closest housing unit is approximately 4,100 ft to the south of the Fort Hood Biotreatment Facility. There are approximately 550 residents who live within one-mile of the site.

Two educational facilities within the project vicinity exist within 1-mile from the facility. A satellite campus of St. Mary's University lies approximately 3,800 feet south of the facility, while Meadows Elementary School is situated approximately 4,200 feet to the southeast. The Fort Hood Child Development Center and Meadows Child Development Center lie approximately 4,000 feet southwest and 4,400 feet southeast of the facility, respectively. Approximately 4,200 feet southwest of the facility rests the Historical Old Post Chapel. The Spirit of Fort Hood Chapel is situated approximately 4,800 feet south of the facility.

The Fort Hood Historical Old Post Chapel is a historical site with exceptional aesthetic quality within one-mile of the facility. See Figure II.1 for more information.
The nearest residents cannot see the facility operations due to the presence of existing structures scattered over a minimum of 3,700 feet between the facility and the closest residence. Additionally, noises associated with the operation of the facility will not be discernible to the

occupants of the residence because of the infrequent occurrence and significant separation distance.

Through a physical site investigation and a Texas Water Development Board (TWDB) database search, it has been determined that there are no water wells within the facility boundary. Additionally, no water wells were found to exist within 500 feet of the facility as shown on Figure II.8. The closest water well to the facility is approximately 8,500 feet to the southwest.

10.0 TRANSPORTATION

30 TAC §330.61(i)

All traffic associated with the Fort Hood Biotreatment Facility will approach and leave the facility on 37th Street. 37th Street is a two-lane, 24-foot wide, asphalt paved road surface without turning lanes with a 30-miles-per-hour speed limit. In between the eastern perimeter of the Fort Hood Biotreatment Facility and 37th Street are two roads that predominantly run parallel to 37th Street between Murphy Avenue and South Range Road. The road directly adjacent to 37th Street is an unpaved tank trail that is approximately 20-feet wide. To the west of the unpaved road is a 20-foot wide one-way (south bound) concrete road. Roads on Fort Hood are typically designed to exceed the Texas Department of Transportation (TxDOT) standards given the heavy vehicular traffic associated with military operations (e.g., infantry fighting vehicles, armored personnel carriers, light armored vehicles, etc.). Two roads consisting of asphalt and/or concrete connect 37th Street and the site access road to the facility. See Figure II.9 for more information.

The vehicular traffic expected on the access road to the facility is approximately25 vehicles per day. Most site access road traffic is from the adjacent FHDPW-ED satellite office.

At the maximum waste acceptance rate of 2,500 cubic yards per year, the expected volume of traffic associated with the facility is expected to be less than 1 trip per day (1 truck delivery for every 10 cubic yards of soil). The actual numbers of vehicular traffic will vary depending on the amount of space available at the Fort Hood Biotreatment Facility to treat the material and the frequency of spills and cleanups that are occurring at the Fort Hood installation.

No coordination with TxDOT is necessary since all installation roads are managed by Fort Hood Directorate of Public Works.

11.0 GENERAL GEOLOGY AND SOILS STATEMENT

30 TAC §330.61(j)

The Fort Hood Biotreatment Facility is located in the Walnut Formation (Reference: **USGS Mineral Resources On-line Spatial Data**). This depositional sequence of Phanerozoic, Mesozoic, and Cretaceous-Early age are comprised of clay and limestone. The clay is calcareous while the limestone is chalky, marly, nodular, thick bedded, a few hard beds with sparry calcite, and massive beds of Texigryphaea common in the lower part. Shale is comprised of thin beds most common in the upper part. Thickness of the formation ranges between 125 and 175 feet.

Soils at the facility are mapped in the Topsey clay loam associations. Areas around the facility consist of Topsey clay loam and Krum silty clay associations (USDA Natural Resource Conservation Resources, *Web Soil Survey of Coryell County, Texas, Version 8, September 20, 2012).* Part II, Attachment A contains the Web Soil Survey mapping for the Fort Hood Biotreatment Facility and surrounding areas. According to the mapping, the entire facility is in the Topsey clay loam association. Part II, Attachment A also contains summaries of physical and engineering soil properties for the soils mapped in the area of the Fort Hood Biotreatment Facility.

12.0 GROUNDWATER AND SURFACE WATER

30 TAC §330.61(k)

The major aquifer that underlies Fort Hood is the Trinity Aquifer. Parts of both the outcrop and the downdip are deeply buried below Fort Hood. The Trinity Aquifer extends through parts of 55 counties of central Texas. The Glen Rose, Paluxy, Walnut Clay, Comanche Peak, Edwards Group, and Fort Worth Group limestones are the primary stratigraphic units that occur in the Fort Hood area. The Paluxy and Walnut Clay units are exposed on the rolling lowlands above major creeks and the Glen Rose unit is exposed in the benthic along major creeks. The Comanche Peak, Edwards Group, and Fort Worth Group units are exposed on mesas.

The Travis Peak formation, which does not outcrop at the surface in Fort Hood, is the deepest and hydrologically the most important stratigraphic unit in the Fort Hood Region. No major groundwater resources outside the installation are affected by recharge from within Fort Hood, and recharge that occurs within the installation affects only the small, shallow groundwater supplies that remain on the installation.

Potentially sensitive groundwater areas of the Fort Hood region are the outcrop areas of the Paluxy formation and recent alluvial materials within and adjacent to Cowhouse Creek, Henson Creek, and the Leon River, as well as the karst or cave systems found on mesas throughout the installation. (Reference: **October 2011 Fort Hood Integrated Natural Resource Management Plan**, Section 2.1.6.1)

Records from the Texas Water Development Board (TWDB) identified no wells within 500 feet of the registered boundary. However, Figure II.8 shows wells that are currently in TWDB databases within approximately 5 miles of the facility.

Fort Hood is located in the Brazos River Basin. Surface water resources consist of numerous small to moderate sized streams, which generally flow in a southeasterly direction. Fort Hood has approximately 200 miles of named intermittent and perennial streams with numerous additional tributaries of those features. Fort Hood contains more than 200 water impoundments

constituting approximately 692 surface-acres. Most of these are used for flood control, sediment retention, wildlife and livestock water, and fish habitat. Wetlands exist across the installation and range from small emergent wetlands associated with ephemeral streams to large, forested wetland complexes adjacent to perennial channels.

Fort Hood is located directly upstream of two man-made reservoirs: Belton Lake, a sole source water supply for Fort Hood and surrounding communities, and Stillhouse Hollow Lake, a water supply source for several surrounding communities. Both reservoirs function as fish and wildlife habitat and provide flood control and recreation opportunities for the public.

Fort Hood can be divided into portions of six large watersheds and several smaller subwatersheds. The six main watersheds are the Belton Lake watershed, Cowhouse Creek watershed, Lampasas River watershed, Leon River watershed, Nolan Creek watershed, and Owl Creek watershed. These watersheds can be further divided into minor subwatersheds, which include portions of the main stems and tributaries of the major water bodies listed above. (Reference: **October 2011 Fort Hood Integrated Natural Resource Management Plan**, Section 2.1.6.1.2). The Fort Hood Biotreatment Facility is located in the Nolan Creek watershed.

Upstream portions of the Nolan Creek watershed lie in the southeastern portion of Fort Hood. Most of the headwaters of Nolan Creek originate within the installation and flow in a southeasterly direction into the creek. Eventually, Nolan Creek flows into the Leon River below Belton Lake. The portion of the Nolan Creek watershed that is within Fort Hood contains several tributaries, including North Nolan Creek, South Nolan Creek, Shaw Branch, Hay Branch, and several unnamed tributaries. In addition to training areas, this watershed contains most of the urban areas on Fort Hood.

The Fort Hood Biotreatment Facility will operate under the Texas Pollutant Discharge Elimination System (TPDES) General Permit for storm water discharges associated with industrial activities. A Storm Water Pollution Prevention Plan (SWP3) will be prepared for the facility that will comply with all permit requirements. Drainage within the waste processing

area of the Fort Hood Biotreatment Facility will either allow collected surface water to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state. The four other drainage areas of the Fort Hood Biotreatment Facility discharge off-site, but are not impacted by the waste processing operation of the facility. See Figure IIIB.1 in Attachment B of Part III for more information.

13.0 ABANDONED OIL AND WATER WELLS

30 TAC §330.61(l)

There are no abandoned oil or water wells within the facility boundary.

14.0 FLOODPLAINS AND WETLANDS STATEMENT

30 TAC §330.61(m); §330.547; §330.553

The Fort Hood Biotreatment Facility is not located within the 100-year flood plain, as shown on Figure II.7.

A wetlands determination was conducted and it was determined that no wetlands or waters of the state exist within or directly adjacent to Fort Hood Biotreatment Facility. . The result of this determination is presented in Attachment D.

15.0 ENDANGERED OR THREATENED SPECIES

30 TAC §330.61(n)

The Fort Hood Biotreatment Facility will not result in the destruction or adverse modification of critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. A copy of correspondence with the Texas Parks and Wildlife Department and a species determination is included in Attachment B.

16.0 TEXAS HISTORICAL COMMISSION REVIEW

30 TAC §330.61(o)

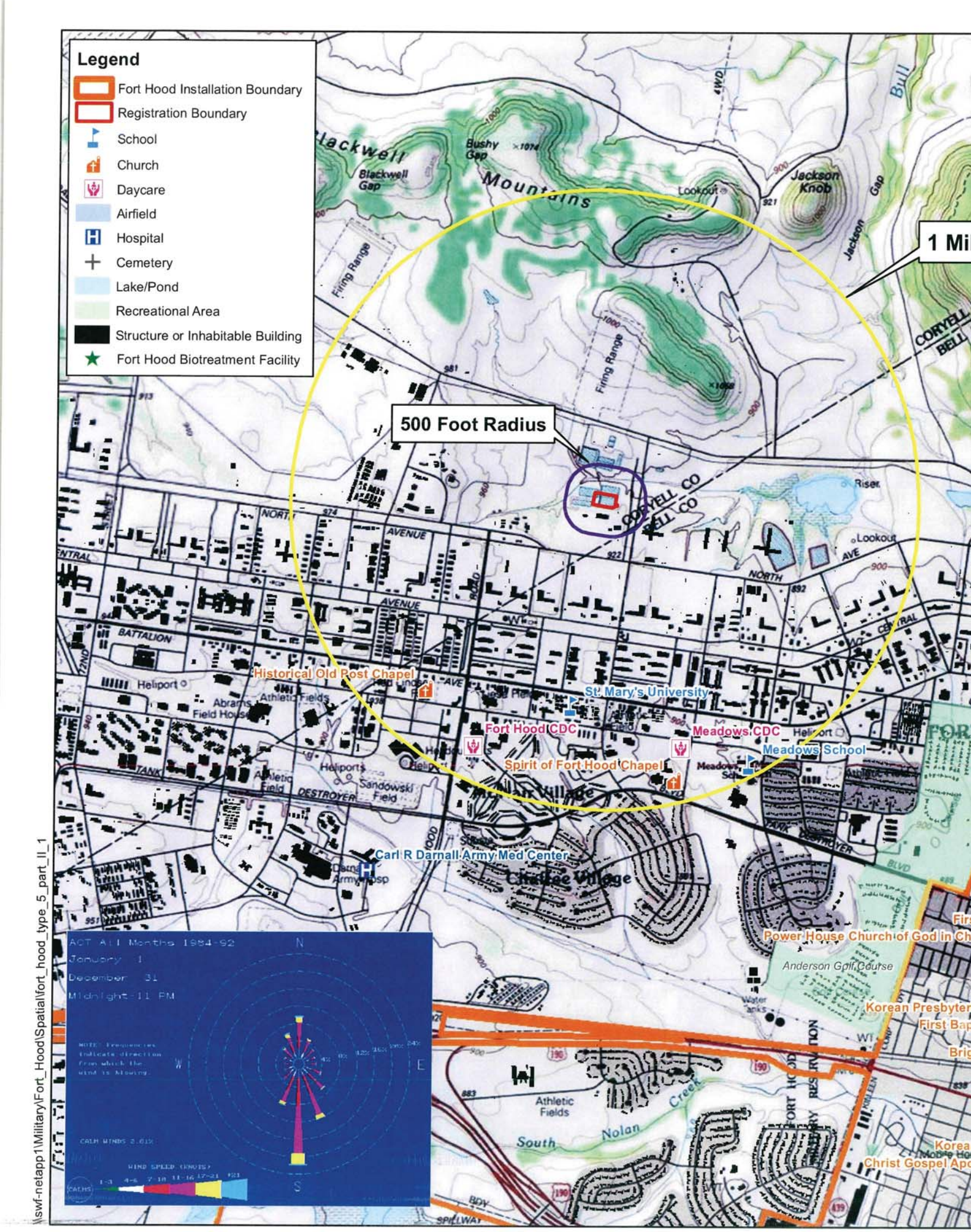
The Fort Hood Cultural Resources program has determined that the location and operation of the Fort Hood Biotreatment Facility will not impact any historical properties. A copy of this confirmation is included in Attachment C.

17.0 COUNCIL OF GOVERNMENTS AND LOCAL GOVERNMENT REVIEW

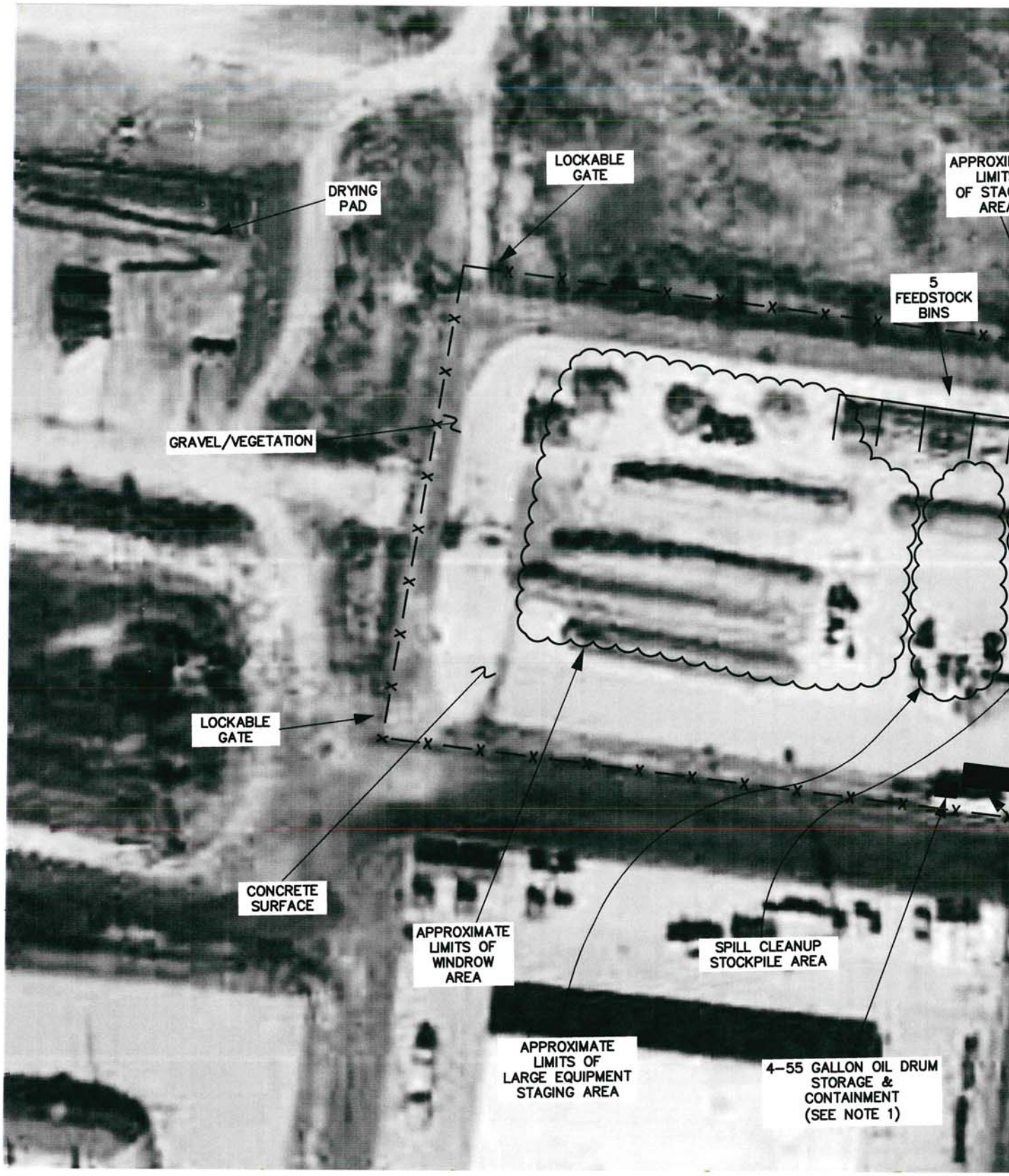
30 TAC §330.61(p)

The registration application will be reviewed by FHDPW-ED, which serves as the local government entity who is responsible for overseeing compliance with regional solid waste plans that affect the Fort Hood military installation.

Figures



\\swf-netapp1\Military\Fort_Hood\Spatial\fort_hood_type_5_part_II_1

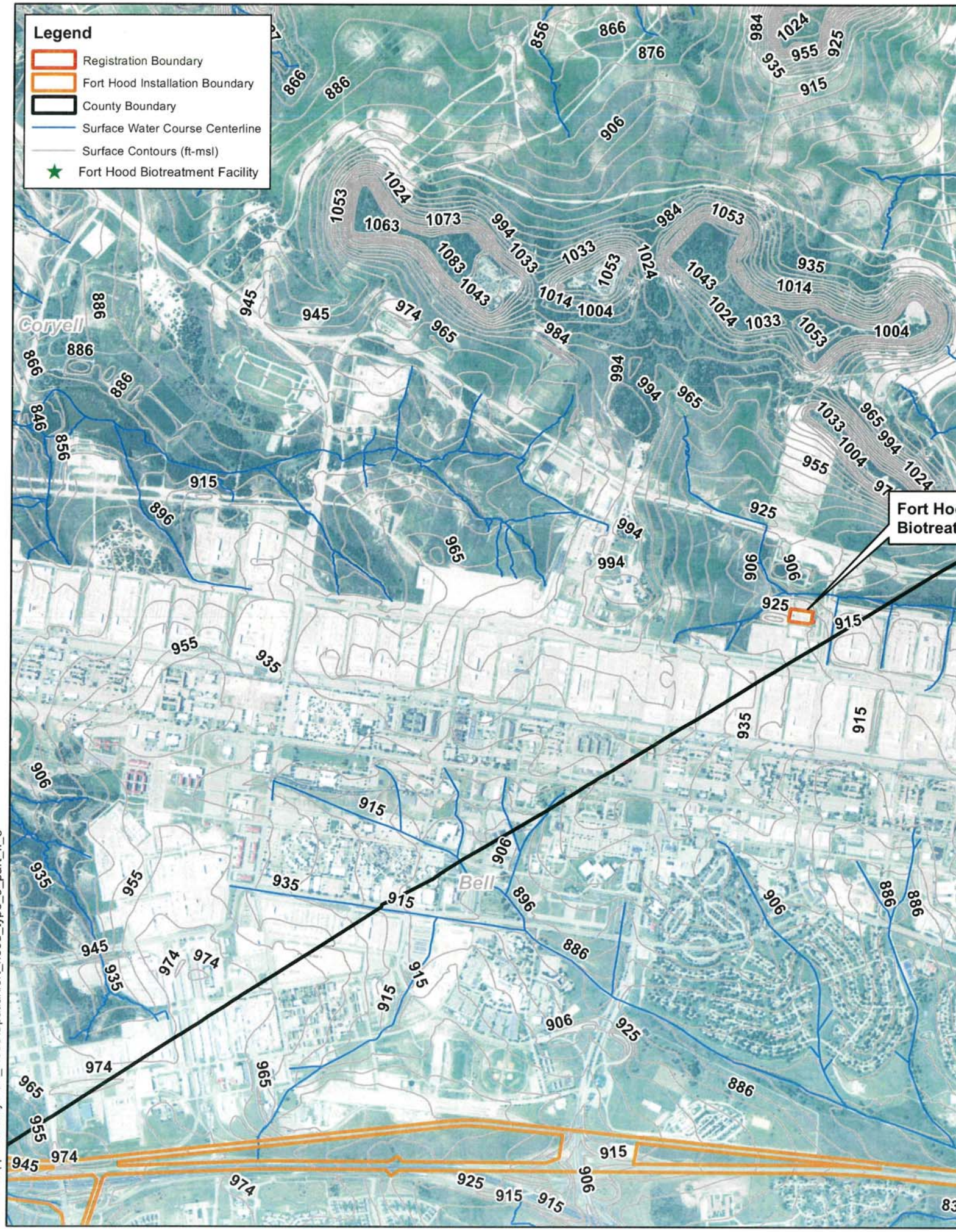


LEGEND

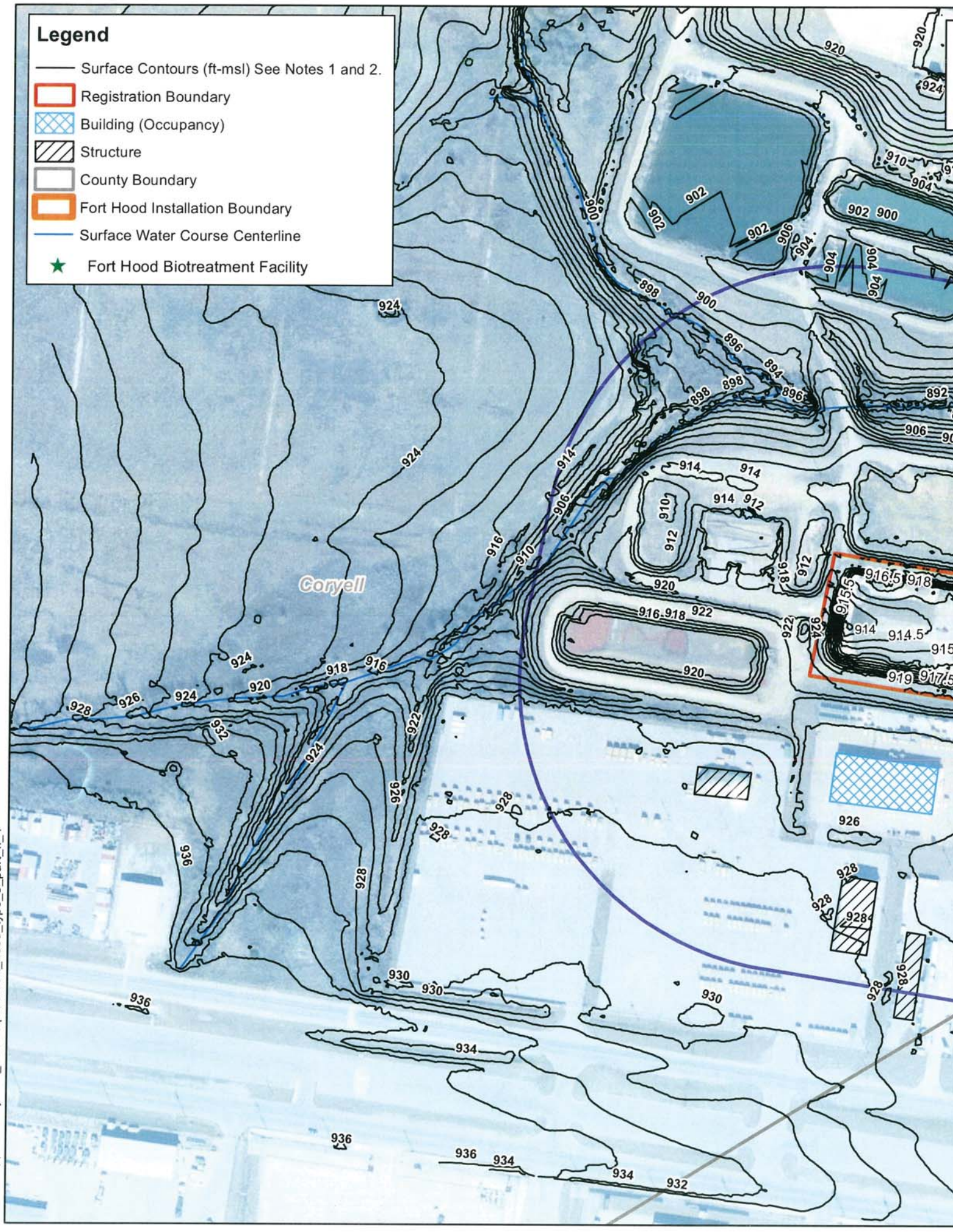
—X —X — EXISTING FENCE LINE/REGISTRATION BOUNDARY

NOTES:

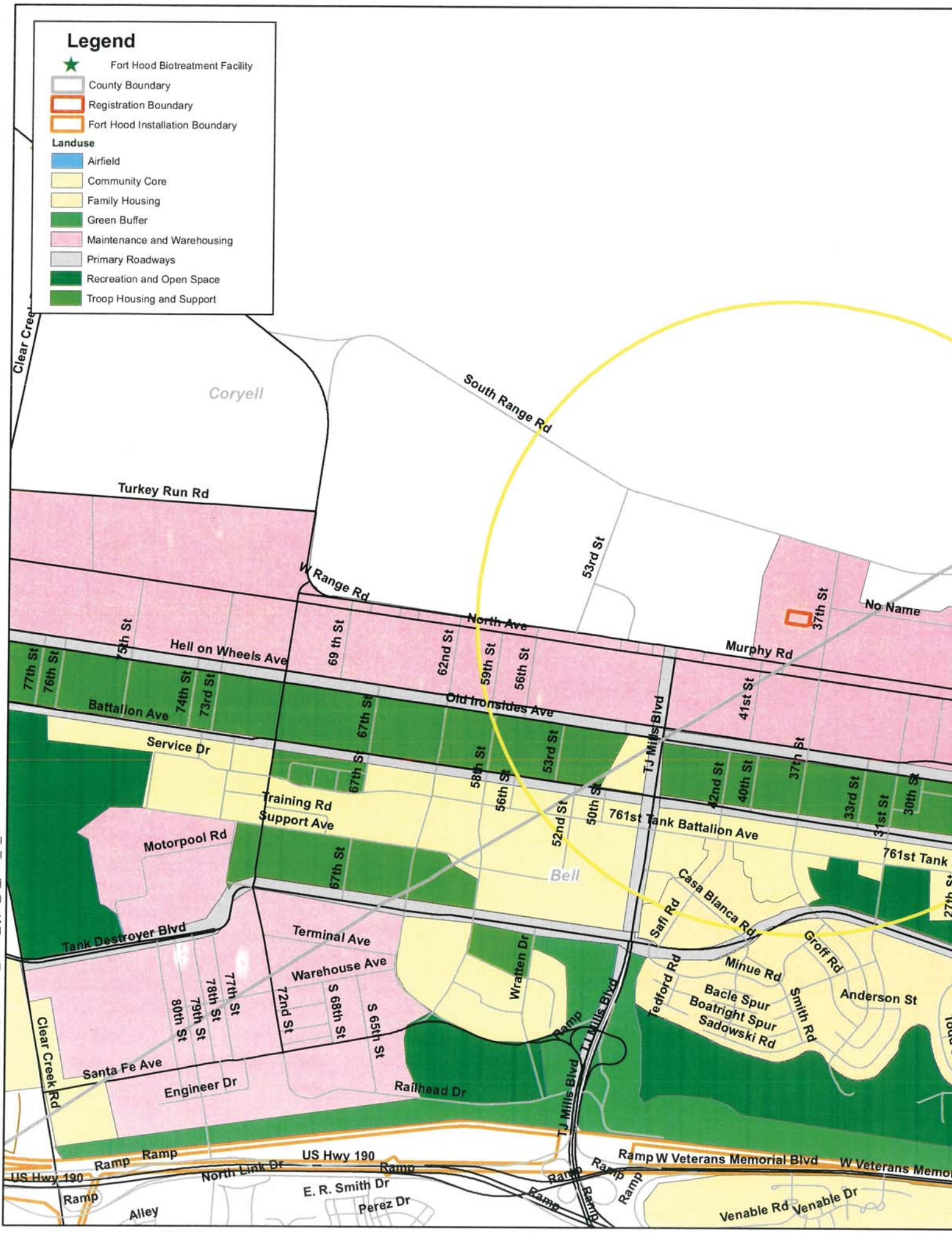
1. ITEM WILL BE REMOVED PRIOR TO SITE OPER
2. ITEM IS EMPTY AND NOT IN USE.



\\swf-netapp1\Military\Fort_Hood\Spatial\fort_hood_type_5_part_II_3

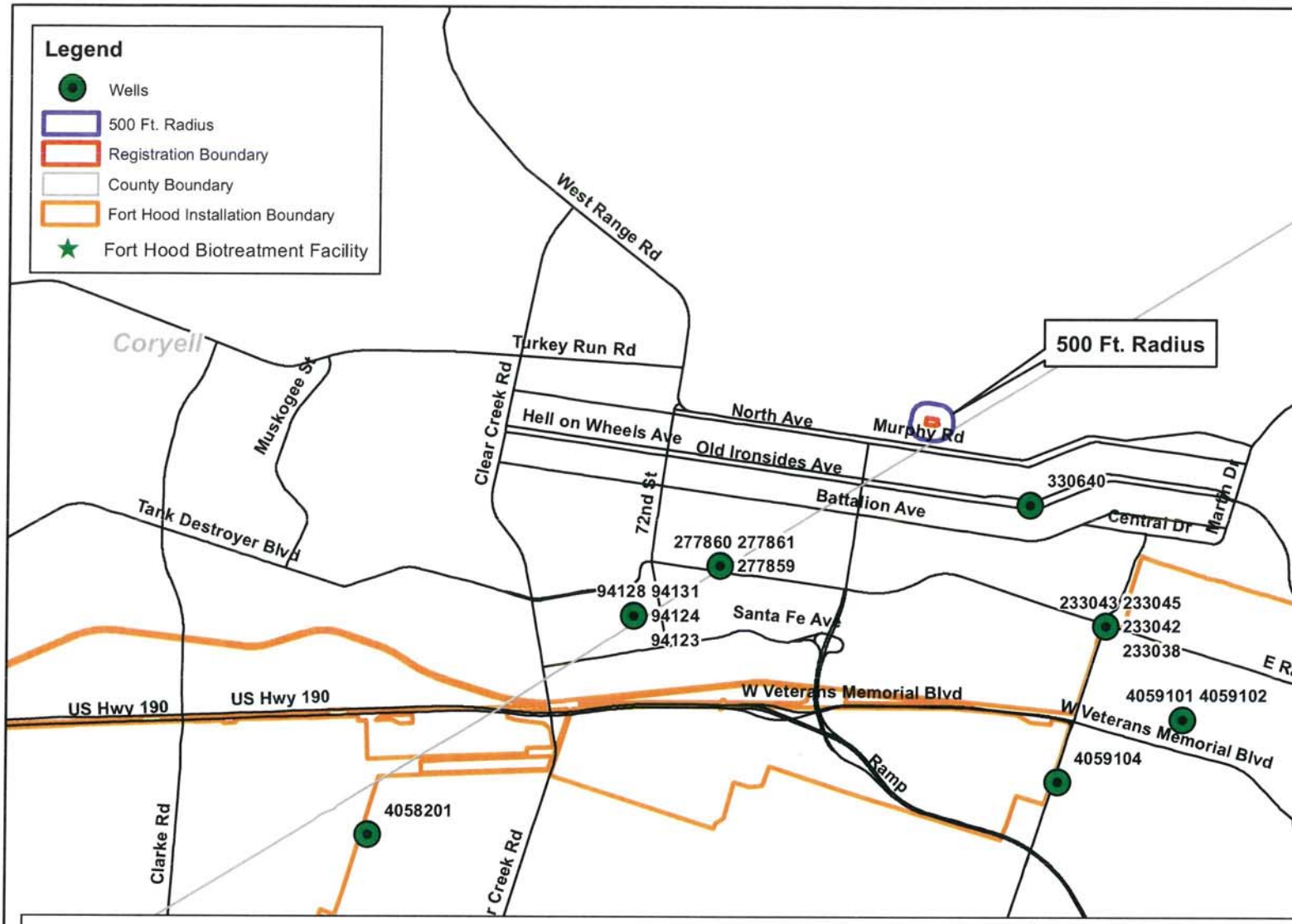

Legend
Surface Contours (ft-msl) See Notes 1 and 2.
Registration Boundary
Building (Occupancy)
Structure
County Boundary
Fort Hood Installation Boundary
Surface Water Course Centerline
Fort Hood Biotreatment Facility
Coryell
\\swf-netapp1\Military\Fort_Hood\Spatial\fort_hood_type_5_part_II_4

\\swf-netapp1\Military\Fort_Hood\Spatial\fort_hood_type_5_part_II_5



\\swf-netapp1\Military\Fort_Hood\Spatial\fort_hood_type_5_part_II_6

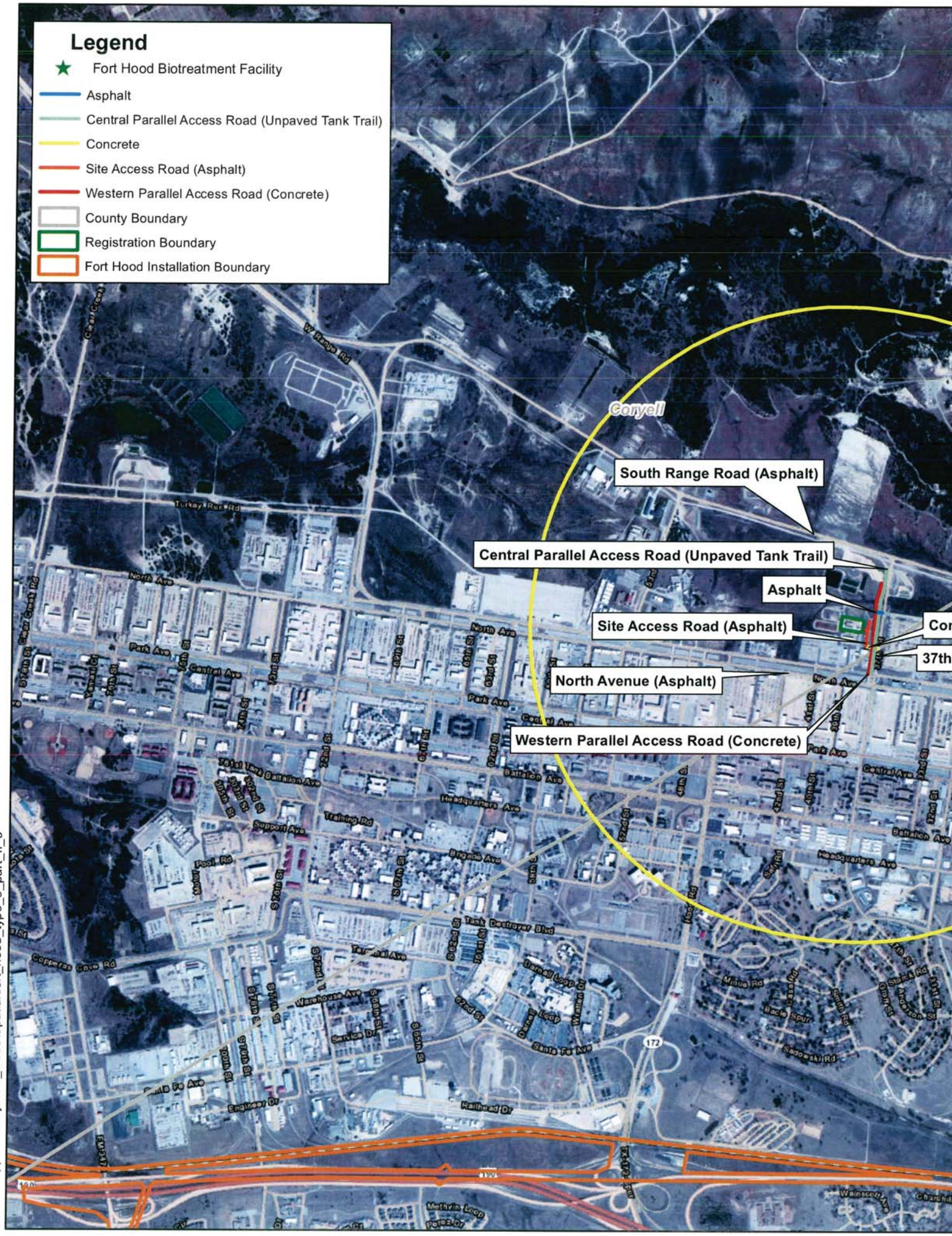
\\swf-netapp1\Military\Fort_Hood\Spatial\fort_hood_type_5_part_II_7



Well Information[1]

Well ID[3]	Latitude	Longitude	Well Type	Well Depth (ft)	Surface Elevation (ft-msl)	Owner 1
4058201	31.111111	-97.818054	Observation	435	922	Clearwater Underground Water Conservation District
4059104	31.115277	-97.744721	Water Withdrawal	185	863	"O" Mart
4059101	31.120832	-97.731388	Water Withdrawal	25	842	City of Killeen
4059102	31.120832	-97.731388	Water Withdrawal	722	833	City of Killeen
4059103	31.111388	-97.718333	Water Withdrawal	184	803	R.P. Adams
4051801	31.145833	-97.676666	Water Withdrawal	910	980	Ed Huess No. 1
4051501	31.183054	-97.689166	Oil or Gas	2895	845	Sugarloaf Mtn. Oil Co.
277859	31.135278	-97.780278	Monitor	25	N/A	Ft. Hood Directorate of Public Works
277860	31.135278	-97.780278	Monitor	25	N/A	Ft. Hood Directorate of Public Works
277861	31.135278	-97.780278	Monitor	25	N/A	Ft. Hood Directorate of Public Works
94123	31.130833	-97.789444	Monitor	20	N/A	Ft. Hood Directorate of Public Works
94124	31.130833	-97.789444	Monitor	20	N/A	Ft. Hood Directorate of Public Works
94128	31.130833	-97.789444	Monitor	25	N/A	Ft. Hood Directorate of Public Works
94131	31.130833	-97.789444	Monitor	29	N/A	Ft. Hood Directorate of Public Works
233038	31.129444	-97.739444	Monitor	20	N/A	USAA/HO MSVCE H4
233042	31.129444	-97.739444	Monitor	20	N/A	USAA/HO MSVCE H4
233043	31.129444	-97.739444	Monitor	20	N/A	USAA/HO MSVCE H4
233045	31.129444	-97.739444	Monitor	20	N/A	USAA/HO MSVCE H4
330640	31.130278	-97.780278	Geothermal	300	N/A	Ft. Hood Access Control Point

1. Information obtained from the Texas Water Development Board groundwater database. Information current as of August 14, 2013.
2. N/A-Information not available.
3. Wells identified are ones closely adjacent to the registration boundary.



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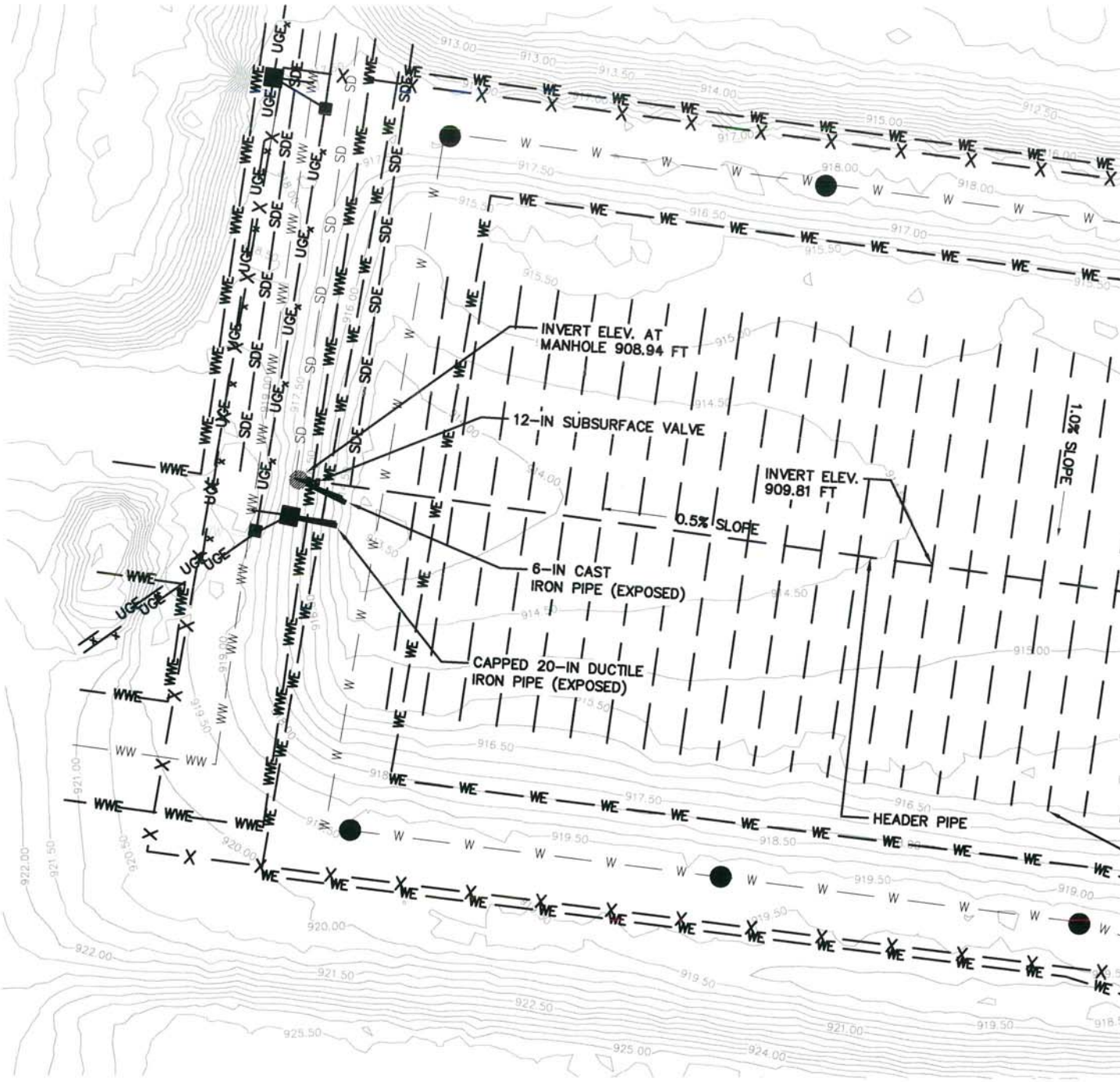


NOTES:

1. SURFACE CONTOUR DATA BASED ON A MARCH 9, 2011 LIDAR AERIAL SURVEY PROVIDED BY THE FORT HOOD DIRECTORATE OF PUBLIC WORKS.

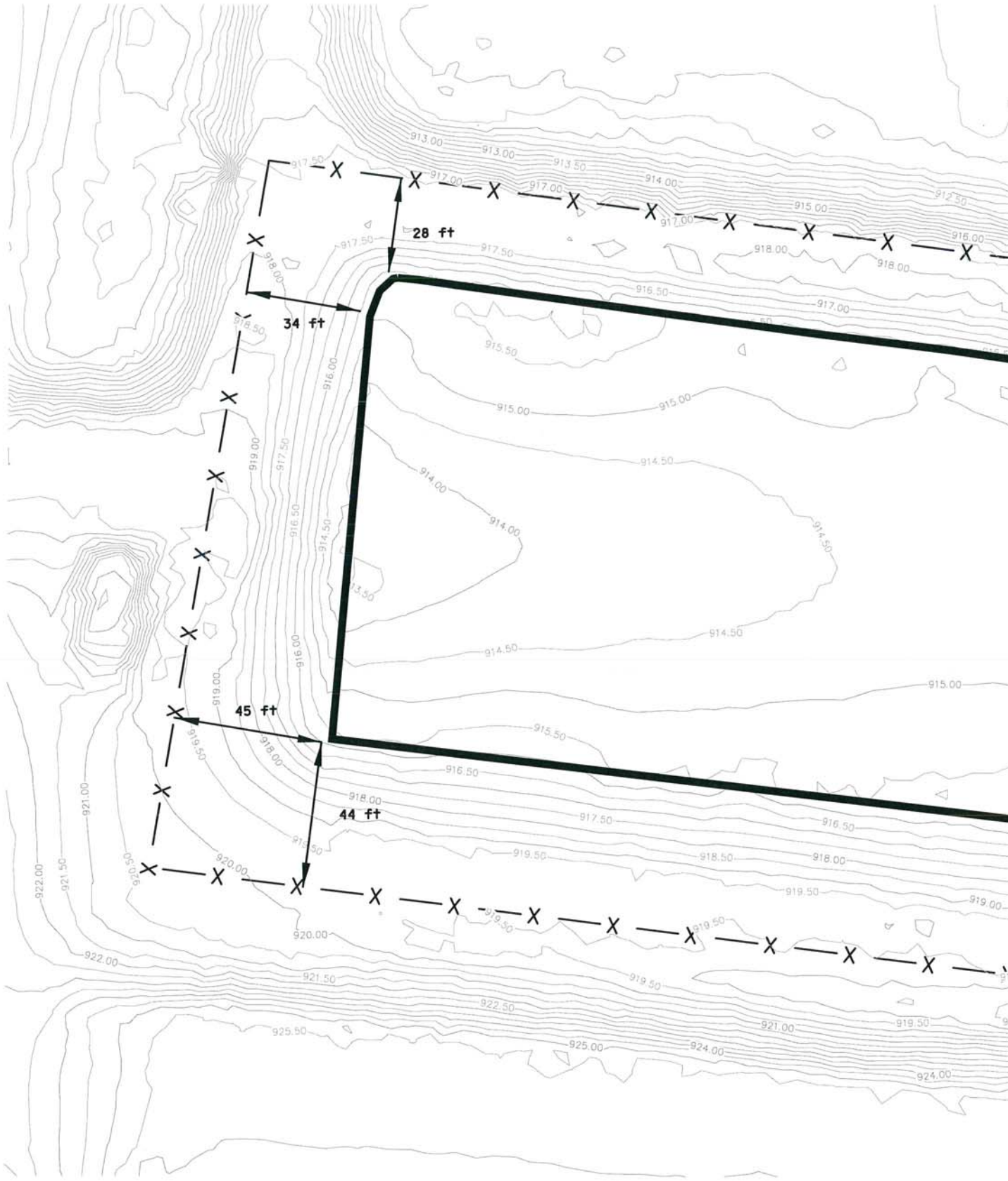
2. ALL UTILITIES CONTAINING EASEMENTS ARE OWNED BY AMERICAN WATER MILITARY SERVICES GROUP.

3. THE LOCATION OF ALL UTILITIES, PIPES, AND MANHOLES SHOWN ARE APPROXIMATE. INFORMATION BASED ON AS-BUILT DRAWINGS TITLED "TACTICAL VEHICLE WASH FACILITY" DATED AUG. 1984 AND A CONSTRUCTION DRAWINGS PACKAGE TITLED "BIOREMEDIATION AND GRIT SEPARATION FACILITY" DATED JULY 1997 WITH SUPPLEMENTAL COORDINATION WITH AMERICAN WATER MILITARY SERVICES GROUP.
AN ADDITIONAL AUG. 2013 FIELD RECONNAISSANCE WAS CONDUCTED BY FORT HOOD DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL DIVISION.

LEGEND

- BUTTERFLY VALVE PI
- MANHOLE (ELECTRICA
- MANHOLE (STORM WA
- HOSE BIBS

N:\Fort_Hood\Design\Wastewater_Facility_2012_WW_2014\9.10



LEGEND

— X — X — EXISTING FENCE LINE/REGISTRATION BOUNDARY

APPROXIMATE LIMITS OF SOLID WASTE STORAGE AND PROCESSING AREA

920.00 SURFACE CONTOURS (SEE NOTE 1)

NOTES:

1. SURFACE CONTOUR DATA BASED ON A MA
BY THE FORT HOOD DIRECTORATE OF PUBL

Attachment A

Soil Information

Soil Map—Coryell County, Texas
(Fort Hood Biotreatment Faciltiy)

Map Scale: 1:1,930 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Coryell County, Texas
Survey Area Data: Version 8, Sep 20, 2012

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 8, 2011—Feb 13, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Coryell County, Texas (TX099)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BtC2	Topsey clay loam, 3 to 8 percent slopes, severely eroded	14.2	73.9%
KrB	Krum silty clay, 1 to 3 percent slopes	5.0	26.1%
Totals for Area of Interest		**19.2**	**100.0%**

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

References:
American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash.

Engineering Properties–Coryell County, Texas												
Map unit symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
BtC2—Topsey clay loam, 3 to 8 percent slopes, severely eroded												
Topsey, severely eroded	0-8	*Clay loam	CL	A-6, A-7-6	0	0	90-100	85-100	75-100	65-94	32-49	13-25
	8-14	*Clay loam, Loam, silty clay loam	CL	A-6, A-7-6	0	0	80-100	80-100	70-98	65-94	32-49	13-25
	14-19	*Gravelly loam, Gravelly clay loam	SC, GC, CL	A-2-6, A-2-7, A-6, A-7-6	0	0	55-80	47-76	36-65	33-62	32-49	13-25
	19-28	*Silt loam, Loam, clay loam	CL	A-6, A-7-6	0	0	80-100	80-100	70-98	55-80	32-49	13-25
	28-80	*Silty clay loam, Clay loam, silty clay	CL	A-6, A-7-6	0	0	80-100	80-100	70-98	67-95	39-49	20-29
KrB—Krum silty clay, 1 to 3 percent slopes												
Krum	0-5	*Silty clay	CL, CH	A-7-6	0	0	95-100	85-100	85-100	85-95	47-65	25-42
	5-25	*Silty clay, Clay	CH	A-7-6	0	0	95-100	85-100	80-100	65-95	51-74	28-50
	25-80	*Silty clay, Clay, silty clay loam	CL, CH	A-6, A-7-6	0	0	85-100	75-100	70-99	65-95	36-60	20-39

Data Source Information

Soil Survey Area: Coryell County, Texas
Survey Area Data: Version 8, Sep 20, 2012

Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Report—Physical Soil Properties

Physical Soil Properties–Coryell County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
BtC2—Topsey clay loam, 3 to 8 percent slopes, severely eroded														
Topsey, severely eroded	0-8	-35-	-38-	20-28- 35	1.32-1.50	4.00-14.00	0.12-0.17	3.0-5.9	2.0-8.0	.32	.32	5	4L	86
	8-14	-35-	-38-	20-28- 35	1.32-1.50	4.00-14.00	0.12-0.17	3.0-5.9	1.0-3.0	.32	.32			
	14-19	-38-	-36-	20-26- 35	1.32-1.50	4.00-14.00	0.10-0.16	3.0-5.9	1.0-3.0	.17	.32			
	19-28	-24-	-50-	20-26- 35	1.50-1.65	4.00-14.00	0.12-0.17	3.0-5.9	1.0-2.0	.32	.32			
	28-80	- 8-	-55-	35-38- 50	1.65-1.90	1.40-4.00	0.09-0.16	3.0-5.9	0.5-1.0	.32	.32			
KrB—Krum silty clay, 1 to 3 percent slopes														
Krum	0-5	- 7-	-48-	35-45- 55	1.35-1.55	1.40-4.00	0.15-0.20	6.0-8.9	1.0-3.0	.32	.32	5	4	86
	5-25	- 5-	-45-	40-50- 60	1.25-1.50	1.40-4.00	0.12-0.18	6.0-8.9	0.5-2.0	.32	.32			
	25-80	- 6-	-47-	35-48- 60	1.30-1.55	1.40-4.00	0.07-0.18	6.0-8.9	0.1-1.0	.32	.32			

Data Source Information

Soil Survey Area: Coryell County, Texas
Survey Area Data: Version 8, Sep 20, 2012

Attachment B

Endangered or Threatened Species Statement

OLSSON ASSOCIATES

August 27, 2010

Ms. Kathy Boydston
Ms. Celeste Brancel
Texas Department of Parks and Wildlife
4200 Smith School Road
Austin, TX 78744

Re: Ft. Hood Bio Site Compost Facility
TCEQ Registration Application

Dear Ms. Boydston and Ms. Brancel:

The U.S. Army – Fort Hood is requesting U.S. Fish and Wildlife Service consultation regarding potential impacts to threatened and endangered species for operations of a composting facility at their current Bio Site on base at Fort Hood, TX (Figure 1). The Bio Site is a concrete pad surrounded by a chain-linked fence. Fort Hood routinely has treated/remediated limited amounts of petroleum-impacted soils at the site, and seeks to conduct full composting of organic feedstocks (wood, paper, landscaping debris, manure) at this location. Composting operations will be limited to less than 30,000 cubic yards per year on the approximately 1-acre site. The Latitude and Longitude for the proposed site is 31° 8' 52"N and 97° 45' 27" W.

Olsson Associates conducted an evaluation of site co (USGS) topographic maps, aerial photography, and s (*Haliaeetus leucocephalus*), black-capped vireo (*Vire* (*Dendroica chrysoparia*), whooping crane (*Grus ame athalassos*), and the smalleye shiner (*Notropis bucc* Counties by the State of Texas, and the Salado salar Plateau salamander (*Eurecya tonkawea*) are listed a endangered species in Coryell County. The site is sit environment. It is Olsson Associates' opinion that tl impacted by the proposed project.

TEXAS

Based on the project description, the Wildlife Habitat Assessment Program does not anticipate significant adverse impacts to rare, threatened or endangered species, or other fish and wildlife resources.
Signed:
Date: 6 Sept 2010

Olsson Associates is requesting documented consu Endangered Species Act of 1973 and reauthorized described work will have no adverse impact to thre

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174

August 30, 2010

Mr. Jerry Mora
Manager – Solid Waste Team
Environmental Division
Directorate of Public Works
Building 4622, Engineering Drive
Fort Hood, Texas 76544

Re: Ft. Hood Bio Site Compost Facility
Agency Consultation – Threatened and Endangered Species

Dear Mr. Mora:

Olsson Associates contacted Mr. Omar Bocanegra of the U.S. Fish and Wildlife Service regarding potential impacts to threatened and endangered species for operations of a composting facility at their current Bio Site on base at Fort Hood, TX. Mr. Bocanegra stated that the U.S. Fish and Wildlife Service will only conduct a threatened and endangered species evaluation for facilities that potentially pose a threat to habitat of such species. He indicated that the Fort Hood Directorate of Public Works can provide appropriate determination if that threat exists, and to document the potential of such risks.

The Bio Site is a concrete pad surrounded by a chain-linked fence. Fort Hood routinely has treated/remediated limited amounts of petroleum-impacted soils at the site, and seeks to conduct full composting of organic feedstocks (wood, paper, landscaping debris, manure) at this location. Composting operations will be limited to less than 30,000 cubic yards per year on the approximately 1-acre site. The Latitude and Longitude for the proposed site is 31° 8’ 52”N and 97° 45’ 27” W.

Olsson Associates conducted an evaluation of site conditions using United States Geological Survey (USGS) topographic maps, aerial photography, and site visits. Our findings indicate that bald eagle (*Haliaeetus leucocephalus*), artic peregrine falcon (*Falco peregrinus tundrius*), black-capped vireo (*Vireo atricapilla*), golden-cheeked warbler (*Dendroica chrysoparia*), whooping crane (*Grus americana*), Interior least tern (*Sterna antillarum athalassos*), and the smalleye shiner (*Notropis buccula*) are listed as endangered in Coryell and Bell Counties by the State of Texas, and the Salado salamander (*Eurecya chisohlmensis*) and Jollyville Plateau salamander (*Eurecya tonkawea*) are listed as Federal candidates as threatened and endangered species in Coryell County. The site is

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.oaconsulting.com

situated in a disturbed, highly active, urban environment. It is Olsson Associates' opinion that the species listed above will not be adversely impacted by the proposed project.

This letter provides documentation of the findings that threatened and endangered species will not be impacted by the composting operations at the Bio Site facility in regard to compliance with The Endangered Species Act of 1973 and reauthorized in 1988.

If additional information is required regarding this determination, please feel free to contact me at (913) 748-2615.

Sincerely,

Theodore A. Hartsig, CPSS
Senior Project Manager

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.oaconsulting.com

Feet
0 250 500

Source: USGS AERIAL
USGSTOPO
TxDOT DATA

Source:
Malcolm-Pirnie, 2007

Figure 1
Fort Hood Bio Site Composting Facility
Location

Attachment C

Historical Property Review

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT HOOD
FORT HOOD, TEXAS 76544-5002

MEMORANDUM

To: Abram Pinon, USACE Fort Worth

From: Jerry Mora, Fort Hood DPW-ENV

Date: 13 August 2013

Reference: Fort Hood Type V Facility Registration Application: Historical Properties

This memo is in regard to the 30 TAC 330.61(o) requirement to provide documentation of compliance with Natural Resource Code, Chapter 191, Texas Antiquities Code, from the Texas Historical Commission (THC) as part of the registration application for the Biotreatment Facility.

To assist in compliance with the Natural Resource Code, Chapter 191, Texas Antiquities Code, and preserve cultural and natural resources, Fort Hood actively manages a Cultural Resource program and the management of historical properties on the installation is an integral part of this program. The THC recognizes and is aware of this program and the historic properties that are managed.

According to Fort Hood Cultural Resources program management, the only historic property that exists within one mile of the Biotreatment Facility is the Old Post Chapel.

The operation and location of the Biotreatment Facility will not impact any historic properties.

Attachment D

Wetlands Statement

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT HOOD
FORT HOOD, TEXAS 76544-5002

MEMORANDUM

To: Abram Pinon, USACE Fort Worth

From: Jerry Mora, Fort Hood DPW-ENV

Date: 13 August 2013

Reference: Fort Hood Type V Facility Registration Application: Wetlands Assessment

The Fort Hood Biotreatment Facility treats petroleum, oil, and lubricant (POL) contaminated soils/absorbents and grit trap sediments in order to achieve acceptable petroleum hydrocarbon levels for landfill disposal. To eliminate landfill disposal of this material and pursue beneficial reuse, Fort Hood is preparing a registration application for a MSW Type V facility that will be submitted to the TCEQ for review and approval. The facility is owned and operated by the Fort Hood Directorate of Public Works.

Part of the application requires addressing wetlands per 30 TAC 330.61(m)(2). The Fort Hood NEPA Specialist from the Directorate of Public Works Environmental Division has reviewed all relevant site information and determined that no waters of the U.S. or wetlands exist within or directly adjacent to the proposed facility boundary which encompasses approximately 1.5 acres. No jurisdictional features exist within or directly adjacent to the site boundary, therefore completing a wetlands delineation under the guidance of the United States Army Corps of Engineers is not required.

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL DIVISION

FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

TYPE V MSW
REGISTRATION APPLICATION

PART III

Submitted by:

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544

Prepared by:

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT

February 2014

Jimmy D. Baggett
2/18/2014
CORPS OF
ENGINEERS

Fort Hood Biotreatment Facility
Part III
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Attachment B – Hydrologic Analysis

Jimmy D. Daggett
2/18/2014
CORPS OF ENGINEERS

1.0 SITE DEVELOPMENT PLAN

30 TAC §330.63(a)

In accordance with 30 Texas Administrative Code (TAC) §330.63(a), the Site Development Plan (SDP) includes criteria used in the selection and design of the facility that provides for safeguarding health, welfare, and physical property of individuals and the environment. The criteria include geology, soil conditions, drainage, land use, zoning, adequacy of access roads, and other considerations specific to the proposed facility. The Fort Hood Biotreatment Facility is located in the Walnut Formation (Reference: **USGS Mineral Resource On-line Spatial Data**). Soils at and around the facility are mapped in the Tospey clay loam and Krum silty clay associations (Reference: USDA Natural Resource Conservation Resources, *Web Soil Survey of Coryell County, Texas, Version 8, September 20, 2012*).

The existing drainage pattern onsite retains approximately 1.67 acres of the 1.87 acre footprint of the Fort Hood Biotreatment Facility. The remaining 0.20 acres of footprint discharge off-site, but are not impacted by the waste processing conducted at the facility. All drainage that comes in contact with the waste processing operation is retained on-site. The drainage retained within the site flows directly to a sump area of the concrete surface, which is located along the west central area of the facility. The facility is constructed, will be maintained and operated to manage run-on and runoff during the peak discharge of a 24-hour, 25 year rain event.

Land use in the project area is predominantly associated with maintenance and warehousing activities associated with the military mission of Fort Hood. The Fort Hood Biotreatment Facility will occupy 1.87 acres. The site is located adjacent to a shallow pond tertiary treatment system within a larger closed-loop water recirculation system that is used as part of the Fort Hood Tactical Vehicle Wash Facility located north of the facility. A motor pool facility and office building are located adjacent to the southern perimeter of the facility.

The site entrance will be on the southeast corner of the facility, via an asphalt access road that is parallel to 37th Street. This same access road is utilized by a military unit and Fort Hood Directorate of Public Works-Environmental Division (FHDPW-ED) employees.

2.0 GENERAL FACILITY DESIGN

30 TAC §330.63(b)

2.1 Facility Access

§330.63(b)(1)

The Facility Layout Plan, Figure III.1, shows the site access to the Fort Hood Biotreatment Facility. The entire boundary of the facility is bordered by other Fort Hood property. Located to the west and northwest of the facility is a shallow pond tertiary treatment system within a larger closed-loop water recirculation system that is used as part of the Fort Hood Tactical Vehicle Wash Facility. Directly north of the Fort Hood Biotreatment Facility is an old sand filtration pond that is not in use.

There is no access to the adjacent areas afforded to the general public within the Fort Hood military installation, so there is no potential for non-facility personnel to gain access into the facility. The Fort Hood Biotreatment Facility will perform periodic monitoring of the perimeter fence to ensure site access remains restricted, in accordance with Part IV, Section 13.0.

The southeast corner of the facility is the main entrance for the Fort Hood Biotreatment Facility. A 20-foot wide asphalt road entrance will be the only access point for ingress and egress for vehicles loading and unloading material at the facility. A lockable 8 ft x 10 ft dual swing gate controls access for this facility to eliminate site access during non-operating hours. During operating hours, the fence may remain open, under supervision of facility personnel from the adjacent site office located outside the southern perimeter of the facility. Fort Hood Biotreatment Facility personnel will not allow any unauthorized entry or deposition of unauthorized waste or materials of any kind. A sign indicating the site hours, days of operation, and the registration number will be placed at the main entrance. Additional 8 ft x 10 ft dual swing gates exist along the northwest and southwest corners of the facility; however, these access points will never be used by non-facility personnel during normal operations at the facility.

2.2 Waste Movement

§330.63(b)(2)

The amount of waste that will be received at the facility will be approximately less than 7 cubic yards per day. However, this quantity is only an estimate, and the facility does not accept incoming waste on a set schedule. The Fort Hood Biotreatment Facility will accept up to 2,500 cubic yards per year, but will accommodate the incoming waste stream on an as needed basis as long as adequate space is available at the facility. It is intended 100% of incoming waste will be processed and reused, and will at a minimum process more than 10% of the incoming waste stream.

Figures III.2 and III.3 shows how the incoming waste will be brought to the facility by dump trucks, front-end loaders, and other collection vehicles and off-loaded at the Staging Area. The unloading time will be minimal given the low volume of waste to be processed. As such, no congestion issues are expected to be encountered as a result of ingress and egress of vehicles. However, in the event that queuing is necessary, incoming vehicles will be able to line up on the asphalt access road that is approximately 200 feet long, without impacting adjacent base operations.

As necessary, the five concrete bins will be replenished with the required amount of admixtures to include common vegetative debris (e.g., wood chips), manure, and fertilizer (if needed). The volume of stored admixtures will not exceed the storage capacity available of the five concrete bins. However, the amount of each particular admixture will fluctuate based on the operational needs of the facility. It is expected each concrete bin can store approximately 45 cubic yards of material. Fertilizer will be stored inside the storage sheds, with approximately 50 bags retained onsite.

Department of Army (DA) Form 3161 will accompany each incoming waste load to document the material source. A copy of this form is included in Part IV, Attachment A of the Registration Application. After material confirmation by Fort Hood Biotreatment Facility personnel, waste

material will be unloaded at the Staging Area by the transporter of the waste. If necessary, Fort Hood Biotreatment Facility personnel will assist transporters in unloading the waste.

Incoming waste material will be originating from the adjacent off-site Drying Pad (i.e., oil-water separator sediments), grit-chamber sediments, sediments from stormwater structures, and spill-cleanup material. Dried grit-chamber sediments that have no exceedances of the Tier 1 Residential Soil levels for TPH, benzene, or lead, will by-pass the Fort Hood Biotreatment Facility as shown in Figure III.2. Material waiting processing at the Staging Area may be mixed to promote volatilization. A Trommel material screener may be used on an as needed basis to segregate and remove any unwanted debris (e.g., rocks) from the waste material at the Staging Area.

Once a sufficient quantity, typically 75 cubic yards, of waste material accumulates at the Staging Area, it will be moved to the Windrow Area and placed in a windrow with a front-end loader. Before admixture addition, the waste material in each windrow will be mixed with a windrow turner which will generate a windrow height of 1 to 3 ft high; each windrow will be approximately 100 feet long.
After each windrow has been placed or after Staging Area mixing as described above, initial measurements will be taken to record pretreatment conditions. The following analysis will be performed for each windrow:

- TCEQ Method 1005 for Total Petroleum Hydrocarbons (TPH)

- EPA Method SW 846/8021B for Benzene

However, for Spill-cleanup material, the following analysis will be performed at the Staging Area prior to placement into a windrow:

- TCEQ Method 1005 for Total Petroleum Hydrocarbons (TPH)
- EPA Method 6010B for RCRA Total Lead
- EPA Method SW 846/8021B for Benzene

If the RCRA total lead results identify any exceedance of the Tier 1 Residential Soil levels, the Spill-cleanup material will be disposed at a permitted off-site disposal facility. The Fort Hood Biotreatment Facility does not have the ability to reduce metal contamination concentrations; therefore FHDPW-ED will not attempt to degrade the TPH concentration in the waste material. A waste classification will be made in accordance with EPA Method 1311 to facilitate the disposal of the material at an approved off-site facility. If the RCRA total lead results do not exceed the Tier 1 Residential Soil levels, the Spill-cleanup material is suitable for processing at the Fort Hood Biotreatment Facility and will be relocated to the Windrow Area for processing. A detailed description of the sampling and recording protocol is described in Part IV, Section 6.0. Attachment A contains the 0.5-acre Tier I Residential Soil level thresholds that will be of concern.

Once the waste material is screened, is acceptable to undergo biotreatment, and has been placed in a windrow, the biotreatment process will commence. For a windrow that contains 30 cubic yards of waste material, the initial vegetative debris quantity added will be approximately 30cubic yards. Vegetative debris will be added to increase the bulk of the mix thus maximizing macropore distribution. Vegetative debris will include wood chips that do not exceed 2-inches in length and more than 1/2-inch in any other dimension. Other vegetative debris will include landscape wastes (e.g., grass, brush, etc.), demolition debris that is properly mulched if the wood has not been treated with any wood preservatives. Natural fiber absorbent pads (i.e., part of the spill-cleanup material waste) maybe part of the incoming waste stream; however, when placed in the windrow this material will also act as a vegetative admixture. The natural fiber absorbent pads will be shredded prior to placement in the windrow.

The second type of admixture will be manure from the Fort Hood horse stables. Manure will serve as a catalyst providing the necessary nutrients and microbial populations to facilitate the bioremediation process. An alternative or addition to the manure will be a standard agricultural fertilizer that contains a nitrogen/phosphorous mixture. For a windrow that contains 30 cubic yards of waste material, the initial manure quantity added will be approximately 30 cubic yards.

All admixtures, waste, and moisture addition will be thoroughly mixed using the windrow turner to establish a homogeneous windrow. The following describes the biotreatment process that will take place at the facility.

- **Phase I Active Biotreatment**

  The initial biotreatment phase is the most active during this process. Lasting approximately four weeks, the windrow will be turned every 3 to 4 days using a windrow turner, or as determined by temperature, to promote homogeneity. Temperature and moisture will be monitored regularly to assure microbial activity is occurring. Ideal temperatures will be between 110°F and 140°F near the center of the windrow. If the temperature falls below range, additional admixtures will be added to increase the microbial populations. When temperatures exceed the specified range, the windrow will be mixed to lower the temperature of the windrow. Moisture will be maintained between 40% and 60%. When moisture falls below 40%, water will be added to bring the moisture content to 60%.

- **Phase II Active Biotreatment**

  The continued biotreatment process will proceed for a minimum of four additional weeks after Phase I is completed. The windrow will be turned approximately every 7 days using a windrow turner. Temperature and moisture content monitoring will continue in accordance with the parameters specified in Phase I.

- **Phase III Batch Curing and Maturation**

  After approximately eight weeks, active biotreatment will slow to a more stable rate. The curing windrow will be formed once again using a windrow turner to break any remaining large materials and homogenize the windrows. Phase III will last approximately one to three months. Temperature and moisture content monitoring will continue in accordance with the parameters specified in Phase I.

Monitoring of moisture and temperature will occur at an established frequency (see Part IV, Section 6.0) to ensure proper biological conditions exist while ensuring temperature are held in check to prevent the development of a fire. After the windrow has completed Phase III, the windrow will be sampled for TPH and Benzene. Six grab samples will produce one composite sample that will be analyzed for TPH and Benzene. Each grab sample will be from within the core and equally spaced along the entire length of the windrow. If results indicate that the levels are below Tier 1 Residential Soil levels, the material is ready for use in areas outside the west, north, and main cantonments of Fort Hood(but outside the areas containing endangered species). Processed material that does not meet the 0.5-acre Tier I Residential Soil levels will be disposed at the Fort Hood Landfill (MSW Permit No. 1866). Figure III.2, Process Flow Diagram, provides a graphical representation of the waste movement process.

The operation of the Fort Hood Biotreatment Facility is entirely outdoors, therefore adequate ventilation will not be a concern. Prevailing winds at the site are from the south (see Figure II.1 in Part II), which direct odors from waste material and admixtures to the north. The area north of the facility is part of a closed loop water recirculation system designed to capture and treat waste water from an adjacent vehicle washing facility. It is not anticipated that odors will become a nuisance during the operation of the facility. However, if odors are bothersome to adjacent inhabitants, the facility will take measures to reduce the odorous impact to neighbors, to include but not limited to a reduction in waste processing or the use of an odor control spray system along the northern perimeter fence line. See Part IV, Section 22.0, for more information.

General Construction details of all storage and processing units are shown in Figures III.4 and III.5. General Construction details of the existing slab and subsurface components are shown in Figures III.6 through III.8. No sludge, oil, or grease will be stored at the facility.

FHDPW-ED will conduct a washdown after a windrow has been removed from the windrow area. Facility washdown will remove any residual soil material from the concrete surface. Any cracks in the concrete or unsealed joints will be repaired within 7 business days or before the next rain event, whichever comes first, and before placement of new windrows. All washdown

water and stormwater will flow to the west until it reaches the sump area, located along the toe of the west central bank of the concrete pad.

All surface water collected will be allowed to evaporate, while ensuring vector populations will be controlled to minimize risk to human health and the environment. The Fort Hood Biotreatment Facility has the ability to discharge through an existing 6-inch cast iron collection pipe which connects to a 12-inch reinforced concrete pipe that conveys the collected surface water to the closed loop water recirculation system located to the north of the facility. The closed loop water recirculation system does not discharge to waters of the state. The invert of the collection pipe is approximately 1-foot above the low point of the sump. Before discharging to the closed loop water system, FHDPW-ED will annually sample and analyze the collected surface water for TPH, fats, oils, and grease, and pH, in accordance with 30 TAC §330.203(c). Other discharges from the facility (i.e., not from the waste processing area) will be sampled in accordance with the TPDES TXR050000 Multi-Sector General Permit.

2.3 Sanitation

§330.63(b)(3)

The Fort Hood Biotreatment Facility will receive waste material and admixtures that will be stored on-site to facilitate the processing of the incoming waste stream. Surface drainage to the facility is controlled by the existing grades on site which eliminate run-off impacted by the waste processing operation. See Figure IIIB.1 in Attachment B for more information.

The current site conditions consist of a concrete impervious surface that drains to a sump located along the western perimeter of the facility. A 6-inch to 8-inch thick 3,000 psi concrete slab was placed above an existing water filtration pond to facilitate the development of a biotreatment facility. The water filtration pond was originally constructed in the mid-1980's as part of a closed loop water recirculation system designed capture and treat waste water from vehicle washing that is currently ongoing north of the Fort Hood Biotreatment Facility. The closed loop water recirculation system incorporates the use of a series of basins, lagoons, chambers, and a small marsh to separate sediments and chemicals from the vehicle wash facility waste water. Below the concrete surface is ballast material consisting of sand and/or rock of various thickness, 3-inches of bedding material, a 30-mil PVC liner, and a 3-inch thick layer of cushion material.

Figures III.4 through III.8 in Part III display the components of the Fort Hood Biotreatment Facility.

Eight hose bibs located along the crest of the northern and southern banks of the concrete pad will provide access to potable water that can be used by a pressure washer. See Figure II.10 for the location of the hose bibs. The pressure washer will be used to rinse any residual soils that remain after a windrow is moved. The cleaning of the area previously occupied by the windrow will allow for the inspection of the concrete surface, which will then be repaired if necessary. All water used as part of the sanitation process will drain to the sump area within the facility. Water will then be allowed to evaporate or will be discharged to the closed loop water recirculation system.

2.4 Water Pollution Control

§330.63(b)(4)

Cleaning the concrete surface at the Fort Hood Biotreatment Facility will result in the generation of wastewater. Additionally, any precipitation that is collected and retained within the Fort Hood Biotreatment Facility will also generate wastewater. However, the Fort Hood Biotreatment Facility is constructed in a way in which all surface water impacted by the waste processing operation ends up at a sump located along the toe of the west central perimeter of the concrete surface. The collected surface water will be allowed to evaporate; however, the facility has the option to discharge to a closed loop water recirculation system. The testing protocol described in Part IV, Section 6.0 will be performed prior to discharging off-site. All cracks and joints of the concrete surface will be repaired and sealed.

2.5 Endangered Species Protection

§330.63(b)(5)

Section 15.0 in Part II describes that the Fort Hood Biotreatment Facility will not provide a negative impact on endangered and threatened species or their habitat. As a result, no specific controls need to be implemented by the facility.

3.0 FACILITY SURFACE WATER DRAINAGE REPORT

30 TAC §330.63(c); §330.303

The Fort Hood Biotreatment Facility complies with the requirements of 30 TAC §330.303 and is not a landfill or composting unit. As identified in Technical Paper 40, a 25-year, 24-hour storm produces approximately 8-inches of precipitation, which correlates to approximately 58,000 cubic feet of surface water based on the drainage patterns displayed on Figure IIIB.1 of Attachment B. Utilizing the same drainage areas, 61,000 cubic feet of collected surface water inundates the concrete lined surface of the facility to an approximate elevation of 916.50 ft-msl. The 916.50 ft-msl level of inundation is a conservative representation of the volume of storm water produced by 8-inches of precipitation since it does not consider the presence of the 6-inch cast iron pipe that is located one-foot above the lowest elevation of the sump. The 6-inch cast iron pipe discharges to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in the closed loop water recirculation system is not and does not discharge to waters of the state.

4.0 WASTE MANAGEMENT UNIT DESIGN

30 TAC §330.63(d)

The Fort Hood Biotreatment Facility takes POL Spill Cleanup material and dry sediment from grit-chambers, oil-water separators, and stormwater structures and introduces an admixture to bio-degrade the hydrocarbons. The facility is designed for efficient material processing. The Staging Area can contain approximately 250 cubic yards of material. Typically, once the volume of waste material is 75 cubic yards or more, it will be transferred to the Windrow Area to begin processing. Waste material waiting processing at the Staging Area will typically be stored until a sufficient quantity is present. However, grit-chamber sediments will not be stored at the Staging Area for more than 72 hours from the receipt of waste, in accordance with 30 TAC §330.241(a)(1). Waste material will occupy the Windrow Area for approximately 9 to 11 weeks.

An odor control spray system (e.g., Odoreze™ or similar) may be used to offset any offensive odors that may originate from facility operation. An environmentally friendly surfactant may be used to control fly and mosquito populations.

The majority of the concrete surface of the facility serves as the processing area for the Fort Hood Biotreatment Facility. Sections 2.4 and 3.0 of Part III describe water pollution control and containment.

The following features do not apply to this facility:

- ***Incineration units.*** This facility does not use controlled flame combustion as part of the waste treatment process.
- ***Surface impoundments.*** Even though the processing operation takes place in a concrete lined man-made excavation, this excavation is not designed to treat an accumulation of liquids, such as an aeration basin or lagoon.
- ***Landfill units.*** The facility is not a landfill as defined in 30 TAC §330.3(75).
- ***Type V mobile liquid wash processing units.*** This facility does not process liquid waste.

- ***Type IX Energy, material, gas recovery for beneficial use, or landfill mining waste processing units.*** This facility does not create renewable energy or process landfill mined waste.
- ***Composting units.*** This facility does not use the processed material as a soil amendment, artificial top soil, growing medium amendment, or as a vegetative establishment catalyst.
- ***Type VI waste processing demonstration facilities.*** This facility does not process liquid or is not connected with an accredited university.

5.0 GEOLOGY REPORT

30 TAC §330.63(e)

The facility is not a landfill or compost unit, therefore, a Geology Report is not required, unless otherwise requested by the executive director of TCEQ.

6.0 GROUNDWATER SAMPLING AND ANALYSIS PLAN

30 TAC §330.63(f)

The facility is not a landfill, therefore, a Groundwater Sampling and Analysis Plan is not required, unless otherwise requested by the executive director of TCEQ.

7.0 LANDFILL GAS MANAGEMENT PLAN

30 TAC §330.63(g)

The facility is not a landfill, therefore, a Landfill Gas Management Plan is not required.

8.0 CLOSURE PLAN

30 TAC §330.63(h); 30 TAC §330.459; 30 TAC §330.461

This Closure Plan has been prepared in accordance with Subchapter K of Chapter 330 for Municipal Solid Waste Storage and Processing Units, specifically 30 TAC §330.459 and 30 TAC §330.461. During closure activities at the Fort Hood Biotreatment Facility, all waste material, waste residue, and admixture material will be taken off-site and disposed or relocated in accordance with all rules and regulations. All machinery and other facility supporting appurtances will be removed from within the facility boundary. Once the entire confines of the Fort Hood Biotreatment Facility have been evacuated of all waste, materials, equipment, etc., the concrete surface will be disinfected to remove any residual waste and admixture material that may be on the exposed surface of the concrete. Generated waste water will be disposed off-site at a permitted facility. After the exposed concrete surface has been cleaned, the concrete, underlying sand, stone, 30-mil PVC liner, pipes, manhole, manhole covers, valves, valve boxes, hose bibs, and bollards will be removed and disposed in accordance with all rules and regulations.

If during demolition activities, there is evidence that seepage below the PVC liner has occurred, FHDPW-ED will immediately notify the executive director and coordinate with TCEQ to determine any requirements for further investigation to establish the nature and extent of the release and an assessment of measures to correct and impact of groundwater. Finally, the perimeter fence will disassemble and removed from the site.

The Fort Hood Biotreatment Facility will complete closure activities within 180 days following the most recent completed processing of waste unless otherwise directed or approved in writing by the executive director. No later than 90 days prior to the initiation of closure process, FHDPW-ED will provide public notice for final facility closure through a public notice in the newspaper(s) of largest circulation in the vicinity of the facility. This public notice will provide the name, address, and physical location of the facility, the registration number, and the last date of intended receipt of waste. FHDPW-ED will provide an adequate number of copies of the approved final closure and post-closure plans for public access and review. FHDPW-ED will

also provide written notification to the executive director of the intent to close the facility and place this notice of intent in the operating record.

Upon submission of the notice of intent to the executive director, FHDPW-ED will post a sign at the main entrance notifying persons who may use the facility, the date of closing and the prohibition against further receipt of waste materials after the identified closure date. The existing perimeter fence will remain in place during closure activities to prevent unauthorized dumping at the facility. No wastes will remain at the closed facility, therefore, within 10 days after completion of final closure activities of the Fort Hood Biotreatment Facility, FHDPW-ED will submit to the executive director, by registered mail, a certification and all applicable documents, signed by an independent licensed professional engineer, verifying that final facility closure has been completed in accordance with the approved closure plan. Additionally, a request for voluntary revocation will also be submitted to the executive director within 10 days after completion of final closure activities.

9.0 POST-CLOSURE PLAN

30 TAC §330.63(i); 30 TAC §330.463

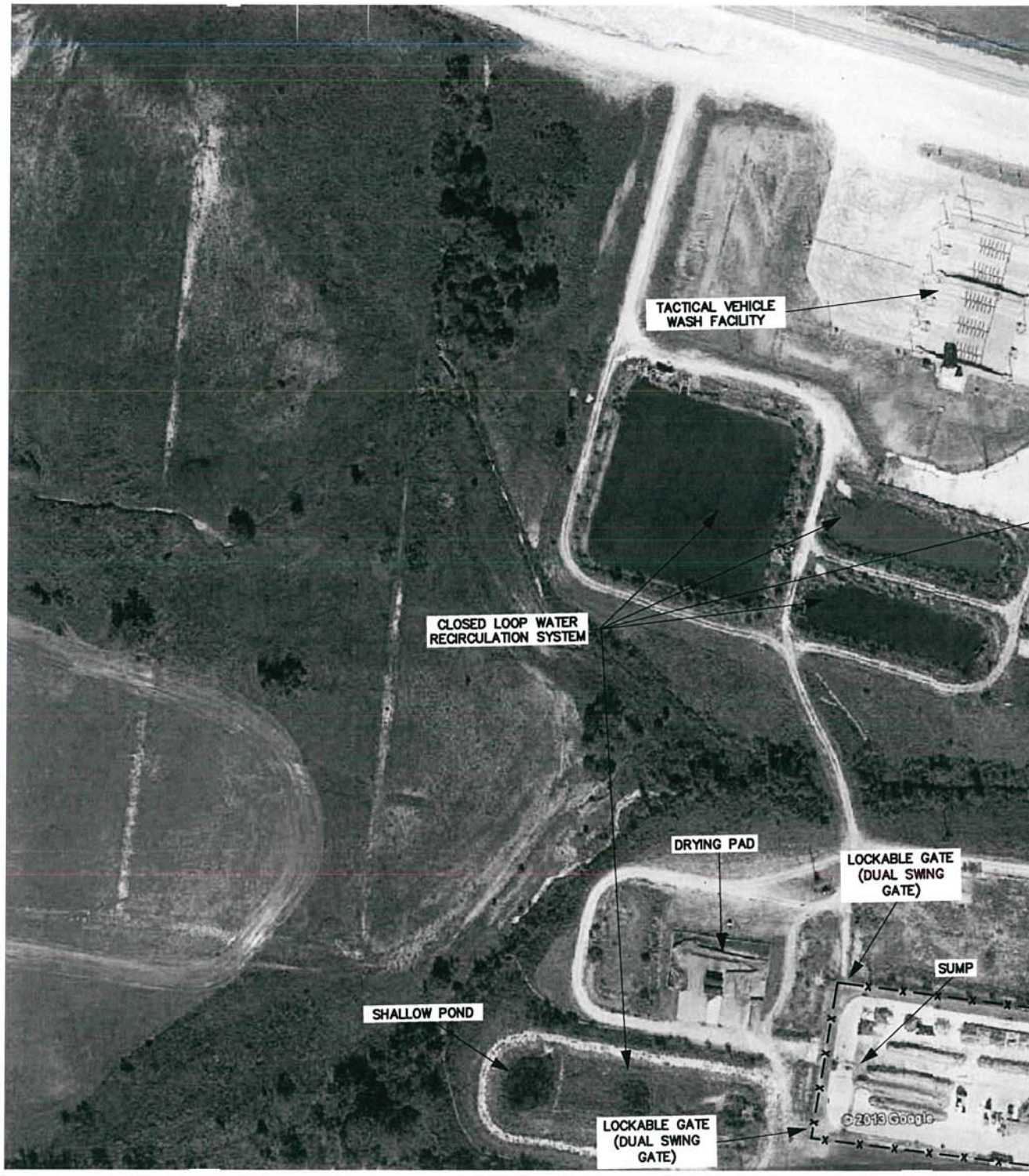
The Fort Hood Biotreatment Facility will not contain municipal solid waste on-site after closure activities are completed. Therefore, the facility is not subject to post-closure care activities described in 30 TAC §330.463.

10.0 COST ESTIMATE FOR CLOSURE AND POST-CLOSURE CARE

30 TAC §330.63(j); 30 TAC §330.501; 30 TAC §37.8001

30 TAC §330.501 states that facilities that are required to have financial assurance prepare closure and post-closure cost estimates. However, in accordance with 30 TAC §37.8001, financial assurance requirements do not apply to federal government entities whose debts and liabilities are debts and liabilities of the United States. As such, the Fort Hood Biotreatment Facility is not required to provide closure and post-closure care cost estimates.

Figures



LEGEND

—X —X — EXISTING FENCE LINE/REGISTRATION BOUNDARY

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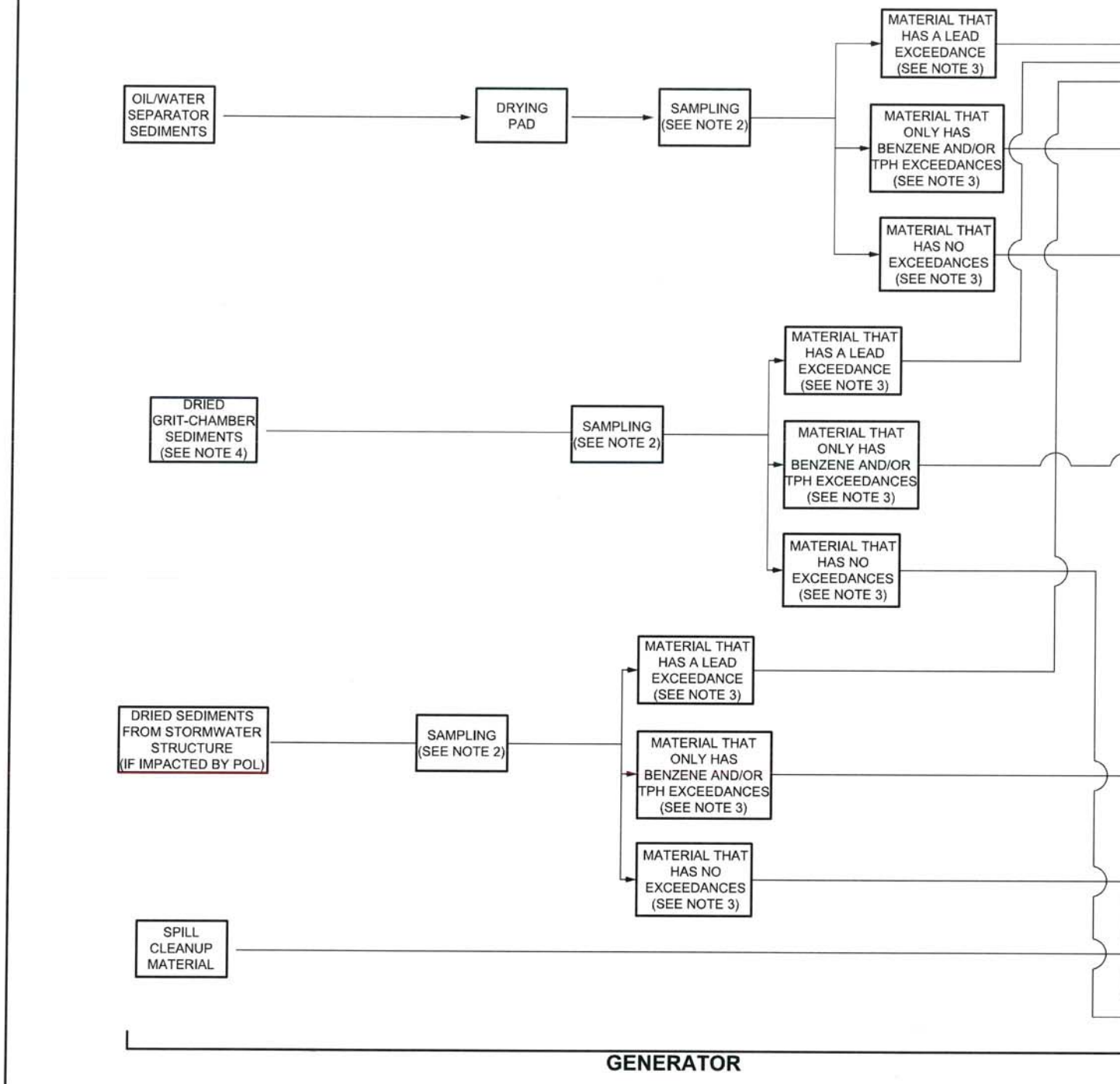
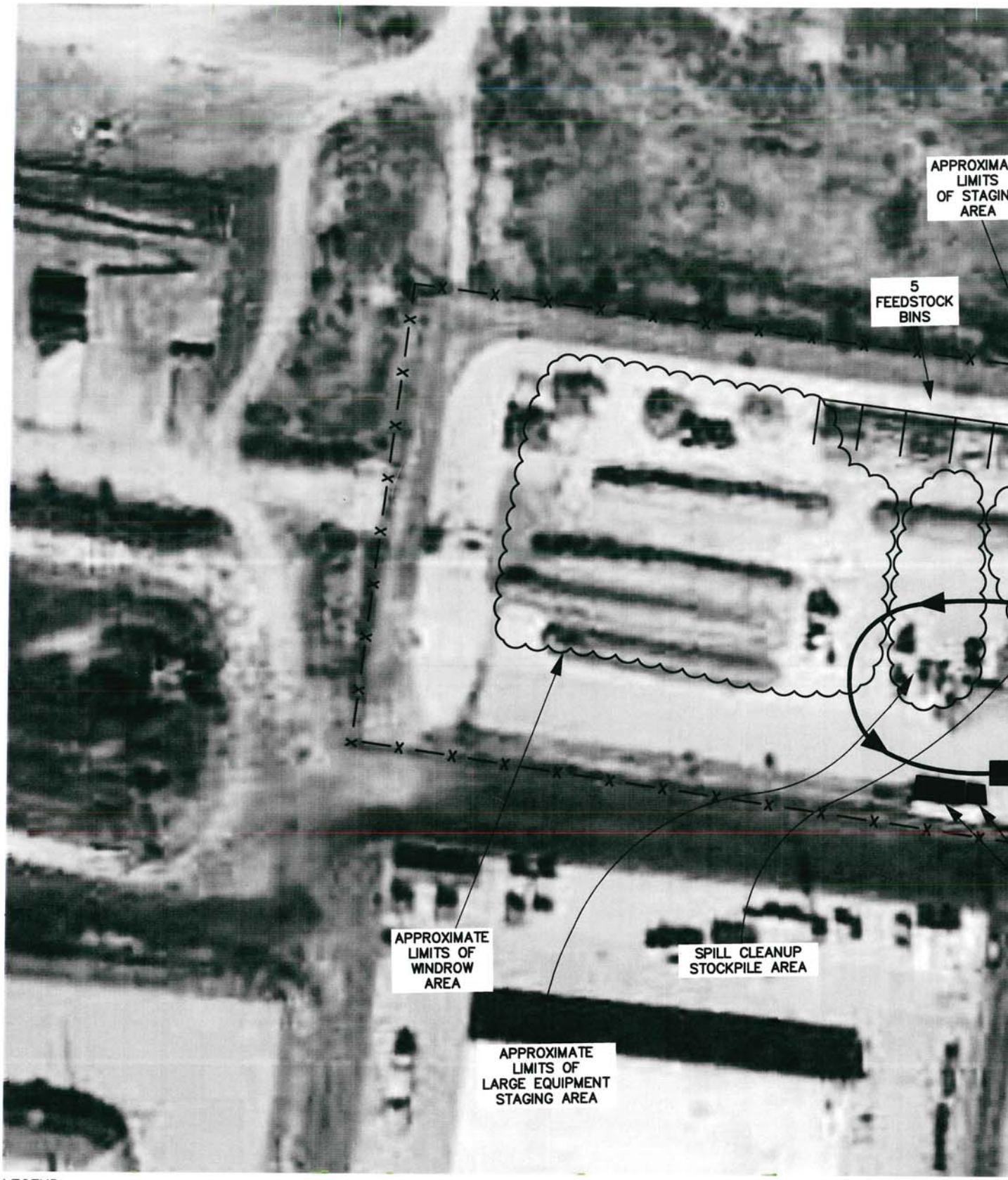


NOTES:

1. END USE LOCATION FOR MATERIAL WILL BE OUTSIDE THE WEST, NORTH, AND MAIN CANTONMENTS OF FORT HOOD, BUT OUTSIDE AREA CONTAINING ENDANGERED SPECIES.
2. MATERIAL WILL BE SAMPLED FOR TOTAL PETROLEUM HYDROCARBON (TPH), BENZENE, AND LEAD.
3. SAMPLES RESULTS ARE COMPARED TO THE 0.5-ACRE TIER 1 RESIDENTIAL SOIL PROTECTIVE CONCENTRATION LEVELS.
4. GRIT-CHAMBER SEDIMENTS WILL BE DRIED AT LOCATION IN ACCORDANCE WITH TCEQ RG-029.
5. A TROMMEL MATERIAL SCREENER MAY BE USED TO SEGREGATE AND REMOVE UNWANTED TRASH AND DEBRIS. (E.G., ROCKS)

6. WASTE MATE
MATERIAL WILL
7. ADMIXTURES
8. WINDROWS W
9. MATERIAL WIL
10. MATERIAL W
CONCENTRATIO

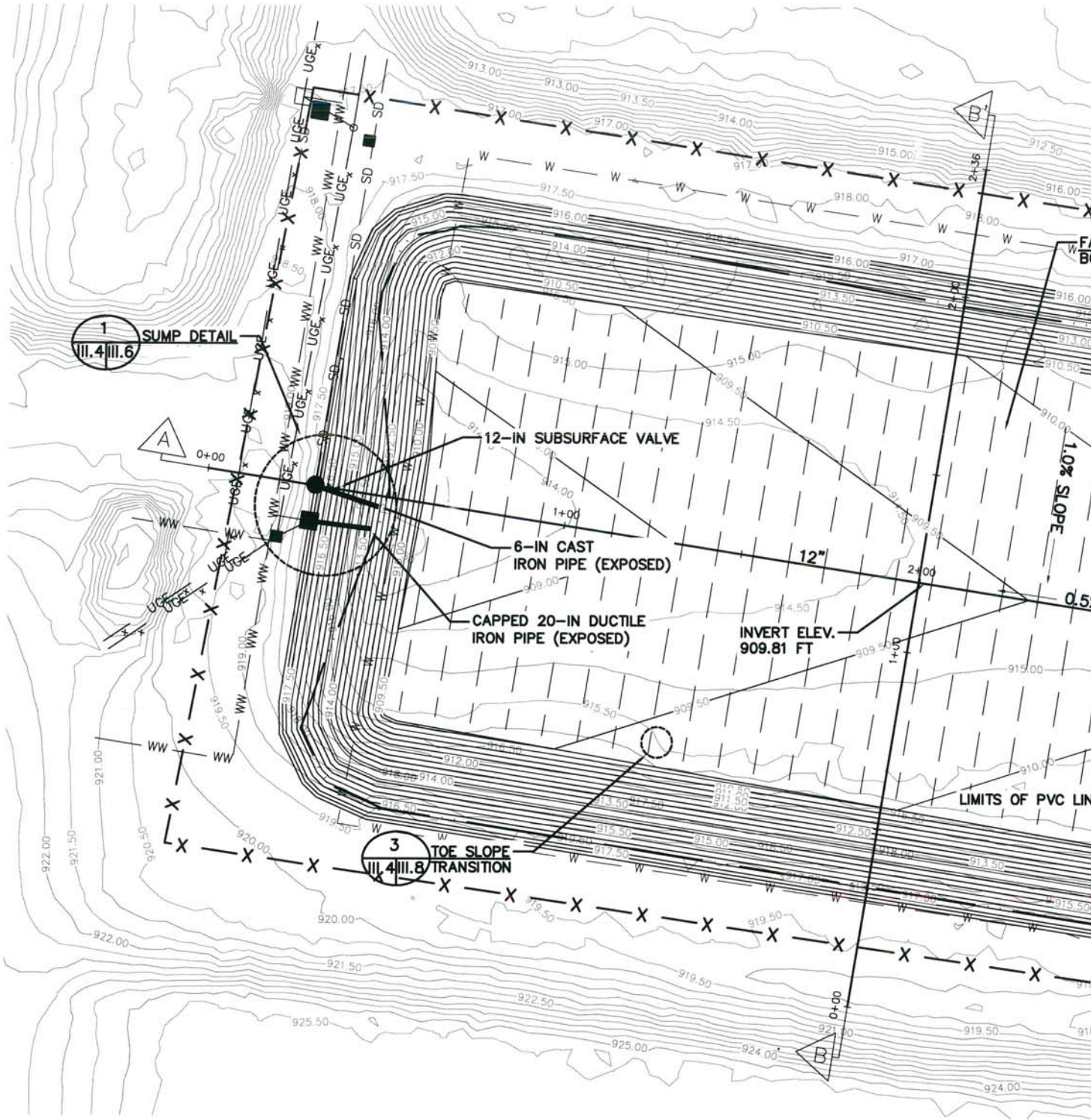


LEGEND

—X—X— EXISTING FENCE LINE/REGISTRATION BOUNDARY

NOTES:

1. WASTE MATERIAL WILL BE CHECKED BY
UNLOADING. UNLOADING LOCATION WILL OC
2. IF NECESSARY, VEHICLES WILL WAIT AT
ENTER THE FACILITY. ONLY ONE VEHICLE W
3. INGRESS AND EGRESS PATTERNS WILL V
STAGING AREA AND FACILITY PERSONNEL



NOTES:

1. SURFACE CONTOUR DATA BASED ON A MARCH 9, 2011 LIDAR AERIAL SURVEY PROVIDED BY THE FORT HOOD DIRECTORATE OF PUBLIC WORKS.

2. CONTOUR INFORMATION BASED ON AS-BUILT DRAWINGS TITLED "TACTICAL VEHICLE WASH FACILITY" DATED AUGUST 1984 AND CONSTRUCTED CONSTRUCTION DRAWINGS PACKAGE TITLED "BIOREMEDIATION & GRIT SEPARATION FACILITY" DATED JULY 1997.

3. THE BOUNDARY SHOWN IS THE ESTIMATED LATERAL EXTENT OF THE 30-MIL PVC LINER AFTER THE INSTALLATION OF CONCRETE PLACED IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS PACKAGE TITLED "BIOREMEDIATION & GRIT SEPARATION FACILITY."

4. THE LOCATION OF ALL UTILITIES, PIPES, AND MANHOLES SHOWN ARE APPROXIMATE. INFORMATION BASED ON AS-BUILT DRAWINGS TITLED "TACTICAL VEHICLE WASH FACILITY" DATED AUG. 1984 AND A CONSTRUCTION DRAWINGS PACKAGE TITLED "BIOREMEDIATION AND GRIT SEPARATION FACILITY" DATED JULY 1997 WITH SUPPLEMENTAL COORDINATION WITH AMERICAN WATER MILITARY SERVICES GROUP.
AN ADDITIONAL AUG. 2013 FIELD RECONNAISSANCE WAS CONDUCTED BY FORT HOOD DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL DIVISION.

LEGEND

- BUTTERFLY VALVE PIT
- MANHOLE (ELECTRICAL)
- MANHOLE (STORM WATER)

NOTES:

1. THE LOCATION OF ALL UTILITIES, PIPES, AND MANHOLES SHOWN ARE APPROXIMATE. INFORMATION BASED ON AS-BUILT DRAWINGS TITLED "TACTICAL VEHICLE WASH FACILITY" DATED AUG. 1984 AND A CONSTRUCTION DRAWINGS PACKAGE TITLED "BIOREMEDIATION AND GRIT SEPARATION FACILITY" DATED JULY 1997 WITH SUPPLEMENTED COORDINATION WITH AMERICAN WATER MILITARY SERVICES GROUP. AN ADDITIONAL AUG. 2013 FIELD RECONNAISSANCE WAS CONDUCTED BY FORT HOOD DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL DIVISION TO CONFIRM UTILITY LOCATION.

2. DEPTH OF UTILITY IS AN ESTIMATE. NO RECORDS WERE AVAILABLE TO IDENTIFY THE DEPTH.

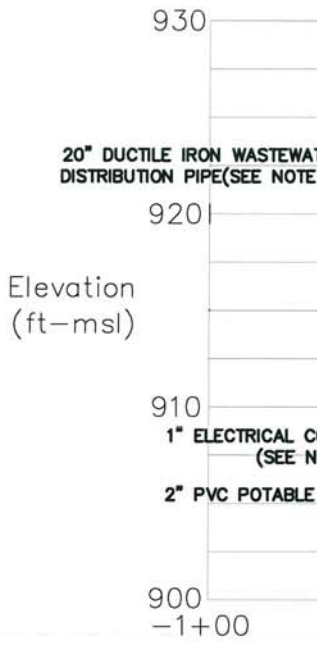
3. THE CAPPED 20-IN DUCTILE IRON PIPE THAT IS ADJACENT TO THE 6-IN CAST IRON PIPE IS NOT SHOWN FOR CLARITY PURPOSES.

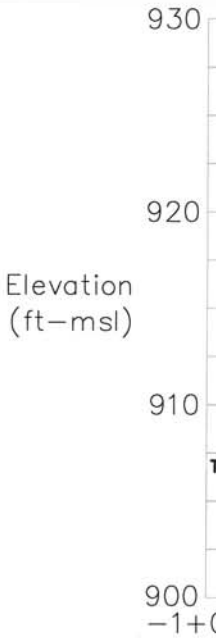
4. ACCESS POINT TO THE 12-IN PVC UNDERDRAIN COLLECTION PIPE CLEANOUT WAS IMPACTED BY THE PLACEMENT OF CONCRETE. ACCESS TO THE CLEANOUT NO LONGER EXISTS.

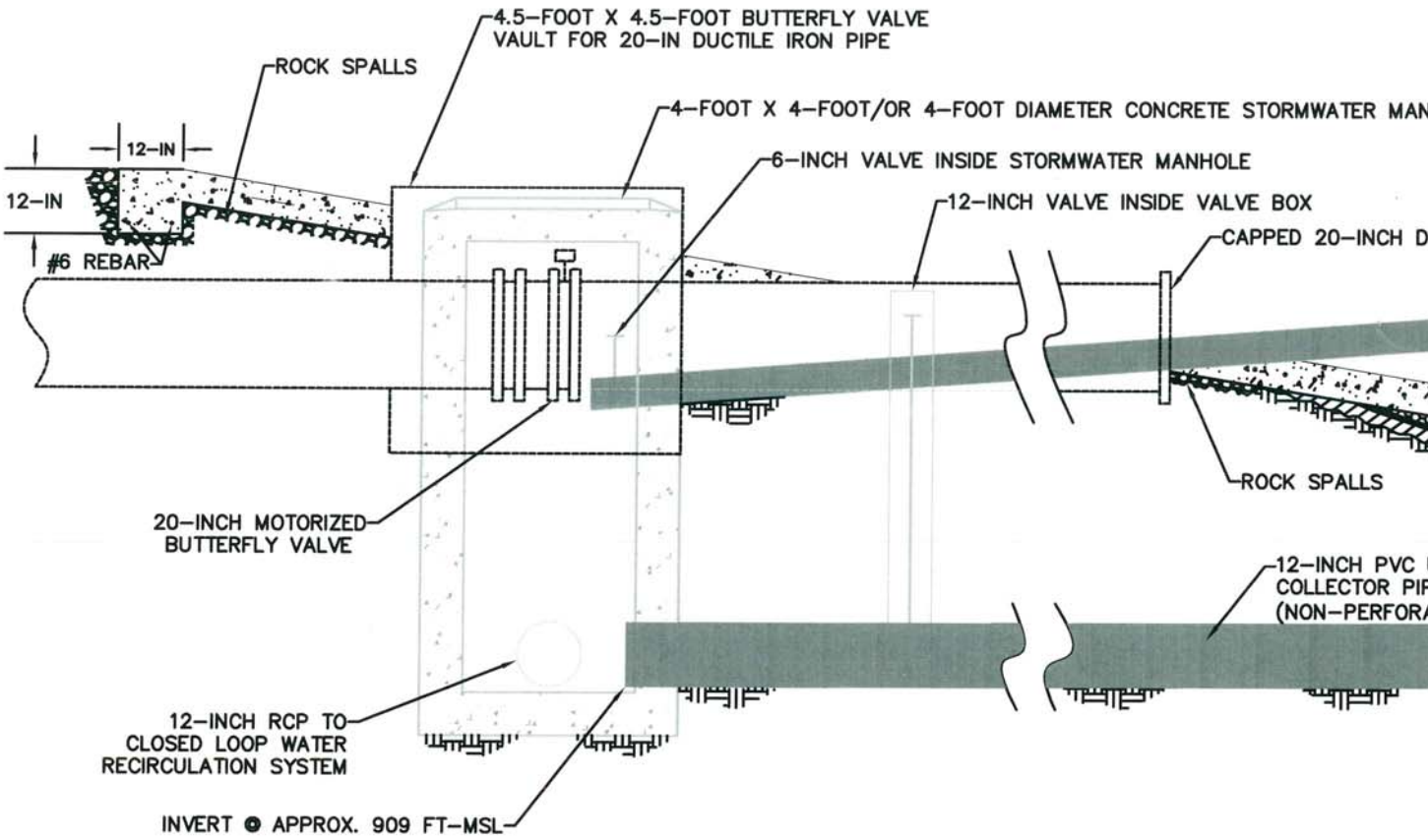
5. THE 12-IN PVC HEADER UNDERDRAIN COLLECTION PIPE IS NON-PERFORATED AND INSTALLED AT A 0.5% GRADE. 4-IN PVC LATERAL PERFORATED COLLECTOR PIPES ARE INSTALLED AT A 1.0% GRADE AND CONNECT TO THE HEADER COLLECTOR PIPE. 4-IN PVC LATERAL IS NOT SHOWN.

6. VALVE TO 6-IN CAST IRON PIPE IS INSIDE THE STORM SEWER MANHOLE.

7. WATER SURFACE ELEVATION SHOWN IS BASED ON A 25-YEAR, 24 HOUR STORM EVENT. WATER SURFACE ELEVATION SHOWN IS CONSERVATIVE SINCE IT DOES NOT ACCOUNT FOR THE 6" CAST IRON PIPE. THE 6" CAST IRON PIPE IS DESIGNED AND IN-PLACE TO REDUCE THE WATER SURFACE ELEVATION WITHIN THE CONCRETE LINED SURFACE.





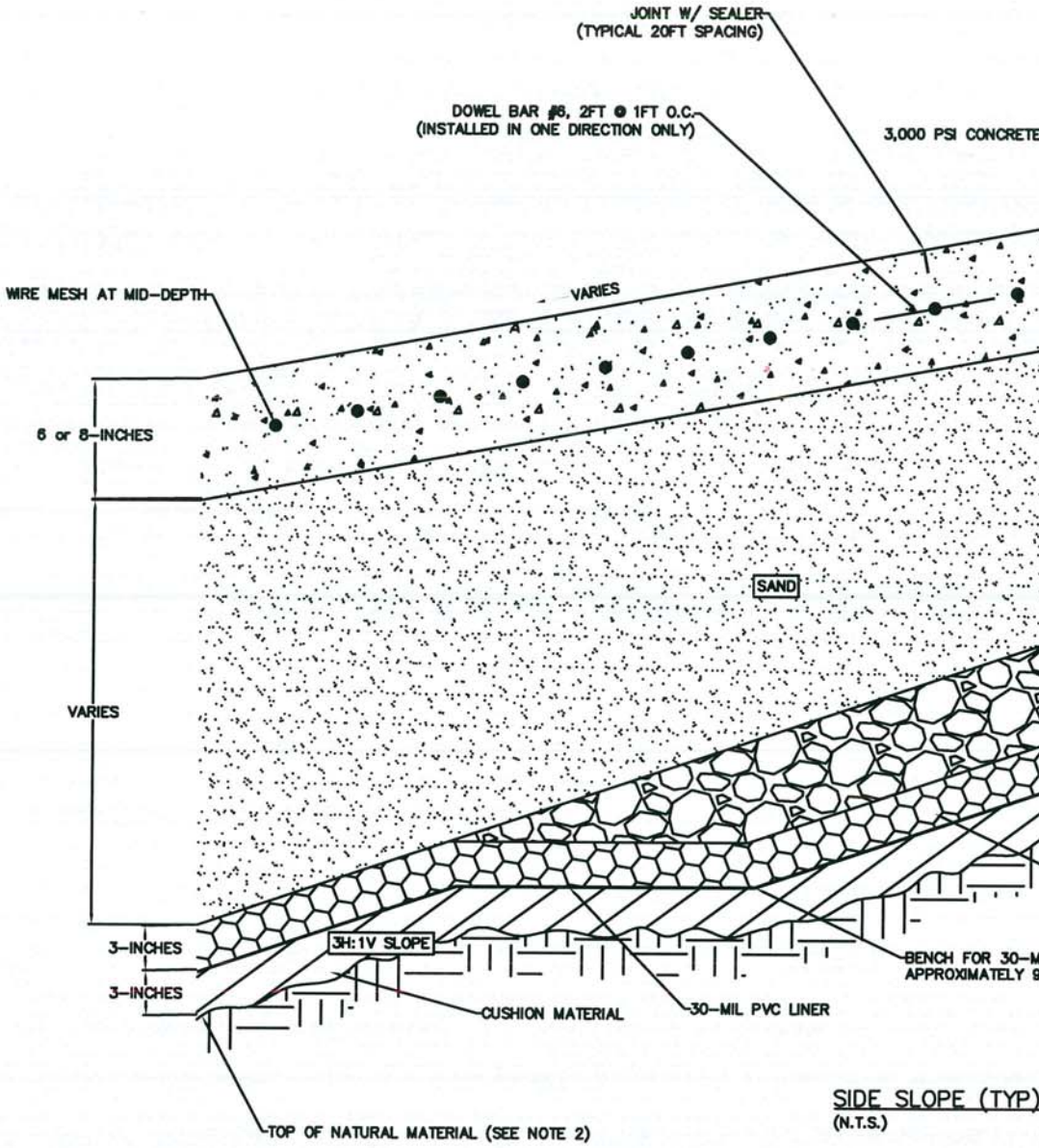


SUMP DETAIL
(N.T.S.)

GENERAL NOTES:

1. DETAILS ARE BASED ON A SET OF AS–BUILT DRAWINGS TITLED "TACTICAL VEHICLE WASH FACILITY", DATED AUGUST 1984 AND SHEETS 9 AND 10 OF A CONSTRUCTION DRAWING PACKAGE TITLED "BIOREMEDIATION AND GRIT SEPARATION FACILITY" DATED JULY 1997.

2. EXISTING SURFACE PRIOR TO SITE DEVELOPMENT.



SIDE SLOPE (TYP)
(N.T.S.)

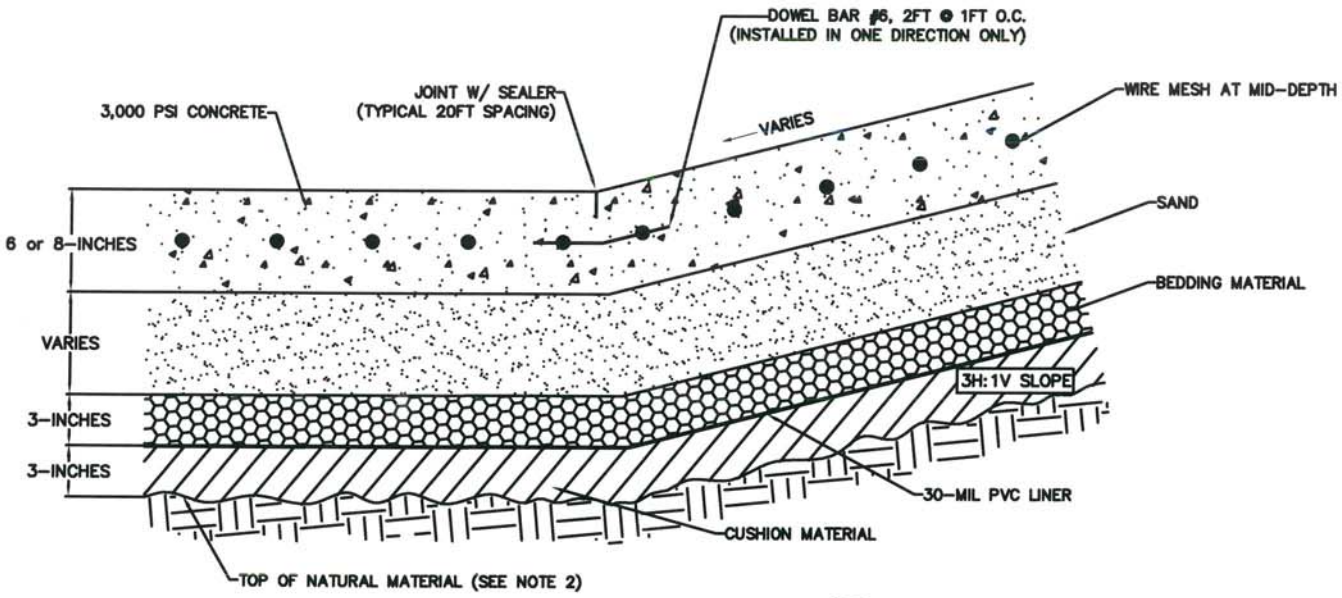
GENERAL NOTES:

1. DETAILS ARE BASED ON A SET OF AS-BUILT DRAWINGS TITLED "TACTICAL VEHICLE WASH FACILITY", DATED AUGUST 1984 AND SHEETS 9 AND 10 OF A CONSTRUCTION DRAWING PACKAGE TITLED "BIOREMEDIATION AND GRIT SEPARATION FACILITY" DATED JULY 1997.

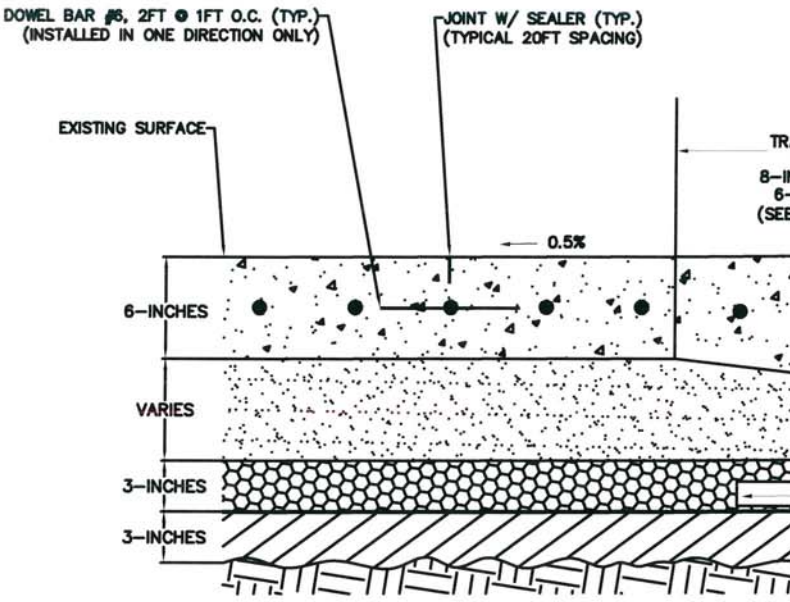
2. EXISTING SURFACE PRIOR TO SITE DEVELOPMENT.

3. ELEVATION DIFFERENCE VARIES. THE CONCRETE SURFACE ALONG THE EASTERN AND SOUTHERN BANKS OF THE FORT HOOD BIOTREATMENT FACILITY DO NOT INTERSECT THE 30-MIL PVC LINER. THE CONCRETE SURFACE ALONG THE NORTHERN AND WESTERN BANKS DO INTERSECT THE 30-MIL PVC LINER AT VARIOUS ELEVATIONS.

4. THE EXISTENCE OF THIS LAYER IS DEPENDENT ON THE ELEVATION DIFFERENCE DESCRIBED IN NOTE 3.



TOE-SLOPE TRANSITION (3 | III.4 | III.8)
(N.T.S.)



FACILITY SURFACE
(N.

GENERAL NOTES:

1. DETAILS ARE BASED ON A SET OF AS-BUILT DRAWINGS TITLED "TACTICAL VEHICLE WASH FACILITY", DATED AUGUST 1984 AND SHEETS 9 AND 10 OF A CONSTRUCTION DRAWING PACKAGE TITLED "BIOREMEDIATION AND GRIT SEPARATION FACILITY" DATED JULY 1997.

2. EXISTING SURFACE PRIOR TO SITE DEVELOPMENT.

3. 8-IN TO 6-IN CONCRETE THICKNESS TRANSITION OCCURS APPROXIMATELY 60-FEET FROM THE EASTERN PERIMETER CONCRETE KEY. SEE FIGURES III.4 AND III.7 FOR MORE INFORMATION.

Attachment A

0.5-acre Tier I Residential Soil Levels

0.5-Acre Tier 1 Residential Soil PCLs[1,2]

Chemical of Concern		$^{Tot}Soil_{Comb}$ (mg/kg)
Metals	Lead	500
Total Petroleum Hydrocarbons	TPH, TX1005, C6-C12	1,600
	TPH, TX1005, >C12-C28	2,300
	TPH, TX1005, >C12-C35	2,300
	TPH, TX1005, >C28-C35	2,300
Aromatic Hydrocarbon	Benzene	120

[1]Values based on the June 29, 2012 Tier 1 Residential Soil PCLs. Values are subject to change.

[2]Parameter required per 30 TAC §330.203(c)(2).

Attachment B

Hydrologic Analysis

PURPOSE AND SCOPE

This facility surface water drainage report was prepared to demonstrate compliance with 30 Texas Administrative Code (TAC) §330.63(c) and 30 TAC §330.303.

PROPERTY DESCRIPTION

The Fort Hood Biotreatment Facility currently consist of a concrete impervious surface that drains to a sump located along the western perimeter of the facility. In the late 1990's, a 6-inch to 8-inch thick 3,000 psi concrete slab was placed above an existing water filtration pond to facilitate the development of a biotreatment facility. The water filtration pond was originally constructed in the mid-1980's as part of a closed loop water recirculation system designed capture and treat waste water from vehicle washing that is currently ongoing north of the Fort Hood Biotreatment Facility. Below the existing concrete surface is ballast material consisting of sand and/or rock of various thickness, 3-inches of bedding material, a 30-mil PVC liner, and a 3-inch thick layer of cushion material.

SUMMARY

The Fort Hood Biotreatment Facility is constructed and will be maintained and operated to manage run-on and runoff during the peak discharge of a 25-year, 24-hour storm event. The Fort Hood Biotreatment Facility designed to prevent the off-site discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials by utilizing the following features:

- Approximately 170,000 cubic feet of available storage capacity.
- A 6-in cast iron pipe position approximately 1 foot above the lowest elevation of the concrete surface (i.e., sump area).
- The 6-in cast iron pipe discharges to a closed loop water recirculation system that is used to treat wash water that originates from an adjacent vehicle wash facility.

Discharges associated with the treatment process of the Fort Hood Biotreament Facility do not discharge to the waters of the state. All drainage affected by the waste processing at the facility is self contained. A 6-inch cast iron pipe with an invert elevation of 914.50 ft-msl drains the collected surface water to a closed loop water recirculation system, as described in Section 2.3 of Part III. See Figure IIIB.1, Drainage Area A for more information.

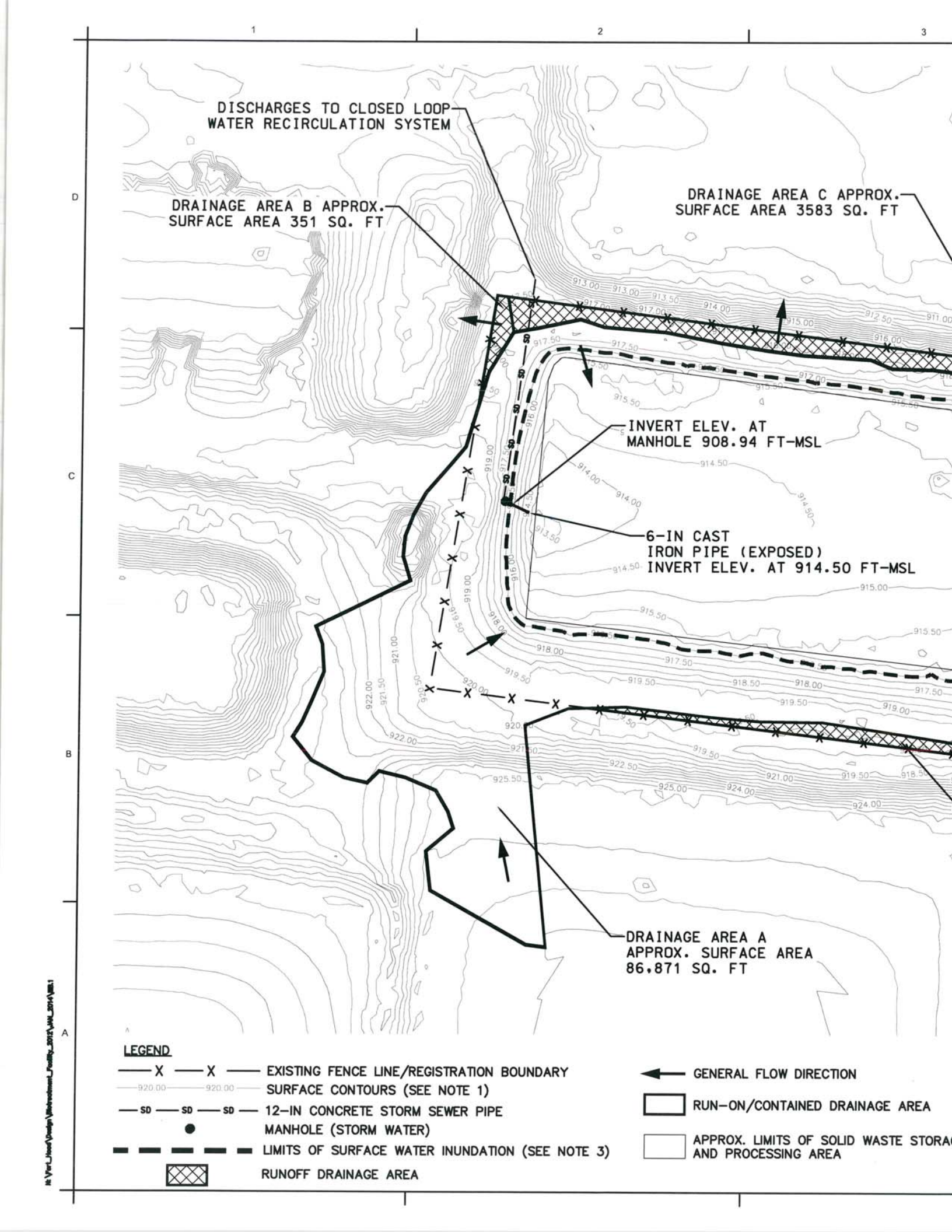
Four other separate drainage areas within the registration boundary produce run-off at the facility. These four drainage areas are not impacted by the waste processing conducted at the facility. See Figure IIIB.1, Drainage Areas B, C, D, and E for more information.

Jimmy D. Baggett
2/18/2014
CORPS OF ENGINEERS

Drainage calculations were made for the existing drainage conditions. No changes are proposed under this registration application from what currently exists on site. The existing conditions on-site do not have any adverse impacts on surface water drainage. The following calculations provides the estimated water volume produced by a 25-year, 24-hour storm event, and the approximate extent of inundation. See Figure IIIB.1 for more information.

Total Drainage Area (Area A): 86,871 square feet
25-year, 24-hour Storm Event: 8 in (0.667 feet) of precipitation
Total Volume of Water: 57,941 cubic feet

Approximate Volume of Inundation at a Surface Elevation of 916.50 ft-msl: 61,000 cubic feet


DISCHARGES TO CLOSED LOOP WATER RECIRCULATION SYSTEM
DRAINAGE AREA B APPROX. SURFACE AREA 351 SQ. FT
DRAINAGE AREA C APPROX. SURFACE AREA 3583 SQ. FT
INVERT ELEV. AT MANHOLE 908.94 FT-MSL
6-IN CAST IRON PIPE (EXPOSED) INVERT ELEV. AT 914.50 FT-MSL
DRAINAGE AREA A APPROX. SURFACE AREA 86,871 SQ. FT
LEGEND
EXISTING FENCE LINE/REGISTRATION BOUNDARY
SURFACE CONTOURS (SEE NOTE 1)
12-IN CONCRETE STORM SEWER PIPE
MANHOLE (STORM WATER)
LIMITS OF SURFACE WATER INUNDATION (SEE NOTE 3)
RUNOFF DRAINAGE AREA
GENERAL FLOW DIRECTION
RUN-ON/CONTAINED DRAINAGE AREA
APPROX. LIMITS OF SOLID WASTE STORAG AND PROCESSING AREA

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL DIVISION

FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

TYPE V MSW
REGISTRATION APPLICATION

PART IV

Submitted by:

UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544

Prepared by:

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT

February 2014

Jimmy D. Baggett
2/18/2014
CORPS OF
ENGINEERS

Fort Hood Biotreatment Facility
Part IV
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James D. Doggett
2/18/2014
CORPS OF ENGINEERS

1.0 SITE OPERATING PLAN

30 TAC §330.65(a)

The Site Operating Plan (SOP) contains information about how III Corps and Fort Hood Directorate of Public Works – Environmental Division (FHDPW-ED) will conduct operations at the Fort Hood Biotreatment Facility. The SOP represents the general instruction manual for facility management and personnel to operate the facility in a manner consistent with the approved design and the commission's rules to protect human health and the environment and prevent nuisances. The SOP will be maintained onsite throughout the life of the facility.

This SOP consists of the information required by Title 30, Texas Administrative Code (TAC), Chapter 330, Subchapter E: Operational Standards for Municipal Solid Waste Storage and Processing Units, 30 TAC §330.201 - §330.249. This SOP (sometimes called Part IV) includes provisions for facility management and operating personnel to meet the general and site-specific requirements of these rules.

2.0 FACILITY PERSONNEL

A Site Supervisor will maintain and operate the Fort Hood Biotreatment Facility. However, FHDPW-ED will have alternate personnel who can perform one or more of the duties identified below in a case where the Site Supervisor is not available. The following are the qualifications/duties of the Site Supervisor.

- Have either a Class A or Class B level license in accordance with 30 TAC §30.213(a), and have the required experience in the type of operations occurring at the facility to include facility management and operational protocols.
- Create and document turn-in appointments for units/activities that plan to send allowable waste streams.
- Visually observe incoming waste loads to detect any unacceptable waste streams before it is unloaded.
- Direct vehicles to the appropriate unloading locations and provide assistance with unloading on an as needed basis.
- Review the incoming Department of Army (DA) Form 3161 or similar. The DA Form 3161 serves as a Department of Army internal manifesting document to track transfer of ownership of materials and equipment. A blank DA Form 3161 is included in Attachment A.
- Input received waste information into the computer database to track its status during the entire waste processing duration.
- Ensure stockpile of admixtures (i.e., vegetative debris, manure, etc.) are in necessary quantities for processing.
- Determine the required waste, admixture, and moisture ratios for waste processing.
- Calibrate all monitoring and testing equipment in accordance with the manufacturer's recommendations.
- Sample and characterize Spill Cleanup material in accordance with Section 6.3.1.
- Place waste materials in the Windrow Area with the required admixture/waste ratios utilizing the necessary equipment.
- Monitor windrows for moisture and temperature levels in accordance with Section 6.3.2.

- Add water as necessary to maintain optimum moisture content of the windrow in accordance with Section 6.3.2.1.
- Mix windrows as necessary to promote even decomposition in accordance with Section 6.3.2.2 until desired levels are obtained.
- Maintain records of all measurements, samples, admixtures, and waste material received and tested.
- Collect and analyze samples in accordance with Section 6.3.3 once the windrow has obtained the proper TPH and benzene levels, based on experience and visual observation.
- Haul material off-site by loading windrow/roll-off with the material after the waste stream has reached the required PCL levels. See Section 6.0 for more information.
- Record all required information to document windrow has met required levels. Maintain records in accordance with Section 11.0.
- Operate all on-site equipment.
- Serve as the facility's Emergency Coordinator.
- Open and lock facility gates in accordance with posted operating hours.
- Observe FHDPW-ED safety operating procedures.

3.0 PERSONNEL TRAINING

Personnel training records will be maintained in accordance with 30 TAC §330.219(b)(2). Personnel operator licenses issued in accordance with 30 TAC Chapter 30, Subchapter F, Municipal Solid Waste Facility Supervisors, will be maintained as required.

3.1 Training Requirements

FHPDW-ED will ensure that the Site Supervisor is knowledgeable in the proper operation of a municipal solid waste facility and the current operational standards required by the TCEQ. The Site Supervisor will be experienced and will maintain either a Class A or Class B license as defined in 30 TAC §30.213(a). The required license may also be held by the Supervisor's designee. The Site Supervisor will ensure that all personnel are properly trained and are operating the facility in accordance with this SOP and operational standards required by the registration and the TCEQ municipal solid waste regulations.

The Site Supervisor will be responsible for executing the safety program requirements of the facility. The Site Supervisor's responsibility includes providing training of any alternate personnel that may temporarily support the facility and documenting and maintaining training records. Site specific training will be provided to all personnel by the Site Supervisor or his designee. The training will address activities, procedures, monitoring and equipment associated with the activities at this facility. All personnel involved at the facility will be given a tour of the entire facility to familiarize themselves with the location of fire extinguishers, telephones, emergency telephone number, and the location of safety equipment and any Safety Data Sheets (SDS).

4.0 EQUIPMENT

Table 4-1 summarizes the equipment used at the facility. The equipment type, size, and function are also included. Equipment requirements for MSW acceptance and site support will vary in accordance with the method and scope of activities on site at any given time. Additional, or different units of equipment, may be provided as necessary to enhance operational efficiency. Sizes will vary with types and amounts of waste and work conducted on-site.

Table 4-1
Facility Equipment List

Equipment Type	Typical Specifications	Function
Medium Wheel Front End Loader	2 cubic yards	Move material around the facility and from windrows.
Bobcat Skid Steer Bucket Loader	1/3 cubic yards	Spread and move material around the facility.
Tractors with various attachments (2 currently on site)	--	Clean, rake, disc, spread, and move material as needed utilizing different attachments.
Trommel 406 Material Screener	1-5 cubic yard Hopper 18 – 35 hp engine	Screen and remove trash and debris
Vermeer CT 670 Towable Windrow Turner	2,000 cubic yard hour 48 hp engine	Mixing of windrows
Scarab 16HYD-335-RT Windrow Turner	16-foot wide tunnel 335 hp engine	Mixing of windrow

Equipment may change, as necessary, to adequately maintain the facility and meet the operational standards required by the regulation in accordance with federal, state, and local agencies. Equipment and vehicles may be owned, rented, leased or loaned. In addition to the equipment listed in Table 4-1, a variety of other operations, service and support vehicles and equipment may be used at the facility to conduct the day-to-day operations. These may include miscellaneous pickups, vans, and other light utility vehicles, as well as, various pumps and instruments. Safety and training equipment will be available at the facility as necessary to support the various operations.

5.0 FACILITY INSPECTIONS AND MAINTENANCE

Table 5-1 outlines the facility inspection and maintenance list. The Site Supervisor will perform the tasks as well as retain inspection documentation in the operating record. All scheduled vehicle maintenance activities (including but not limited to oil and other fluid changes) will be done off-site at an authorized facility. Maintenance reports, inspection logs, and corrective action reports will be placed in the site's operating record. Sanitation and litter control procedures will be followed on a daily basis. All working surfaces that come in contact with waste will be washed at the completion of processing period, in accordance with Section 22.0.

Table 5-1
Facility Inspection and Maintenance List

Item	Task	Frequency
Fence/Gates	Inspect perimeter fence and gates for damage. Make repairs if necessary.	Monthly
Litter and Windblown Waste	Police working area, access roads, entrance areas, and perimeter fence for loose trash. Clean up as necessary.	Roads minimum once a day as part of the scheduled daily routine on days the site is in operation
Waste Spilled on Route to the Facility	FHDPW-ED will ensure all waste material and associated tracking is controlled in accordance with Section 19.0 and 20.0	Daily on days the facility receives wastes
Facility Access Roads	Inspect facility access road for damage from vehicle traffic. Maintain as needed.	Daily
Facility Signs	Inspect all facility signs for damage, general location, and accuracy of posted information.	Weekly
Good Housekeeping Measures	Ensure all equipment and accessories are stored in an orderly fashion.	Daily
Odor	Inspect the perimeter of the facility to assess the performance of facility operations to control odor.	Daily

6.0 WASTE ACCEPTANCE AND ANALYSIS

30 TAC §330.203

6.1 Sources and Characteristics of Waste

Waste delivered to the Fort Hood Biotreatment Facility will be exclusively from Coryell and Bell counties within the Fort Hood military installation.

Wastes that will be processed at the Fort Hood Biotreatment Facility will include:

- Soil contaminated from POL spills that occurred during military training and other installation activities;
- Non-crystalline absorbents or sorbents used to clean-up POL spills;
- Contaminated soils from petroleum storage tank (PST) or leaking petroleum storage tank (LPST) sites;
- Dried grit-chamber sediment;
- Dried oil-water separator sediment; and
- Dried sediment from stormwater structures (if impacted by POL).

Various military organizations will be generating the waste stream that will be processed by the Fort Hood Biotreatment Facility. Among these, some major contributions will be the oil-water separators that are located at maintenance facilities which are scattered throughout the installation. Additionally, sediments from the grit-chambers of five vehicle wash facilities will also be the source of waste stream that will be processed by the Fort Hood Biotreatment Facility. Three of these vehicle wash facilities are located within the main cantonment of Fort Hood, while a separate vehicle wash facility is located at both North Fort Hood and West Fort Hood. Dried grit-chamber sediments that have no exceedances of the Tier 1 Residential Soil levels for TPH, benzene, or lead, will by-pass the Fort Hood Biotreatment Facility. Figure I.4 shows these three areas of Fort Hood. Soil contaminated from military training will occur during various military activities which will tend to occur in the training areas of Fort Hood, which are located north of the main cantonment. PST and LPST contaminated soil will originate from tank locations that are stationed throughout the installation. Sediment accumulation from storm water collection controls will originate from locations that are scattered throughout Fort Hood as well.

Waste material will consist of municipal solid waste as defined in 30 TAC §330.3(88). Material that will be reused will have analytical results that are below the 0.5-acre Tier I Residential Soil levels. The processed waste will meet the definition of recyclable material found at 30 TAC §330.3(122) and will not be considered solid waste.

FHDPW-ED will process at least 10% of the waste material that is received at the Fort Hood Biotreatment Facility on annual basis. FHDPW-ED intends to process 100% of the received waste material. The processed material will be placed at areas outside the west, north, and main cantonments of Fort Hood (but not in areas impacting endangered species) for reuse.

6.2 Quantity and Processing of Waste

The amount of material that will be received at the facility will be a maximum of 2,500 cubic yards per year of POL contaminated waste material. On a per daily basis, the facility will receive approximately 7 cubic yards per day. However, these quantities are only estimates, and the facility does not accept incoming waste on a set schedule. The Fort Hood Biotreatment Facility will accept the maximum quantity previously specified but will accommodate the incoming waste stream on an as needed bases as long as adequate space is available at the Fort Hood Biotreatment Facility. At full capacity, the facility will have an estimated total of 700 and 250 cubic yards of waste material at the Windrow Area and Staging Area, respectively, at any given time. The average length of time waste material will be at the facility is 8 months. However, the waste material can remain at the facility up to 12 months (7 months at the Staging Area and 5 months at the Windrow Area). Average waste processing times (i.e., after admixture addition) are approximately 4 months, with a maximum of about 5 months. When grit-chamber sediments are being processed, this waste stream will not remain at the Staging Area for more than 72 hours, in accordance with 30 TAC §330.241(a)(1).

6.3 Sampling, Analysis, and Monitoring

All sampling collection and analysis performed as part of this registration will be conducted in accordance 30 TAC §330 Subchapter F, Analytical Quality Assurance and Quality Control. The facility will retain records of each analysis for a minimum of 3 years.

6.3.1 Initial Sampling and Analysis

For all waste material except Spill Cleanup material, initial measurements of the waste material will take place either shortly after windrow placement or at the Staging Area after mixing to promote volatilization has occurred. The intent of this sampling and analysis is to establish pre-processing conditions. Six grab samples will produce one composite sample that will be analyzed for an estimated volume of waste between approximately 75 and 100 cubic yards. The composite sample will be analyzed for the following.

- TPH (TCEQ Method 1005)
- Benzene (EPA Method SW 846/8021B)

For Spill Cleanup waste material, characterization samples of the material will take place at the Staging Area after mixing to promote volatilization has occurred. The intent of this sampling and analysis is to determine whether the Spill Cleanup waste material can be processed at the Fort Hood Biotreatment Facility and to establish pre-processing conditions. Fort Hood Biotreatment Facility does not have the ability to reduce lead contamination concentrations. Therefore, for any Tier I Residential Soil Levels lead exceedances, samples will be analyzed in accordance with EPA Method 1311 to facilitate the disposal of the material at an approved off-site facility. Six grab samples will produce one composite sample that will be analyzed for the following.

- TPH (TCEQ Method 1005)
- RCRA Total Metals for Lead (EPA Method 6010B)
- Benzene (EPA Method SW 846/8021B)

Composite samples will consist of grab samples taken from the interior core of the stockpile, at an equally spaced distance along the base of the stockpile, and at an accessible height off the ground.

6.3.2 Waste Processing Monitoring

When waste material is in the Windrow Area and undergoing biotreatment (i.e., after admixture addition), no sampling and analysis will be required. However, temperature and moisture content will be monitored to ensure ideal conditions are in-place for biotreatment to occur.

6.3.2.1 Moisture Monitoring

Using a calibrated moisture probe, the moisture content will be monitored in ten locations, with five sample locations on each side of the windrow. The probe will be inserted to a depth of 24 to 36-inches into the core of the windrow. Each moisture reading will be recorded, in which the average of all ten readings will serve as the overall moisture content of the windrow. If the moisture content is below 40%, additional water will be added to restore moisture conditions to approximately 60%. Dates when water was added to the windrow will be recorded.

6.3.2.2 Temperature Monitoring

Using a calibrated temperature probe, the temperature will be monitored in ten locations, with five sample locations on each side of the windrow. The probe will be inserted to a depth of 24 to 36-inches into the core of the windrow. Each temperature reading will be recorded, in which the average of all ten readings will serve as the overall temperature of the windrow. If the overall temperature is below the optimal range of 110°F to 140°F, admixture and/or moisture addition is required to increase the microbial populations. If temperatures rise above 140°F, the windrow requires mixing to lower the temperature. Any modifications to the windrow will be recorded with a description of the changes made and the date it was done.

6.3.3 Post-Processing Sampling and Analysis

At the completion of Phase III Batch Curing and Maturation, as described in Section 2.2 of Part III, a sampling of the processed material will be taken. The intent of this sampling and analysis is to determine whether the TPH and Benzene levels in the

processed waste have been reduced below the 0.5-acre Tier I Residential Soil levels. Six grab samples will produce one composite sample that will be analyzed for the following.

- TPH (TCEQ Method 1005)
- Benzene ((EPA Method SW 846/8021B)

Each grab sample will be taken from within the core of windrow and equally spaced along the entire length of the windrow.

6.3.4 Effluent Sampling and Analysis

All surface water will either be allowed to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state. Before discharging to the closed loop water system, FHDPW-ED will annually sample and analyze the collected surface water for TPH, fats, oils, and grease, and pH. Other discharges from the facility (i.e., not from the waste processing area) will be sampled in accordance with the TPDES TXR050000 Multi-Sector General Permit.

7.0 FACILITY-GENERATED WASTES

30 TAC §330.205

Wastes generated at the facility will be limited to (1) liquid waste resulting from stormwater and washing of the facility and operating equipment; and/or (2) material that exceeds the Tier 1 Residential Soil Levels as outline in Section 2.2 of Part III. For liquid wastes that will be removed prior to evaporation taking place, wastewater will be discharged to an off-site closed-loop water recirculation system located north of the facility. The Fort Hood Biotreatment Facility will be required to obtain a discharge permit under the Texas Pollutant Discharge Elimination System (TPDES). The Fort Hood Biotreatment Facility will either allow collected surface water to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system does not discharge to the waters of the state. Wastes that cannot be processed will be hauled off-site to an appropriate solid waste facility. It is anticipated all non-liquid solid waste generated by the facility will be redirected to the Fort Hood Landfill (MSW Permit No. 1866). The Fort Hood Landfill can accept MSW and special waste (e.g., POL contaminated soils with less than 1500 ppm TPH) The operation of the Fort Hood Biotreatment Facility will not produce sludges, as defined in 30 TAC §330.3(143).

8.0 CONTAMINATED WATER MANAGEMENT

30 TAC §330.207; §330.331(b); §332.47(c)(i)

All liquids resulting from the operation of the Fort Hood Biotreatment Facility will be disposed of in a manner that will not cause surface or groundwater pollution. Contaminated water and leachate will be collected within the concrete surface of Fort Hood Biotreatment Facility.

The concrete surface serves as a collection unit, which provides a minimum of 1-foot of freeboard for the 25-year, 24-hour storm event, as shown in Figure IIIB.1 of Attachment B in Part III. The concrete floor of the facility is constructed of 6 to 8-inch 3,000 psi concrete. Below the concrete is a layer of sand of various thickness , 3-inches of bedding material, a 30-mil PVC liner, and a 3-inch thick layer of cushion material. A layer of rock spalls of various thickness exist on the side slopes of the concrete surface Details of the concrete and subsurface system are shown on Figures III.6 through III.8 of Part III.

30 TAC §330.207(b) states that collection units must have a synthetic liner and the liner must be constructed in accordance with 30 TAC §330.331(b). 30 TAC §330.331(b) states a composite liner must consist of two components; the upper component must consist of a minimum 30-mil geomembrane liner and the lower component must consist of at least a two-foot layer of recompacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/s. However, prior to registration application submission, FHDPW-ED, the United States Army Corps of Engineers-Ft. Worth District (USACE), and the Texas Commission on Environmental Quality (TCEQ) participated in a teleconference on May 6, 2013 to discuss the unique circumstance associated with the Fort Hood Biotreatment Facility. Given the unusual site conditions, the TCEQ stated 30 TAC §332.47(c)(i) would supplant 30 TAC §330.207(b) and 30 TAC §331(b). The existing site conditions of the Fort Hood Biotreatment Facility already meet the requirements 30 TAC §332.47(c)(i)(III), which is an alternative design that utilizes and impermeable liner (i.e., concrete).

The Fort Hood Biotreatment Facility will not be performing any mining. Additionally, contaminated water will not discharge to a septic system.

9.0 STORAGE REQUIREMENTS

30 TAC §330.209

All solid waste will be stored in such a manner that it does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors, and will be contained or bundled so as not to result in litter.

An on-site storage area (i.e., concrete bins) for source-separated admixtures will be provided that is separate from the Staging or Windrow Areas. Control of odors, vectors, and windblown waste from the storage area will be maintained.

10.0 APPROVED CONTAINERS

30 TAC §330.211

Food wastes are not part of the incoming waste stream of the Fort Hood Biotreatment Facility. However, food wastes may be generated by facility personnel. All solid food wastes will be stored in covered or closed containers that are leak proof, durable, and designed for safe handling and easy cleaning. Reusable containers will be maintained in a clean condition so that they do not constitute a nuisance and to retard the harborage, feeding, and propagation of vectors. Non-reusable containers will not be used. Containers that are emptied manually will be capable of being serviced without the collector coming into physical contact with the waste. Containers that are mechanically emptied will be designed to prevent spillage or leakage during storage handling, and transport.

11.0 RECORDKEEPING AND REPORTING REQUIREMENTS

30 TAC §330.219

A copy of the registration, the approved registration application and all other related or required plans or documents will be maintained at the facility during the active life of the site and shall be considered a part of the operating record of this facility. Additionally, a set of as-built construction plans for the facility will be maintained at the facility. Information and data shall be recorded, as appropriate, in the operating record to be retained at the site during the active life of the site. Upon request by the TCEQ, all such documents will be made available for inspection.

The items listed on Table 11-1 will be maintained and filed. This information will be placed in the operating record within seven working days of completion or upon receipt of analytical data, as appropriate.

Table 11-1
Operating Record

Records To Be Maintained	Rule Citation
1. Logs a. Access Control Inspection Maintenance Log b. Incoming Waste Inspection Log c. Dust Nuisance Control Log d. Fire Extinguisher Maintenance Log	30 TAC §330.223
2. All location-restriction demonstrations	30 TAC §330.219(b)(1)
3. Inspection Records and Training Procedures	30 TAC §330.219(b)(2)
4. Closure Plans and any monitoring, test, or analytical data relating to closure requirements	30 TAC §330.219(b)(3)
5. Copies of all correspondence and responses relating to the operations of the facility, modifications to the registration, approvals, and other matters pertaining to technical assistance.	30 TAC §330.219(b)(5)
6. All documents, manifests, shipping documents, trip tickets, DA Form 3161, etc.	30 TAC §330.219(b)(6)
7. Any other documents as specified by the approval registration or by the TCEQ.	30 TAC §330.219(b)(7)
8. Records on a monthly basis to document the amount of waste stream accepted and the amount diverted from landfill disposal (i.e. treated to exceed Tier I Residential PCLs) to meet a beneficial use. FHDPW-ED will submit an annual report to the executive director by March 1st summarizing the material recovery activities and the percentage of received wastes that were recovered during the past calendar year.	30 TAC §330.219(b)(9)
9. All documents and forms associated with the Fire Protection Plan (see Section 12.0).	30 TAC §330.221
10. Records of any alternative operating hours, if applicable	30 TAC §330.229(b)

No cost estimate and financial assurance information is required because the Fort Hood Biotreatment Facility is exempt as outlined in 30 TAC §37.8001 [30 TAC §330.219(b)(4)]. Records retention associated with sludge use, disposal, and transportation is not applicable (30 TAC §330.219(b)(8)). The signatories to any reports submitted to the TCEQ will be in compliance with the conditions listed in §330.219(c). All information contained in the operating record shall be furnished upon request to the TCEQ and will be made available for inspection at any time, as required in §330.219(e). The owner will retain all information contained within the operating record and any required plans for the life of the facility, in accordance with §330.219(f).

12.0 FIRE PROTECTION

30 TAC §330.221

The following section describes the content of the Fire Protection Plan.

12.1 Fire Protection Plan

The following steps are taken at the facility by designated personnel to prevent fires.

12.1.1 Routine Observation and Preventative Measures:

- Facility personnel will be alert for signs of burning waste such as smoke, steam, or heat being released from incoming waste loads.
- Equipment used to move waste will be routinely cleaned through the use of high pressure water. The high pressure water will remove combustible waste and caked material which can cause equipment overheating and increase fire potential. The amount of water needed to perform cleaning function will be minimized to the maximum extent possible.
- Equipment will not be allowed to remain in direct contact with any material either at the Windrow or Staging Area.
- Smoking is not permitted at the facility within the confines of the perimeter fence.
- Fort Hood Biotreatment Facility personnel will immediately remove dead trees, brush, and/or vegetation immediately adjacent to the facility. Grass height within the perimeter fence line will be maintained to a minimal height to reduce the possibility of a fire to spread.

12.1.2 Procedures in the Event of a Fire

- Immediately contact the Fort Hood Fire Department, by dialing 117 or (254) 287-3908 or (254) 287-7127.
- After notifying the Fire Department, the Emergency Coordinator (EC) will be made aware of the situation.

Primary EC

Position: Fort Hood Biotreatment Facility Site Supervisor

Phone: (254) 535-0658

Alternate EC

Position: Solid Waste Program Manager

Phone (1): (254) 287-9184

Phone (2): (254) 535-3501

- Access to the facility will be reduced to emergency response personnel and the EC and their authorized representatives.
- Assess extent of fire, possibilities for the fire to spread, and alternatives for extinguishing the fire.
- If it appears that the fire can be safely fought with available fire fighting devices until arrival of the Fort Hood Fire Department, attempt to contain or extinguish the fire.
- Upon arrival of the Fort Hood Fire Department, direct them to the fire and provide assistance as appropriate.
- Do not attempt to fight the fire alone. Do not attempt to fight the fire without adequate personal protective equipment. Be familiar with the use and limitations of firefighting equipment available onsite.
- Once the fire has been extinguished, the EC will ensure proper decontamination of any equipment used to fight the fire before returning it to its proper location.
- After responding to the incident, the EC will meet with the Fort Hood Fire Department senior official on scene to determine the cause of the fire. The identified causative agent will be removed from the vicinity of the facility, if the possibility of re-ignition exists. Appropriate actions (e.g., exclusion from the facility of the causative agent, more frequent equipment maintenance, etc.) will be developed to prevent its recurrence. All personnel involved with the handling, transport, and placement of the materials at the facility will be informed of resultant actions. Changes in operating protocol or procedures resulting from this meeting will be documented.

12.1.3 Fire Fighting Methods

Fire fighting methods for extinguishing waste material that is burning include separating burning material from other soil and spraying with water from the on-site hose bibs. Small fires might be controlled with hand-held extinguishers. If possible, the burning

soil will be isolated or pushed away immediately before the fire can spread or firebreaks will be cut around the fire before it can spread. If moving the soil is not possible, or if it is unsafe, efforts will be made to smother the fire.

If a fire occurs on a vehicle or piece of equipment, the equipment operator will bring the vehicle or equipment to a safe stop. If safety of personnel will allow, the vehicle will be parked away from fuel supplies (if any), admixtures, waste material, and other vehicles. The engine will be shut off and the brake engaged to prevent movement of the vehicle or piece of equipment.

The site will be equipped with fire extinguishers of a type, size, location, and number as recommended by the Fort Hood Fire Department. Each fire extinguisher will be fully charged and ready for use at all times. Each extinguisher will be inspected on an annual basis and recharged as necessary. Each extinguisher will display a current inspection tag. Inspection and recharging will be performed following each use. All equipment and vehicles will be equipped with fire extinguishers.

12.1.4 Water Supply

The Fort Hood Biotreatment Facility contains a 2-inch pressurized water line that runs along the perimeter of the site. The line provides potable water to 8 hose bibs spaced approximately 100-feet along the southern and northern perimeter. These hose bibs are primarily used to provide the necessary water for the Windrow Area. However, these bibs can also be used to supply water for the purposes of fire fighting. Figure II.10 shows the location of the water line and hose bibs at the Fort Hood Biotreatment Facility.

12.1.5 Fire Equipment

The facility will be equipped with fire extinguishers of a type, size, location, and number as recommended by the Fort Hood Fire Department. Each fire extinguisher will be fully charged and ready for use at all times. Each extinguisher will be inspected on an annual basis and recharged as necessary. Records of this activity will be documented in a log or similar as specified in Section 11.0. Qualified personnel will perform these inspections, and all extinguishers will display a current inspection tag. Inspection and recharging will

be performed following each use. All waste management equipment and vehicles will be equipped with fully charged fire extinguishers.

12.1.6 Fire Protection Training

Training of facility personnel in firefighting techniques, fire prevention, response, and the fire protection aspects of this SOP will be provided, by established professionals, on an annual basis. Personnel will be familiar with the use and limitations of firefighting equipment available onsite. Records of this training will be included in the operating record for the facility.

12.2 TCEQ Notification

After any fire (related to waste management activities that cannot be extinguished within 10 minutes of discovery) occurs, the TCEQ regional office will be contacted. The notification to the regional office will include:

- Contacting by telephone as soon as possible, but no later than 4 hours following fire discovery, and
- Providing a written description of the cause and extent of the fire and the resulting fire response within 14 days of fire detection.

The facility will provide to the appropriate regional office as much information as possible regarding the fire and fire-fighting efforts, as soon as possible after the fire occurs.

The fire prevention and fire control procedures for the facility will be revisited following the occurrence of a significant fire to determine if modifications are warranted.

13.0 ACCESS CONTROL

30 TAC §330.223

Public access will be controlled to minimize unauthorized vehicular traffic, unauthorized and illegal dumping, and public exposure to hazards associated with waste management. Controlled access will be maintained by an 8-foot chain link fence that surrounds the entire perimeter of the facility.

The main point of access to the site will be from a site access road that runs almost perpendicular to 37th Street. A 20-foot wide, double gate, chain link fence will serve as the only access point (i.e., main entrance) for in-bound and out-bound traffic utilizing the facility. This gate, along with two other gates that are used only by facility personnel, will be closed and locked during non-operating hours. When the main entrance gate is opened, any person or vehicle entering the facility will be within the view of Fort Hood Biotreatment Facility personnel from within the facility or at an adjacent office building used by facility personnel. Fort Hood Biotreatment Facility will not allow any unauthorized entry or deposition of solid waste or hazardous materials.

A sign, indicating the type of site, the hours and days of operation, along with the registration number will be located at the main entrance. The main entrance and perimeter fence are shown on Figure III.1. Perimeter fences will be inspected at least on a quarterly basis and as described in Section 5.0. These inspections and any maintenance will be recorded in the site's operating record.

When there is an access breach, the regional TCEQ office, and any local pollution agency with jurisdiction that has been requested to be notified, will be notified within 24 hours of detection. The breach must be temporarily repaired within 24 hours of detection and must be permanently repaired by the time specified to the TCEQ regional office when it was reported in the initial breach report. If a permanent repair can be made within 8-hours of detection, no notice to the TCEQ's regional office is required. Otherwise, notification is required to the TCEQ's regional office when a permanent access control breach repair is completed.

The existing site entrance is a paved asphalt driveway. The access road is a two-way road consisting of asphalt and concrete pavement that is designed to accommodate the turning radii of all vehicles entering the site. Parking areas for employees and visitors (i.e., not waste delivery vehicles) will be located adjacent to the main entrance, off the shoulder of the facility access road. Equipment will be staged within the perimeter of the fenced boundary. Private citizens will not be allowed to deliver material to the Fort Hood Biotreatment Facility.

Dust and mud will be controlled on an as needed basis. Any mud that may accumulate will be removed as soon as practicable.

14.0 UNLOADING OF WASTE

30 TAC §330.225

The unloading of solid waste will be confined to the area identified as the Staging Area, as shown on Figure III.1. The Staging Area will be limited to an area as small as practicable in order to maintain site access and minimize dust generation.

The unloading of waste in unauthorized areas is prohibited. Waste that is deposited in unauthorized locations will be removed immediately and properly placed back in the Staging Area. The Site Supervisor or authorized representative will be present during regular operating hours to direct the unloading of waste in appropriate areas. If needed, the Site Supervisor will assist in the unloading of waste. Appropriate signage will be utilized to identify authorized areas of disposal. The Fort Hood Biotreatment Facility is not required to accept any solid waste that is determined to cause or may cause problems in maintaining full and continuous compliance with this registration.

Not all waste streams are accepted at the Fort Hood Biotreatment Facility. The Waste Acceptance and Analysis, Section 6.0, describes the wastes that can be collected at the Fort Hood Biotreatment Facility. The Site Supervisor will observe incoming waste, and if based upon observation, has the authority and responsibility to reject unauthorized waste loads. Any prohibited waste not discovered until after unloading will be placed back in the offending transporter's vehicle, if possible, otherwise returned to the transporter or generator of the waste. The driver may be advised where the waste may be managed or disposed of legally, and will be responsible for the proper handling of the rejected waste.

In the event the unauthorized waste is not discovered until after the delivery vehicle is gone, the waste will be segregated and controlled as necessary. The Site Supervisor will make an effort to identify the entity that deposited the prohibited waste and have them return to the facility and properly dispose of the waste. In the event that identification is not possible, the Site Supervisor will notify the TCEQ and seek guidance on how to remove and dispose of the waste as soon as practical. A record of unauthorized material removal will be maintained in the operating record.

Only those persons operating vehicles that comply with the following requirements will be authorized by the Site Supervisor to transport waste to and from this facility:

1. All vehicles and equipment used for the collection and transportation of waste will be operated, and maintained to prevent loss of waste material and to limit health and safety hazards to facility personnel and the public.
2. Collection vehicles and equipment will be maintained in a sanitary condition to preclude odors and fly breeding.
3. Collection vehicles not equipped with an enclosed transport body will use other devices such as nets or tarpaulins to preclude accidental spillage and windblown litter.

Facility personnel will keep vigilant watch for compliance with operating requirements. Signs with directional arrows and/or portable traffic barricades will help to restrict traffic to designated unloading locations. In addition, rules for waste receipt and prohibited waste will be prominently displayed on signs at the facility entrance.

15.0 SPILL PREVENTION AND CONTROL

30 TAC §330.227

The Fort Hood Biotreatment Facility is designed to control and contain spills and contaminated water from leaving the facility. The facility is designed to withstand a 25-year, 24-hour storm. See Part III, Section 3.0, for more information.

16.0 FACILITY OPERATING HOURS

30 TAC §330.229

The Fort Hood Biotreatment Facility will be authorized to accept waste and operate heavy equipment between 7:30 am and 4:15 pm, Monday through Friday. The facility does not anticipate ever needing to operate beyond the days and hours specified above.

17.0 FACILITY SIGN

30 TAC §330.231

A conspicuous sign measuring a minimum four feet by four feet with letters at least 3-inches in height will be maintained at the main entrance to the facility. The sign will state the following information:

- Name of Facility
- Type of MSW Facility: Type V Processing Facility
- Authorized by TCEQ Registration Number: MSW-xxxxx
- Hours of Operation: 0730 to 1615, Monday through Friday

Facility rules will be posted on the site signs. Facility rules will include, but are not limited to, the following:

- All loads must be covered prior to entering the facility.
- Loading/unloading in designated areas only.
- Follow all posted signs.

18.0 CONTROL OF WINDBLOWN MATERIAL AND LITTER

30 TAC §330.233

It is not anticipated that windblown material and litter will be an issue at the Fort Hood Biotreatment Facility. However, certain measures will be in place in case such issues arise. Windblown material and litter will be controlled by following proper unloading procedures. Personnel will police the facility including fences, access roads, and the entrance gate, every operating day to pick up and return windblown material and litter to the facility and perform such other litter control measures, as necessary. The entrance signs will advise that all vehicles hauling waste must be covered.

19.0 MATERIALS ALONG THE ROUTE TO THE FACILITY

30 TAC §330.235

The Site Supervisor will take steps to encourage that vehicles hauling waste to the facility are enclosed with a tarpaulin, net, or other means to effectively secure the load in order to prevent the escape of any part of the load by blowing or spilling. The Site Supervisor will take actions such as posting signs, reporting offenders to the proper military chain of command, or similar measures.

The Fort Hood Biotreatment Facility will collect spilled materials along 37th and parallel access roads between the North Avenue and the South Range Road intersection on days the facility accepts waste. All vehicles will be required to ensure their loads are covered in compliance with vehicle laws.

20.0 FACILITY ACCESS ROADS

30 TAC §330.237

The only on-site road is all-weather surfaced (asphalt or concrete) to provide wet-weather operation capability. The roads will be free draining and passable in two directions, and free of excessive ruts. Tracked mud and associated debris at the entrance to the facility and on the public roadway at the entrance to the facility and trash on public roadways will be removed at least once per day on days when mud and associated debris are being tracked onto the public roadway, to the extent that mud can be reasonably considered to be associated with facility operation.

Dust from on-site and other access roadways will not become a nuisance to surrounding areas. A water source and necessary equipment will be provided on an as needed basis to prevent nuisance dust. All on-site and other access roadways will be maintained on a regular basis to minimize depressions, ruts, and potholes.

21.0 OVERLOADING AND BREAKDOWN

30 TAC §330.241

The design capacity of the solid waste facility will not be exceeded during operation. The facility will not accumulate solid waste in quantities that cannot be processed within such time as will preclude the creation of odors, insect breeding, or harborage of other vectors. If such accumulations occur, additional solid waste will not be received until the adverse conditions are abated. When the facility accepts grit-chamber sediment wastes that have been adequately dried, the material will not be stored at the Staging Area for more than 72 hours. Within 72 hours, the material will be relocated from the Staging Area and placed in a windrow in the Windrow Area. The facility is sized to accept approximately 7 cubic yards per day with an estimated maximum temporary storage of 250 cubic yards of waste material. Once this storage volume has been received, no additional material will be accepted until the material is transferred from the Staging Area to the Windrow Area. The anticipated amounts of waste to be accepted during normal operations will be significantly less than this amount (see Section 6.0). Front-end loaders and other equipment described in Section 4.0 will be used to move waste and admixtures within the facility. If a front-end loader does break down, waste will either be stored until it is repaired or until the remaining loader catches up with material removal or the facility will obtain other equipment.

If a significant work stoppage should occur, the owner or operator will restrict additional solid waste receipt. If the work stoppage is anticipated to last long enough to create objectionable odors, insect breeding, or harborage of vectors, steps will be taken to remove the accumulated solid waste from the facility to an approved backup storage, processing, or disposal facility within 72 hours.

22.0 SANITATION

30 TAC §330.243

The Fort Hood Biotreatment Facility will process solid waste that is POL spill clean-up material and dry sediment from grit-chambers, oil-water separators, and stormwater structures. Typically, once the solid waste is placed in a windrow, the biodegradation process of the waste will take approximately 3 to 5 months. As such, not all waste surfaces that come in contact with waste can be washed down on a weekly basis. However, the areas around the windrows, concrete bins, and Staging Area will be swept daily. Once the windrow is ready for removal, as described in Section 2.2 of Part III, the surface area which the windrow used to occupy will be washed down.

The amount of water used to wash down the area of the facility will be kept to a minimum to prevent excessive waste water generation. All water used as part of the sanitation process will drain to the sump area within the facility. The Fort Hood Biotreatment Facility will either allow collected surface water to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state.

Other discharges from the facility will be managed in accordance with the TPDES TXR050000 Multi-Sector General Permit. In order to mitigate any potential odor issues during facility operation, an odor control spray system (e.g., Odoreze™ or similar) may be used to offset any offensive odors that may originate from facility operation. An environmentally friendly surfactant may be used to control fly and mosquito populations.

23.0 VENTILATION AND AIR POLLUTION CONTROL

30 TAC §330.245

Air emissions from the facility will not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act. The Fort Hood Biotreatment Facility was a facility originally constructed for its current intended purpose in the mid-1990's. As such, the Fort Hood Directorate of Public Works has already granted authority for the development of the facility, which reflects the current conditions at the site. According to Form PI-7 found in Attachment B, the construction for the Fort Hood Biotreatment Facility commenced in September 1996; therefore 30 TAC §116 is not applicable. However, FHDPW-ED submitted and received authorization from the Texas Natural Resource Conservation Commission (TNRCC) to operate the facility in accordance with 30 TAC §106.533 and 30 TAC §106.262. Attachment B contains the facility air permit.

No burning of wastes is proposed for this processing facility. This facility will be operated in a manner that includes routine waste removal and facility cleaning to avoid the generation of objectionable odors becoming a nuisance.

Given that the facility is not within an enclosed structure, the facility provides adequate ventilation for odor control and employee safety. The operator will prevent nuisance odors from leaving the boundary of the facility. If nuisance odors are found to be passing the facility boundary, the facility operator will suspend operations until the nuisance is abated or immediately take action to abate the nuisance. In order to mitigate any potential odor issues during facility operation, an odor control spray system (e.g., Odoreze™ or similar) may be used to offset any offensive odors that may originate from facility operation.

The facility is surrounded by warehousing type facilities. Prevailing winds at the site are from the south, as shown on Figure II.1, which will direct odor to the north side of the facility, which is not occupied by residences or offices. All odorous material will be processed as quickly as possible to minimize the amount of time that the odorous material is exposed.

Any ponded water at the facility will be controlled to avoid becoming a nuisance. In the event that objectionable odors do occur as a result of ponding appropriate measures will be taken to alleviate the condition. These measures may include elimination of the ponded water or the use of an environmentally friendly surfactant to control fly and mosquito populations.

Other measures that will be taken to control air pollution at the facility include:

- No open burning will occur at the site except as approved by TCEQ.
- Accidental fires are controlled as outlined in the Fire Protection Plan.
- Periodic wash down of all surfaces that have come into contact with waste.

24.0 HEALTH AND SAFETY

30 TAC §330.247

Facility personnel will be trained in the proper procedures for maintaining health and safety at the Fort Hood Biotreatment Facility.

25.0 EMPLOYEE SANITATION FACILITIES

30 TAC §330.249

Potable water and sanitary facilities will be provided for all employees and visitors. Potable water and sanitary facilities are available at the Site Supervisor's office building, which is adjacent to the facility.

26.0 DISEASE VECTOR CONTROL

The need for extensive vector control (control of rodents, birds, flies, and mosquitoes) will be minimized through proper site operation. If insects or rodents become a problem, insecticides and/or pesticides will be used to eliminate the vector problem. If necessary, a licensed pest control professional will be utilized to apply pesticides for control of vectors, ensuring that proper chemicals are used and that they are properly applied. Any ponded water at the site will be controlled to avoid its becoming a nuisance and attracting vectors. An environmentally friendly surfactant may be used to control fly and mosquito populations.

Attachment A

DA Form 3161

REQUEST FOR ISSUE OR TURN-IN
(DA PAM 710-2-1)

☐ ISSUE ☐ TURN-IN	SHEET NO. 1	NO. SHEETS	1. REQUEST NO.

2. VOUCHER NO.			
3. SEND TO:	4. DATE MATERIAL REQUIRED *(YYYYMMDD)*	5. DODAAC	6. PRIORITY
7. ACCOUNTING/FUNDING DATA			
8. REQUEST FROM:	9. END ITEM IDENT	9a. NAME/MANUFACTURER	9b. MODEL
9c. SERIAL NO.			

** CODE* *ISSUE* *I-Initial* *R-Replacement* *TURN-IN* *FWT-Fair Wear And Tear* *RS-Report of Survey* *EX-Excess* *SC-Stmt of Charges* *LT-Lateral Transfer*

10. PUBLICATION	11. JOB ORDER NO.

12. ITEM NO. *a*	STOCK NO. *b*	ITEM DESCRIPTION. *c*	UNIT OF ISSUE *d*	QUANTITY *e*	CODE* *f*	SUPPLY ACTION *g*	UNIT PRICE *h*	TOTAL COST *i*	*j.* POSTED DATE *(YYYYMMDD)*	*j.* POSTED BY
							SHEET TOTAL		GRAND TOTAL	

13. ISSUE/TURN-IN "QUANTITY" COLM IS REQUESTED	DATE *(YYYYMMDD)*	BY	14. ISSUE QTY IN "SUPPLY ACTION" COLUMN	DATE *(YYYYMMDD)*	BY	15. REC QTY IN "SUPPLY ACTION" COLUMN	DATE *(YYYYMMDD)*	BY

REQUEST FOR ISSUE OR TURN-IN

(CONTINUATION SHEET)

☐ ISSUE ☐ TURN-IN	SHEET NO	NO SHEETS	6. DODACC	3. REQUEST NO	4. VOUCHER NO

12. ITEM NO *a*	STOCK NO *b*	ITEM DESCRIPTION *c*	UNIT OF ISSUE *d*	QUANTITY *e*	CODE* *f*	SUPPLY ACTION *g*	UNIT PRICE *h*	TOTAL COST *i*	*j* POSTED DATE	*j* POSTED BY
							SHEET TOTAL			

Attachment B

Air Permit

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

June 25, 1999

Mr. William C. Bodkin
Chief of Environmental Management Branch
U.S. Army, HQ III Corps and Fort Hood
Attn: AFZF-DE-ENV
Fort Hood, Texas 76544-5057

Re Exemption Registration No. 41479
Soil Bioremediation Operations
Killeen, Bell County
Account ID No. 94-1479-M

Dear Mr. Bodkin:

This is in response to your exemption registration, Form PI-7, concerning bioremediation of contaminated soil at the northwest of the intersection of Santa Fe Avenue and 77th Street in Fort Hood, Bell County. We understand that emissions do not exceed 1.0 and 0.08 pound per hour of total petroleum hydrocarbons and benzene, respectively. We further understand that you have located the emissions points at least 3,000 feet away from any off-site receptors.

Accordingly, and with the exception of timely registration, we have determined that your operation conforms to the criteria of 30 Texas Administrative Code (TAC) Sections 106.533 and 106.262, if constructed and operated as described in your application. The Texas Natural Resource Conservation Commission (TNRCC) Executive Director authorized these exemptions pursuant to 30 TAC Chapter 106. We have included copies of the exemptions in effect at the time of this registration. You must operate in accordance with all of their requirements.

We remind you that regardless of whether a permit is required, you must maintain these facilities in compliance with all air quality rules and regulations of the TNRCC and of the U.S. Environmental Protection Agency at all times.

Re: Exemption Registration No. 41479

We appreciate your cooperation in this matter. If you have any questions concerning these exemptions, please call Mr. Terry Murphy at (512) 239-1587 or write to him at Texas Natural Resource Conservation Commission, Office of Air Quality, New Source Review Permit Division (MC-162), P.O. Box 13087, Austin, Texas 78711-3087.

Sincerely,

for Tammy Villarreal
Manager, Chemical Section
New Source Review Permits Division

TV/TM/pl

Enclosures

cc: Ms. Zoe Rascoe, Manager, Air Program, Waco

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
CHAPTER 106 - EXEMPTIONS FROM PERMITTING

§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118).

Facilities, or physical or operational changes to a facility, are exempt provided that all of the following conditions of this section are satisfied.

(1) This section shall not be used to authorize construction or any change to a facility specifically authorized in another section of this chapter, but not meeting the requirements of that section. However, once the requirements of a section of this chapter are met, paragraphs (3) and (4) of this section may be used to qualify the use of other chemicals at the facility.

(2) Emission points associated with the facilities or changes shall be located at least 100 feet from any off-plant receptor. Off-plant receptor means any recreational area or residence or other structure not occupied or used solely by the owner or operator of the facilities or the owner of the property upon which the facilities are located.

(3) New or increased emissions, including fugitives, of chemicals shall not be emitted in a quantity greater than five tons per year nor in a quantity greater than E as determined using the equation E = L/K and the following table.

Figure: 30 TAC §106.262(3)

D, Feet	K
100	326
200	200
300	139
400	104
500	81
600	65
700	54
800	46
900	39
1,000	34
2,000	14
3,000 cr more	8

E = maximum allowable hourly emission, and never to exceed 6 pounds per hour.

L = value as listed or referenced in Table 262.

K = value from the table on this page. (interpolate intermediate values)

D = distance to the nearest off-plant receptor.

§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118). (CON'T)

TABLE 262
LIMIT VALUES (L) FOR USE WITH EXEMPTIONS FROM PERMITTING §106.262

The values are not to be interpreted as acceptable health effects values relative to the issuance of any permits under Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification).

Compound	Limit (L) Milligrams Per Cubic Meter
Acetone	590.
Acetaldehyde	9.
Acetone Cyanohydrin	4.
Acetonitrile	34.
Acetylene	2662.
Adiponitrile	18.
Aldrin	0.15
Sec-Amyl Acetate	1.1
Arsenic	0.01
Benzene	3.
Beryllium and Compounds	0.0005
Butyl Acrylate	19.
Butyl Glycidyl Ether	30.
Butyl Mercaptan	0.3
Butyraldehyde	1.4
Butyric Acid	7.3
Butyronitrile	22.
Carbon Tetrachloride	12.
Chloroform	10.
Chlorophenol	0.2
Chloroprene	3.6
Chromic Acid	0.05
Chromium and Compounds	0.025
Coal Tar Pitch Volatiles	0.1
Creosote	0.1
Cresol	0.12
Cumene	43.
o-Dichlorobenzene	180.
p-Dichlorobenzene	108.
1,2-dichloroethylene	79.
Dicyclopentadiene	3.1
Diethylaminoethanol	5.5
Diisobutyl Ketone	140.

§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118). (CON'T)

TABLE 262. Cont'd.

Compound	Limit (L) Milligrams Per Cubic Meter
Dimethyl Aniline	6.4
Dimethylhydrazine	0.15
Dioxane	3.6
Dipropylamine	8.4
Ethyl Acrylate	0.5
Ethylene Dibromide	1.
Ethylene Glycol Dinitrate	0.1
Ethylene Oxide	0.18
Ethyl Mercaptan	0.15
Ethyl Sulfide	1.6
Fibrous Glass Dust	5.
Gylcolonitrile	5.
Heptane	350.
Hydrazine	0.04
Hydrogen Chloride	1.
Hydrogen Sulfide	1.1
Isoamyl Acetate	13.
Isoamyl Alcohol	15.
Isobutyronitrile	22.
Isophorone Diisocyanate	0.045
Kepone	0.001
Kerosene	100.
Malononitrile	8.
Mercury, Inorganic	0.05
Mesityl Oxide	40.
Methyl Acrylate	1.7
Methyl Amyl Ketone	5.8
Methyl Butyl Ketone	4.
Methyl Disulfide	2.2
Methylenebis (Chloroaniline) MOCA	0.003
Methylenebis (Phenyl isocyanate)	0.05
Methylene Chloride	26.
Methylhydrazine	0.08
Methyl Isoamyl Ketone	5.8
Methyl Mercaptan	0.3
Methyl Methacrylate	34.
Methyl Propyl Ketone	530.
Methyl Sulfide	0.5
Mineral Spirits	350.

§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118). (CON'T)

TABLE 262. Cont'd.

Compound	Limit (L) Milligrams Per Cubic Meter
Naphtha	350.
Nickel, Inorganic Compounds	0.015
Nitroglycerine	0.1
Nitropropane	36.
Octane	350.
Parathion	0.05
Pentane	350.
Perchloroethylene	33.5
Petroleum Ether	350.
Phenyl Glycidyl Ether	5.
Phenylhydrazine	0.6
Phenyl Mercaptan	0.4
Propionitrile	14.
Propyl Acetate	281.
Propylene Oxide	5.
Propyl Mercaptan	0.008
Stoddard Solvent	350.
Styrene	21.
Succinonitrile	20.
Tolidine	0.02
Trichloroethylene	135.
Trimethylamine	0.1
Valeric Acid	0.34
Vinyl Acetate	15.
Vinyl Chloride	2.

NOTE: The time weighted average Threshold Limit Value (TLV) published by the American Conference of Governmental Industrial Hygienists (ACGIH), (1985-1986 Edition) shall be used for compounds not included in the table. This section cannot be used if the compound is not listed in the table or does not have a published TLV in the ACGIH.

(4) Notification must be provided using Form PI-7 within ten days following the installation or modification of the facilities. The notification shall include a description of the project, calculations, and data identifying specific chemical names, L values, D values, and a description of pollution control equipment, if any.

§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118). (CON'T)

(5) The facilities in which the following chemicals will be handled shall be located at least 300 feet from the nearest property line and 600 feet from any off-plant receptor and the cumulative amount of any of the following chemicals resulting from one or more authorizations under this section (but not including permit authorizations) shall not exceed 500 pounds on the plant property and all listed chemicals shall be handled only in unheated containers operated in compliance with the United States Department of Transportation regulations (49 Code of Federal Regulations, Parts 171-178): acrolein, ammonia, arsine, boron trifluoride, bromine, carbon disulfide, chlorine, chlorine dioxide, chlorine trifluoride, chloroacetaldehyde, chloropicrin, chloroprene, diazomethane, diborane, dimethylhydrazine, ethyl mercaptan, fluorine, formaldehyde, hydrogen bromide, hydrogen chloride, hydrogen cyanide, hydrogen fluoride, hydrogen selenide, hydrogen sulfide, ketene, methylamine, methyl bromide, methylhydrazine, methyl isocyanate, methyl mercaptan, nickel carbonyl, nitric oxide, nitrogen dioxide, oxygen difluoride, ozone, pentaborane, perchloromethyl mercaptan, perchloryl fluoride, phosgene, phosphine, phosphorus trichloride, selenium hexafluoride, stibine, liquified sulfur dioxide, sulfur pentafluoride, and tellurium hexafluoride. Containers of these chemicals may not be vented or opened directly to the atmosphere at any time.

(6) For physical changes or modifications to existing facilities, there shall be no changes or additions of air pollution abatement equipment.

(7) Visible emissions, except uncombined water, to the atmosphere from any point or fugitive source shall not exceed 5.0% opacity in any five-minute period.

Adopted February 19, 1997 Effective March 14, 1997

§106.533. Water and Soil Remediation (Previously SE 68).

Equipment used to reclaim or destroy chemicals removed from contaminated ground water, contaminated water condensate in tank and pipeline systems, or contaminated soil for the purpose of remedial action is exempt, provided all the following conditions of this section are satisfied.

(1) Applicability shall pertain to soil and water remediation at the property where the original contamination of the ground water or soil occurred or at a nearby property secondarily affected by the contamination, but not to any soil or water treatment facility where soils or water are brought in from another property. Such facilities are subject to §116.110 of this title (relating to Applicability).

(2) For treating groundwater or soil contaminated with petroleum compounds, the total emissions of petroleum hydrocarbons shall not exceed 1.0 pound per hour (lb/hr), except that benzene emissions also must meet the conditions of §106.262(3) and (4) of this title (relating to Facilities (Emission and Distance Limitations) (Previously SE 118)). For purposes of this section, petroleum is considered to include:

liquids or gases produced from natural formations of crude oil, tar sands, shale, coal and natural gas; or

refinery fuel products to include fuel additives.

(3) For treating groundwater or soil contaminated with chemicals other than petroleum, emissions must meet the requirements of §106.262(2), (3), and (4) of this title. If the groundwater or soil is contaminated with both petroleum and other chemicals, the petroleum compound emissions must meet paragraph (2) of this section and the other chemical emissions must meet the requirements of §106.262(2), (3), and (4) of this title. The emission of any chemical not having a Limit (L) Value in Table 262 of §106.262 of this title is limited to 1.0 lb/hr.

(4) The handling and processing (screening, crushing, etc.) of contaminated soil and the handling and conditioning (adding moisture) of remediated soil shall be controlled such that there are no visible emissions with the exception of moisture.

(5) If abatement equipment is used to meet paragraphs (2) and (3) of this section, the equipment must satisfy one of the following conditions.

(A) The vapors shall be burned in a direct-flame combustion device (incinerator, furnace, boiler, heater, or other enclosed direct-flame device) operated in compliance with §106.493(2) and (3) of this title (relating to Direct Flame Incinerators (Previously SE 88)).

The vapors shall be burned in a flare which meets the requirements of §106.492 of this title (relating to Flares (Previously SE 80)) and the requirements of 40 Code of Federal Regulations 60.18, which shall take precedence over §106.492 of this title in any conflicting requirements whether or not New Source Performance Standards apply to the flare.

§106.533. Water and Soil Remediation (Previously SE 68). (CON'T)

The vapors shall be burned in a catalytic oxidizer which destroys at least 90 percent of the vapors. An evaluation of oxidizer effectiveness shall be made at least weekly, using a portable flame or photoionization detector or equivalent instrument to determine the quantity of carbon compounds in the inlet and outlet of the catalytic oxidizer. Records of oxidizer performance shall be maintained in accordance with paragraph (7) of this section.

The vapors shall be routed through a carbon adsorption system (CAS) consisting of at least two activated carbon canisters that are connected in series. The system shall meet the following additional requirements.

(i) The CAS shall be sampled and recorded weekly to determine breakthrough of volatile organic compounds (VOC). Breakthrough is defined as a measured VOC concentration of 50 parts per million by volume (ppmv) in the outlet of the initial canister. The sampling point shall be at the outlet of the initial canister, but before the inlet to the second or final polishing canister. Sampling shall be performed while venting maximum emissions to the CAS (example: during loading of tank trucks, during tank filling, during process venting).

(ii) A flame ionization detector (FID) shall be used for VOC sampling. The FID shall be calibrated prior to sampling with certified gas mixtures (propane in air) of 10 ppmv $\pm$ 2.0 percent and of 100 ppmv $\pm$ 2.0 percent.

(iii) When the VOC breakthrough is measured, the waste gas flow shall be switched to the second canister immediately. Within four hours of detection of breakthrough, a fresh canister shall be placed as the new final polishing canister. Sufficient fresh activated carbon canisters shall be maintained at the site to ensure fresh polishing canisters are installed within four hours of detection of breakthrough.

(iv) Records of the CAS monitoring maintained at the plant site shall include, but are not limited to, the following:

(I) sample time and date;

(II) monitoring results (ppmv);

(III) corrective action taken, including the time and date of the action; and

(IV) process operations occurring at the time of sampling.

(V) The registration shall include a demonstration that activated carbon is an appropriate choice for control of the organic compounds to be stripped.

§106.533. Water and Soil Remediation (Previously SE 68). (CON'T)

(6) Before construction of the facility begins, the facility shall be registered with the commission's Office of Air Quality in Austin using Form PI-7. The registration shall contain specific information concerning the basis (measured or calculated) for the expected emissions from the facility. The registration shall also explain details as to why the emission control system can be expected to perform as represented.

(7) Records required by applicable paragraphs of this section shall be maintained at the site and made available to personnel from the commission or any local agency having jurisdiction. These records shall be made available to representatives of the commission and local programs upon request and shall be retained for at least two years following the date that the data is obtained.

Adopted February 19, 1997 Effective March 14, 1997

DEPARTMENT OF THE ARMY
HEADQUARTERS III CORPS AND FORT HOOD
FORT HOOD, TEXAS 76544-5028

REPLY TO
ATTENTION OF

January 27, 2000

Environmental Programs

Mr. Monico Banda
TNRCC
Office of Air Quality
New Source Review Division
Mail Code 162
P.O. Box 13087
Austin, Texas 78711-3087

RE: Exemption Registration No. 41479 Soil Bioremediation Operations, Account ID No. 94-1479-M

Dear Mr. Banda:

The intent of this letter is to correct an error on the location of the Bioremediation Operations at Fort Hood, Texas, as it is indicated on the Exemption Registration No. 41479. The Form PI-7 submitted to your office on April 28, 1999, indicated that this facility was located northwest of the intersection of Santa Fe Avenue and 77th Street; however, the plot plan shows that this facility is located northwest of the intersection of North Avenue and 37th Street. Enclosed is a revised Form PI-7 for your records to reflect the requested location change.

If you have any further questions, please contact Mr. Miguel Perez, (254) 287-8712, or Mr. William Bodkin, (254) 287-6499, Environmental Division.

Sincerely,

William C. Bodkin
Chief, Environmental Division

Enclosure

Cc: Ms. Zoe Roscoe, Air Program Manager, Region 9, TNRCC, 6801 Sanger Avenue, Suite 2500, Waco, TX 76710-7807

TEXAS NATU..AL RESOURCE CONSERVA ON COMMISSION

REGISTRATION FORM FOR EXEMPTIONS and PERMITS BY RULE
FORM PI-7

Please mail to: TNRCC, Office of Air Quality, Air Permits Division (MC-162), PO Box 13087, Austin, TX 78711-3087

I. Company Name Fort Hood, U.S. Army
(Corporation, Company, Government Agency, Firm, etc.)

Mailing Address U.S. Army, HQ III Corps & Fort Hood, Attn: AFZF-PW ENV, BLDG. 4219, 77th & Warehouse Ave, Fort Hood, TX 76544

Individual Authorized to Act for Registrant: Name Mr. William C. Bodkin Title Chief, Environmental Division

Address BLDG. 4219, 77th Street & Warehouse Avenue Telephone (254) 287-6499 Fax (254) 287-2718

II. PHYSICAL LOCATION OF FACILITY (Latitude and Longitude must be to the nearest second):

Name of Plant or Site Fort Hood

Street Address Northwest of the intersection of North Avenue and 37th Street

Nearest City Killeen Zip Code 76544-5028 County Bell/Coryell Latitude 31 Deg 8 Min 54 Sec Longitude 97 Deg 45 Min 29 Sec

SITE REQUIREMENTS: A. Submit a plot plan to scale of the property showing the location of plant boundaries, plant equipment, and surrounding area
B. Furnish an area map with a scale showing the facility location relative to highways and towns.
C. A physical address or accurate driving directions must be provided on all registrations.

III. TYPE OF FACILITY:

A. Applicable Exemption or Permit by Rule Number(s) from TNRCC List /106.533 and/106.262
B. Name of Facility and Company's Facility Number U.S. Army, HQ III and Fort Hood., N/A
C. TNRCC Account Identification Number BF-0129-I, BF-0028-P, BF-0027-R
D. Previous Special Exemption or Permit Number Not Applicable
E. Operating Schedule: Hours/day 24 Days/week 7 Weeks/year 52
F. Proposed Start of Construction 09/27/96 (Date) Operation 08/05/97 (Date) Permanent [x] Portable [ ]
H. Length of time at this site, if portable N/A
I. Does the company (including subsidiaries and parent companies) employ 100 or fewer persons? [ ]-YES [x]-NO

IV. PROCESS INFORMATION

Description of Process: Prepare and attach a written description of the exempt process and applicable checklists (when available). The description must be in sufficient detail to indicate that the facility will conform to the specified exemption.

V EMISSIONS DATA Furnish a description of the basis for emission rates including fugitives. (Calculations, emission factors, measurement, NSPS, etc.)

Emission Point Number	Name of Source	Name of Air Contaminant	Emission Rate of Each Air Contaminant			
			lb/hr		tons/yr	
			Gaseous	Particulate	Gaseous	Particulate
EP-BI01	Soil Bioremediation	VOC	0.53	N/A	2.32	N/A
		Benzene	0.08		0.35	

VI. The required copy of the registration request has been sent to the Regional Office of the TNRCC: [x]Yes [ ]No
The required copy of the registration request has been sent to the Local Programs (if applicable): N/A [ ]Yes [ ]No

VII. I, William C. Bodkin Chief, Environmental Division
(Name) (Title)
state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project will satisfy the conditions and limitations of the indicated exemption. The facility will operate in compliance with all Regulations of the Texas Natural Resource Conservation Commission and with Federal Environmental Protection Agency Regulations governing air pollution.

DATE 27 January, 2000 SIGNATURE

DEPARTMENT OF THE ARMY
HEADQUARTERS III CORPS AND FORT HOOD
FORT HOOD, TEXAS 76544-5028

REPLY TO
ATTENTION OF

May 27, 1999

Environmental Programs Office

Office of Air Quality
New Source Review Division
TNRCC
Mail Code 162
P.O. Box 13087
Austin, Texas 78711-3087

RE: Application for Standard Exemption Registration for Fort Hood Soil Bioremediation Operations

Dear Sir:

Enclosed is an application for Standard Exemption Registration for Soil Bioremediation Operations at Fort Hood, Texas. We are proposing to register this site per Texas Natural Resources Conservation Commission regulations □106.533 (Previously Standard Exemption 68) and □106.262(3) (Previously Standard Exemption 118). Fort Hood sent a registration for this facility to the attention of Mr. Dennis Rogers at TNRCC on January 9, 1998.

If you have any further questions, please contact Mr. Miguel Perez (254) 287-8712, or Mr. William Bodkin, (254) 287-8713, Environmental Division.

Sincerely,

William C. Bodkin
Chief, Environmental
Management Branch

Enclosure

Cc: Ms. Zoe Roscoe, Air Program Manager, Region 9, TNRCC, 6801 Sanger Avenue, Suite 2500, Waco, TX 76710-7807

Application for Standard Exemption Registration for Soil Bioremediation Operations at U.S. Army, HQ III Corps and Fort Hood Fort Hood, Texas

Submitted to:

U.S. Army HQ III Corps and Fort Hood
Attn: AFZF-PW-ENW
Building 4219, 77th & Warehouse Avenue
Fort Hood, Texas 76544-5057

Submitted by:

Earth Tech
1420 King Street, Suite 600
Alexandria, Virginia 22314

Date

January 1999

TABLE OF CONTENTS

SECTION A

INTRODUCTION

SECTION A

INTRODUCTION

With

The bioremediation operation included in this application meets all of the requirements of the TNRCC regulations §106.211, §106.533, and §106.262(3). The information that follows demonstrates compliance with these requirements. PI-7 forms and supporting documentation are included in the sections that follow.

SECTION B

COMPLIANCE WITH GENERAL STANDARD EXEMPTION LIST REQUIREMENTS (§116.211) AND STANDARD EXEMPTION REQUIREMENTS FOR SOIL BIOREMEDIATION

SECTION B

COMPLIANCE WITH GENERAL STANDARD EXEMPTION LIST REQUIREMENTS (§116.211) AND STANDARD EXEMPTION REQUIREMENTS FOR SOIL BIOREMEDIATION

B.1 GENERAL REQUIREMENTS

To qualify for a standard exemption under TNRCC, Title 30, Part 1, Subchapter C, Section 116.211, a facility must satisfy the following general requirements:

(a)(*Total actual emissions authorized under standard exemption from the proposed facility shall not exceed 250 tons per year (tons/yr) for carbon monoxide (CO) or nitrogen oxides (NOx), or 25 tons/yr of volatile organic compounds (VOC) or sulfur oxides (SO2) or inhalable particulate matter (PM10), or 25 tons/yr of any other air contaminant except carbon dioxide, water, nitrogen, methane, ethane, hydrogen and oxygen.*

The emissions from the soil bioremediation operation are outlined in the following sections of this registration. The actual emissions will not exceed the 250 tons/yr limit for either NOx or CO, or the 25 tons/yr limit for the other contaminants. The total proposed allowable emissions on the TNRCC PI-7 Forms are 2.32 tons/yr of VOCs, and 0.35 tons/yr benzene.

(a)(4) *Any facility which constitutes a new major source, or any modification which constitutes a major modification under the new source review requirements of the FCAA, Part C (Prevention of Significant Deterioration) as amended by the FCAA Amendments of 1990, and regulations promulgated thereunder, shall be subject to the requirements of Subchapter B of this chapter rather than this subchapter.*

This modification would not be a major modification subject to Prevention of Significant Deterioration (PSD) review.

(a)(5) *Total actual emissions authorized under standard exemptions from the property where the proposed facility is to be located shall not exceed 250 tons/yr for CO or NOx, or 25 tons/yr of VOC or SO2, or 25 tons/yr of any other air contaminant except CO, water nitrogen, methane, ethane, hydrogen, and oxygen, unless at least one facility at such property has*

been subject to public notification and comment as required in Subchapter B or Subchapter D of this chapter (relating to New Source Review Permits or Permit Renewals) or the pertinent Chapter 116 procedures that were in effect at the time.

Other facilities with standard exemptions at Fort Hood have been subject to public notification and comment in the course of obtaining a permit (TNRCC Permit No. 24538); therefore, compliance with this requirement is achieved.

(a)(6) *Construction or modification of the facility shall be commenced prior to the effective date of a revision of the Standard Exemption List under which the construction or modification would no longer be exempt.*

The soil bioremediation operation at the Fort Hood facility meets all of the criteria under the most recent revisions of TNRCC §106.533 (Previously Standard Exemption 68) and TNRCC §106.262(3) (Previously Standard Exemption 118).

(a)(7) *The proposed facility shall comply with the applicable provisions of the Federal Clean Air Act §111 (regarding Federal New Source Performance Standards [NSPS]) and §112 (regarding Hazardous Air Pollutants).*

There are no applicable NSPSs or National Emission Standards for Hazardous Air Pollutants for this source.

(a)(8)(a) *There are no permits under the same TNRCC account number that contain a condition or conditions precluding use of the standard exemption or standard exemptions.*

There are no current permits for the Fort Hood facility (TNRCC Account Nos. BF-0129-I, BF-0028-P, and BF-0027-R) that preclude the use of TNRCC §106.533 (Previously Standard Exemption 68) and TNRCC §106.262 (Previously Standard Exemption 118).

(a)(8)(b) *No person shall circumvent by artificial limitations the requirements of §116.110 of this title (relating to applicability).*

The sources included in this submission meet all the requirements for TNRCC§106.533 and §106.262(3) (Previously Standard Exemption 68 and 118, respectively). Therefore, a state permit is not required and the requirements of §116.110 will not be circumvented.

(a)(8)(c) *The emissions from the facility shall comply with all rules and regulations of the TNRCC and with the intent of the TCAA, including protection of health and property of the public and all emissions control equipment shall*

be maintained in good condition and operated properly during operation of the facility.

This facility meets all rules and regulations of the TNRCC. In addition, compliance with TNRCC §106.533 and §106.262(3) ensures protection of health and property of the public.

B.2 STANDARD EXEMPTION FOR SOIL REMEDIATION, TNRCC §106.533 (PREVIOUSLY STANDARD EXEMPTION 68)

As required by TRNCC §106.533(2) (Previously Standard Exemption 68) of TNRCC regulations, total emissions of petroleum hydrocarbons from soils contaminated with petroleum compounds should not exceed 1.0 lb/hr to satisfy standard exemption requirements. This is demonstrated below.

Soil contaminated due to spills/leaks from underground storage tanks/aboveground storage tanks (USTs/ASTs) is treated by bioremediation at Fort Hood. The contaminated soil consists mainly of jet fuel (JP-8). The soil is bioremediated by adding micro-organisms, fertilizer and water, and then turning the soil over to expose the maximum surface area of the contaminated soil. The procedure shown below is used to estimate VOC emissions from bioremediated soil. It should be noted that this estimation is conservative, with actual emissions being much lower.

Maximum concentration of TPH (total petroleum hydrocarbons) in soil = 25,000 parts per million (ppm) or 2.5 weight percent.

Average concentration of TPH in soil = 7,000 - 10,000 ppm.

Surface Area of bioremediation operation= 341.28' x 172.89' = 59,000 sq. ft

Depth of soil being bioremediated = 3" = 0.25 ft

Volume of soil being bioremediated = 59,000 ft^2 X 0.25 ft = 14,750 ft^3.

Density of soil (assumed to be similar to broken clay) = 1.4 tons/yd^3.

Volume of Exposed Soil = 14,750 ft^3/27 ft^3/yd^3 = 546 cu. yds

Weight of Exposed Soil = 546 cu. yds x 1.4 tons/yd^3 = 765 tons = 1,529,730 lbs.

At 25,000 ppm, weight of TPH = 1,529,730 lbs x 0.025 = 38,243 lbs.

Conservatively assuming that benzene, toluene, ethyl benzene, and total xylenes (BTEX)[1] content of TPH contamination = 10 percent of TPH[2].

Amount of BTEX in contaminated soil = 38,243 x 0.1 = 3,824 lbs.

The bacterial enzymes used for biotreatment will decrease the amount of BTEX by at least 30% due to absorption and adsorption.[3]

Therefore, amount of BTEX remaining in soil = 3.824 lbs x 2/3 = 2,550 lbs

The bioremediated soil is sprayed frequently with water, equivalent to providing approximately 1 inch of rain per week. Approximately 50 percent of the BTEX will remain in solution, after dissolving in water. This BTEX in solution is not easily volatilized, and will not escape to the atmosphere. Therefore, the remaining BTEX that can be emitted from the soil = 2,550 lbs x 0.5 = 1,275 lbs.

At 75° Fahrenheit (F), in loosely structural soil, approximately 1 percent of this BTEX is volatilized in a 24 hr period, or, 0.01 x 1,275 = 12.75 lbs per 24 hrs[3].

The VOC (BTEX) emission rate = 12.75 lbs/24 hrs = 0.53 lbs/hr.

The annual VOC emissions = 0.53 lbs/hr x 8,760 hrs/yr / 2,000 lbs/ton = 2.32 tons/yr.

It should be noted that this emission rate is extremely conservative, with the actual number being at least 1/3 lower, because maximum concentration of TPH in soil was used, and also because wind, moisture, and soil type are all variables which will affect the estimation.[3]

B.3 Emission and Distance Limitations, TNRCC §106.262 (Previously Standard Exemption 118)

In addition to meeting the 1.0 lbs/hr limit for emissions of TPH, as per §106.533 of TNRCC regulations, benzene emissions must also meet the condition of §106.262(3) of the TNRCC regulations (Previously Standard Exemption 118). This is demonstrated below.

TNRCC §106.262(3) states that benzene emissions from the bioremediated site shall not be greater than 5 tons/yr, nor greater than E, where

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[1]BTEX constitutes a majority of the readily volatile fraction of TPH.

[2]Air Emissions Inventory Guidance Document for Stationary Sources at Air Force Installations, Occupational and Environmental Health Directorate, Bioenvironmental Engineering Division, Brooks Air Force Base, Texas, August 26, 1998 (Chapter 13, Table 13-2).

[3]References: (a) Dr. Bill Nesbeitt, CEO, Bioenvironmental Technology, Tomball, Texas (281) 351-5594. (b) Dr. Charles Calmbacher, PhD, President, SEA Consultants, Atlanta, Georgia.

$$E = L/K$$

Where:
- E = Maximum allowable hourly emissions of benzene (never to exceed 6 lbs/hr)
- L = 3 mg/m^3 for benzene
- K = Value, dependent on distance to the nearest off-plant receptor (in this case, a residence, hospital, or school)

The receptor closest to the bioremediation site is the Meadows Elementary School, located approximately 5,364 feet from the site.

In this case, K = 8.
E = 3/8 = 0.375 lbs/hr

Weight percentage of benzene in BTEX (vapor phase) = 15.7%[2].

Therefore, hourly emissions of benzene from bioremediation = 0.53 lbs/hr x 0.157 = 0.08 lbs/hr, which is less than the 0.375 lbs/hr maximum allowable emission rate for benzene.

The annual emissions of benzene = 0.08 lbs/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.35 tons/yr. Therefore, emissions of petroleum hydrocarbons and benzene meet the requirements of TNRCC §106.533 and §106.262(3), respectively the standard exemptions for soil remediation.

SECTION C

TNRCC PI-7 FORM

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

REGISTRATION FORM FOR STANDARD EXEMPTIONS

FORM PI-7

Please mail to: TNRCC, Office of Air Quality, New Source Review Division (MC-162), PO Box 13087, Austin, TX 78711-3087

I. Company Name U.S. Army, HQ III Corps and Fort Hood (Fort Hood)
(Corporation, Company, Government Agency, Firm, etc.)

Mailing Address Commander, HQ III Corps and Fort Hood, Attn: AFZF-DE-ENV, Fort Hood, TX 76544-5057

Individual Authorized to Act for Applicant: Name Mr. William C. Bodkin Title Chief, Environmental Mgmt Branch

Address Same as above. Telephone (817) 287-8713 Fax (817) 287-3591

II. LOCATION OF EXEMPT FACILITY (Latitude and Longitude must be to the nearest second):

Name of Plant or Site Fort Hood

Street Address Northwest of the intersection of Santa Fe Avenue and 77th Street

Nearest City Killeen County Bell/Coryell Latitude UTM East 618390.00932 Longitude UTM North 3446696.39450

SITE REQUIREMENTS: A. Submit a plot plan to scale of the property showing the location of plant boundaries, plant equipment, and surrounding area.
B. Furnish an area map with a scale showing the facility location relative to highways and towns.

III. TYPE OF FACILITY:

A. Applicable Standard Exemption Number(s) from TNRCC List Standard Exemptions 68 and 118

B. Name of Facility and Company's Facility Number U.S. Army, HQ III Corps and Fort Hood, Not Applicable

C. TNRCC Account Identification Number BF-0129-I, BF-0028-P, BF-0027-R

D. Previous Special Exemption or Permit Number Not Applicable

E. Operating Schedule: Hours/day 24 Days/week 7 Weeks/year 52

F. Proposed Start of Construction 9/27/1996 (Date) Operation 8/5/97 (Date)

G. Permanent [X] Portable [ ]

H. Length of time at this site, if portable Not Applicable

IV. PROCESS INFORMATION

Description of Process: Prepare and attach a written description of the exempt process and applicable checklists (when available). The description must be in sufficient detail to indicate that the facility will conform to the specified exemption.

V. EMISSIONS DATA

Furnish a description of the basis for emission rates including fugitives. (Calculations, emission factors, measurement, NSPS, etc.)
(Please see attached estimated calculations).

Emission Point Number	Name of Source	Name of Air Contaminant	Emission Rate of Each Air Contaminant			
			lb/hr		tons/yr	
			Gaseous	Particulate	Gaseous	Particulate
EP-BIO1	Soil Bioremediation	VOC	0.53	Not Applicable	2.32	Not Applicable
		Benzene	0.08	Not Applicable	0.35	Not Applicable

VI. The required copy of the application has been sent to the Regional Office of the TNRCC: [X]Yes [ ]No
The required copy of the application has been sent to the Local Programs (if applicable): [ ]Yes [ ]No

VII. I, Mr. William C. Bodkin, Chief, Environmental Management Branch, ENV, DEH
(Name) (Title)
state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project will satisfy the conditions and limitations of the indicated exemption. The facility will operate in compliance with all Regulations of the Texas Natural Resource Conservation Commission and with Federal Environmental Protection Agency Regulations governing air pollution.

DATE 27 May 1999 SIGNATURE William C. Bodkin

Rev. 9-15-95

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A. Applicable Standard Exemption Number(s) from TNRCC List Standard Exemptions 68 and 118

B. Name of Facility and Company's Facility Number U.S. Army, HQ III Corps and Fort Hood, Not Applicable

C. TNRCC Account Identification Number BE-0129-L, BE-0028-P, BE-0027-R

D. Previous Special Exemption or Permit Number Not Applicable

E. Operating Schedule: Hours/day 24 Days/week 7 Weeks/year 52

F. Proposed Start of Construction 9/27/1996 (Date) Operation 8/5/97 (Date)

G. Permanent [X] Portable [ ]

H. Length of time at this site, if portable Not Applicable

IV. PROCESS INFORMATION
Description of Process: Prepare and attach a written description of the exempt process and applicable checklists (when available). The description must be in sufficient detail to indicate that the facility will conform to the specified exemption.

V. EMISSIONS DATA Furnish a description of the basis for emission rates including fugitives. (Calculations, emission factors, measurement, NSPS, etc.)
(Please see attached estimated calculations)

Emission Point Number	Name of Source	Name of Air Contaminant	Emission Rate of Each Air Contaminant			
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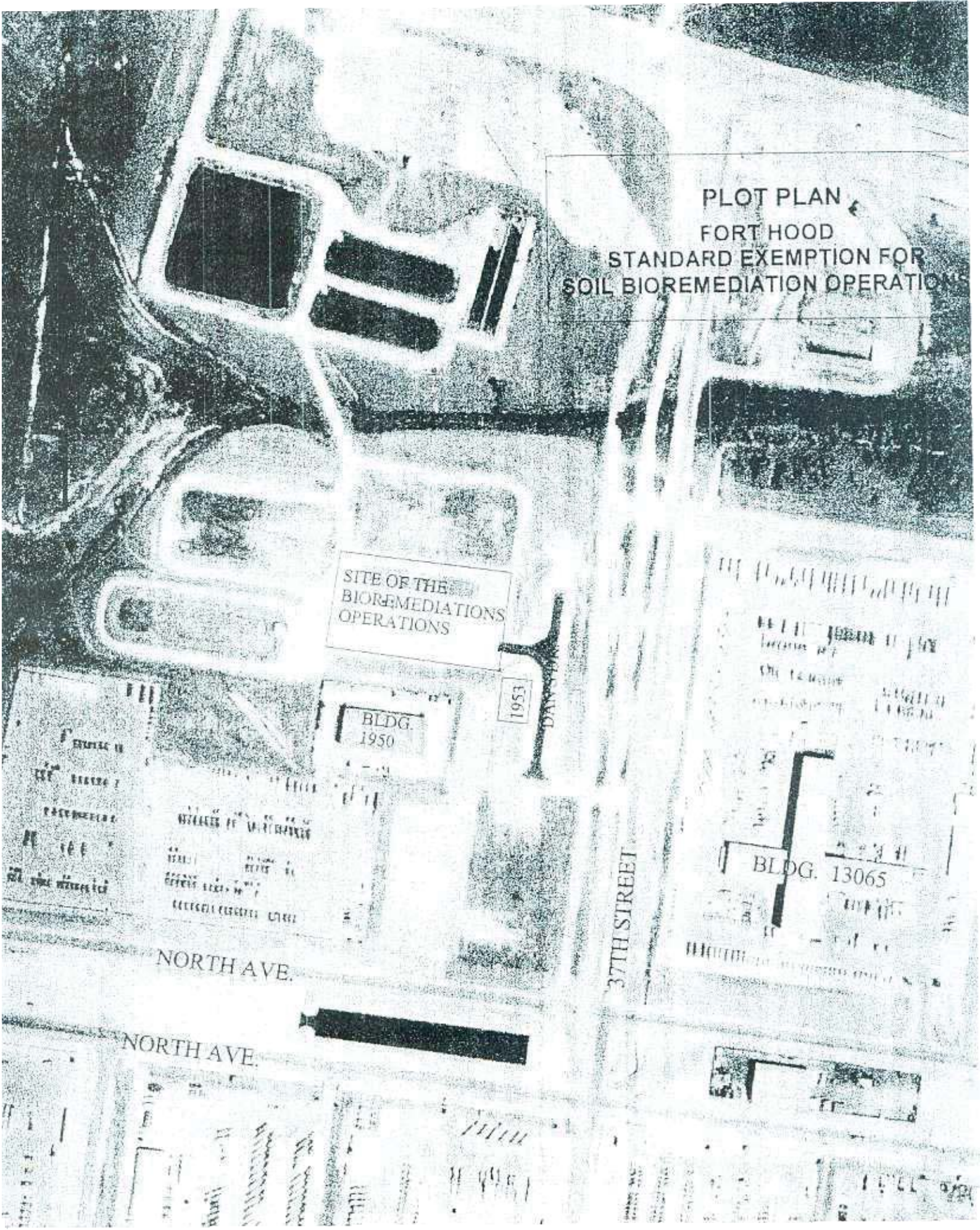
DATE 27 May 1999 SIGNATURE William C. Bodkin

Rev. 9-15-95

SECTION D

PLOT PLANS AND AREA MAP FOR THE BIOREMEDIATION OPERATION


PLOT PLAN
FORT HOOD
STANDARD EXEMPTION FOR
SOIL BIOREMEDIATION OPERATIONS
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