

1 Final

2  
3 RCRA Facility Investigation  
4 Phase 2 Work Plan  
5 Parcel 21

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7  
8 Fort Wingate Depot Activity  
9 McKinley County, New Mexico

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11  
12 August 30, 2012

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14  
15 Contract No. W9126G-11-D-0040  
16 Task Order No. 0002

17  
18  
19 Prepared for:



21  
22 **US Army Corps**  
23 **of Engineers**®

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25 United States Army Corps of Engineers  
26 Fort Worth District  
27 P.O. Box 17300  
28 Fort Worth, Texas 76102

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**REPORT DOCUMENTATION PAGE**

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<b>1. REPORT DATE (DD-MM-YYYY)</b> 8/30/2012	<b>2. REPORT TYPE</b> RFI Phase 2 Work Plan	<b>3. DATES COVERED (From – To)</b> June 2012 – August 2012
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<b>4. TITLE AND SUBTITLE</b> Final RCRA Facility Investigation Phase 2 Work Plan Parcel 21 Fort Wingate Depot Activity McKinley County, New Mexico	<b>5a. CONTRACT NUMBER</b> W9126G-11-D-0040
	<b>5b. GRANT NUMBER</b> N/A
	<b>5c. PROGRAM ELEMENT NUMBER</b>

<b>6. AUTHOR(S)</b> Julie Hamilton/AMEC Dan Kwiecinski/AMEC	<b>5d. PROJECT NUMBER</b>
	<b>5e. TASK NUMBER</b>
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<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> AMEC Environment & Infrastructure, Inc. 4600 E. Washington Street, Ste 600 Phoenix, Arizona 85034	<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b> AMEC.912640002.0014.02
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<b>9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> U.S. Army Corps of Engineers, Fort Worth District CESWF-PER-D 819 Taylor Street Fort Worth, TX 76102 Project Manager: Mr. Steven Smith	<b>10. SPONSOR/MONITOR'S ACRONYM(S) USACE</b>
	<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>

**12. DISTRIBUTION/AVAILABILITY STATEMENT**  
Unlimited.

**13. SUPPLEMENTARY NOTES**

**14. ABSTRACT**  
This RFI Phase 2 Work Plan describes additional investigation activities at Parcel 21, Solid Waste Management Unit (SWMU) 2 – Building 515, SWMU 19 – Building 501, Area of Concern (AOC) 63 – Building 509, AOC 64 – Building 510, AOC 68 – Structure 514, and AOC 75 – Former Electrical Transformers at Fort Wingate Depot Activity, McKinley County, New Mexico.

**15. SUBJECT TERMS**  
Fort Wingate Depot Activity, Phase 2 RFI Work Plan, Parcel 21, SWMU 2 and 19 and AOCs 63, 64, 68, and 75.

<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b> SAR	<b>18. NUMBER OF PAGES</b> 43	<b>19a. NAME OF RESPONSIBLE PERSON</b> Mark Patterson
<b>a. REPORT</b> U	<b>b. ABSTRACT</b> U	<b>c. THIS PAGE</b> U			<b>19b. TELEPHONE NUMBER (Include area code)</b> 330/358-7312

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JOHN A. SANCHEZ  
Lieutenant Governor

**NEW MEXICO  
ENVIRONMENT DEPARTMENT**

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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

June 20, 2013

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Steve Smith  
USACE FWDA Program Manager  
CESWF-PER-DD  
819 Taylor Street, Room 3B06  
PO Box 17300  
Fort Worth, TX 76102-0300

**RE: APPROVAL  
FINAL RCRA FACILITY INVESTIGATION PHASE 2 WORK PLAN  
PARCEL 21  
FORT WINGATE DEPOT ACTIVITY, NEW MEXICO  
EPA ID# NM6213820974  
FWDA-12-007**

Dear Messrs. Patterson and Smith:

The New Mexico Environment Department (NMED) received the Department of the Army's (the Permittee) *Final RCRA Facility Investigation Phase 2 Work Plan (Work Plan), Parcel 21*, dated, August 30, 2012. The Work Plan was prepared to propose additional field activities to be conducted within Parcel 21 Solid Waste Management Unit (SWMU) 2- Building 515, SWMU 19 - Building 501, Area of Concern (AOC) 63 - Building 509, AOC 64 - Building 510, AOC 68 - Structure 514, and AOC 75 - Former Electrical Transformers at Fort Wingate Depot Activity (FWDA), New Mexico. NMED has reviewed the Work Plan and hereby approves the Work Plan. The Permittee must submit a Phase 2 Investigation Report summarizing the results of implementation of the Work Plan no later than July 31, 2014.

Messrs. Patterson and Smith  
June 20, 2013  
Page 2

If you have questions regarding this approval please contact Victoria Baca of my staff at 505-476-6059.

Sincerely,



John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: Shannon Duran, NMED HWB  
Dave Cobrain, NMED HWB  
Christy Esler, USACE  
Laurie King, U.S EPA Region 6  
Chuck Hendrickson, U.S. EPA Region 6  
Steve Beran, Zuni Pueblo  
Darrell Tsabetsaye, Zuni Pueblo  
Kirk Bemis, Zuni Pueblo  
Tony Perry, Navajo Nation  
Franklin Jishie, Navajo Nation  
Jason John, Navajo Nation  
Eugenia Quintana, Navajo Nation  
Clayton Seoutewa, Southwest Region BIA  
Rose Duwyenie, Navajo BIA  
Judith Wilson, BIA  
Eldine Stevens, BIA  
Barbara Davis, BIA  
Katherine Nunan, BIA

File: FWDA 2013 & Reading File  
HWB-FWDA-12-007

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Final  
RCRA Facility Investigation  
Phase 2 Work Plan  
Parcel 21

Fort Wingate Depot Activity  
McKinley County, New Mexico

August 30, 2012

Contract No. W9126G-11-D-0040  
Task Order No. 0002

Prepared for:

United States Army Corps of Engineers  
Fort Worth District  
P.O. Box 17300  
Fort Worth, Texas 76102

Prepared by:

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**NMED APPROVAL LETTER  
(WILL BE INSERTED)**

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1 **PREFACE**

2 This Resource Conservation and Recovery Act Facility Investigation Phase 2 Work Plan  
3 describes the supplement field activities that will be conducted at the Parcel 21 Solid Waste  
4 Management Unit (SWMU) 2 – Building 515, SWMU 19 – Building 501, Area of Concern (AOC)  
5 63 – Building 509, AOC 64 – Building 510, AOC 68 – Structure 514, and AOC 75 – Former  
6 Electrical Transformers at Fort Wingate Depot Activity (FWDA), New Mexico. This work plan  
7 addresses the requirements of the U.S. Army Corps of Engineers (USACE) Statement of Work  
8 (SOW) dated August 11, 2011.

9 This Work Plan was prepared by AMEC Environment & Infrastructure, Inc. in August 2012.  
10 Mr. Mark Patterson served as the FWDA Defense Base Realignment and Closure (BRAC)  
11 Environmental Director and Mr. Steve Smith served as the USACE Project Manager.

12 \_\_\_\_\_  
13 Julianne Hamilton, PG  
14 Program Manager  
15

\_\_\_\_\_

Dan Kwiecinski, PE  
Project Engineer

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BIA-NR = Bureau of Indian Affairs – Navajo Representative  
 BIA -Z= Bureau of Indian Affairs – Zuni Representative  
 BRACD = U. S. Army Base Realignment and Closure Division.  
 FWDA ARM = Fort Wingate Depot Activity Administrative Records Manager.  
 FWDA BEC = Fort Wingate Depot Activity Base Realignment and Closure Environmental Coordinator.  
 FWDA EIMS = Fort Wingate Depot Activity Environmental Information Management System.  
 NN = Navajo Nation  
 POZ = Pueblo of Zuni  
 USACE SWF = U. S. Army Corps of Engineers – Fort Worth District.  
 USAEC = U. S. Army Environmental Command.

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**LIST OF ACRONYMS AND ABBREVIATIONS**

1		
2	AOC	Area of Concern
3		
4	CFR	U.S. Code of Federal Regulations
5		
6	DRO	diesel range organics
7		
8	EPA	U.S. Environmental Protection Agency
9		
10	FWDA	Fort Wingate Depot Activity
11		
12	GPS	Global Positioning System
13	GRO	gasoline range organics
14		
15	HASP	Health and Safety Plan
16	HAZWOPER	Hazardous Waste Operations and Emergency Response
17	HWB	Hazardous Waste Bureau
18		
19	ID	identification
20	IDW	investigation-derived waste
21		
22	MI	Multi-increment
23	MSDS	Material Safety Data Sheet
24		
25	NAD	North America Datum
26	NMED	New Mexico Environment Department
27	NOD	Notice of Disapproval
28		
29	PCB	polychlorinated biphenyl
30	PPE	personal protective equipment
31		
32	QA/QC	quality assurance/quality control
33		
34	RCRA	Resource Conservation and Recovery Act
35	RDX	Royal Demolition Explosive
36	RFI	RCRA Facility Investigation
37		
38	SOW	Statement of Work
39	SSO	Site Safety Officer
40	SWMU	Solid Waste Management Unit
41		
42	TPH	total petroleum hydrocarbons
43	TPMC	TerranearPMC
44		
45	USACE	U.S. Army Corps of Engineers
46	UTM	Universal Transverse Mercator Index
47		

1    **1.0    INTRODUCTION**

2    This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Phase 2  
3    Work Plan describes the additional investigation activities to be completed at Solid Waste  
4    Management Unit (SWMU) 2 – Building 515, SWMU 19 – Building 501, Area of Concern (AOC)  
5    63 – Building 509, AOC 64 – Building 510, AOC 68 – Structure 514, and AOC 75 – Former  
6    Electrical Transformers, all within Parcel 21 at Fort Wingate Depot Activity (FWDA), McKinley  
7    County, New Mexico.

8    This RFI Work Plan has been prepared for submission to the New Mexico Environment  
9    Department's (NMED) Hazardous Waste Bureau (HWB), as required by Section VII.H.1.a of the  
10   RCRA Permit (NM 6213820974) for the FWDA, which became effective December 31, 2005  
11   and was revised in June 2011.

12   This RFI Work Plan has been prepared in partial fulfillment of the requirements of Contract  
13   Delivery Order No. 0002 under Contract No. W9126G-11-D-0040 as outlined in the Statement  
14   of Work (SOW) dated August 11, 2011. Technical oversight of this work was provided by the  
15   U.S. Army Corps of Engineers (USACE) Fort Worth District.

16   **1.1    Purpose and Scope**

17   The purpose of this RFI Phase 2 Work Plan is to propose additional investigation at select areas  
18   within Parcel 21 as recommended by the Army in the *RCRA Facility Investigation Report, Parcel*  
19   *21, Fort Wingate Depot Activity* (hereafter referred to as the RFI Report, TerranearPMC  
20   [TPMC], 2011) and to address comments received from the NMEDHWB, contained in a Notice  
21   of Disapproval (NOD) (NMED, 2012a).

22   **1.2    Background Information**

23   Complete background information regarding FWDA and Parcel 21 is provided in numerous  
24   documents previously submitted to NMED, including the following:

- 25       • *Summary Report of Historical Information, Parcel 21, Fort Wingate Depot Activity*  
26        (TPMC, 2008a);
- 27       • *RCRA Facility Investigation Work Plan, Parcel 21, Fort Wingate Depot Activity, Revision*  
28        – *30 September 2008* (hereafter referred to as the RFI Work Plan, TPMC, 2008b); and,
- 29       • RFI Report (TPMC, 2011).

30   Parcel 21 is approximately 167 acres in size and includes portions of the former Workshop Area  
31   and Administration Area. All utilities to Parcel 21 were terminated and buildings were  
32   demolished in 2010. Characterization activities were conducted during 2009 and 2010, in  
33   accordance with the NMED approved RFI Work Plan (TPMC, 2008b). RFI activities were  
34   detailed in the RFI Report (TPMC, 2011). NMED responded to submittal of the RFI Report with  
35   an NOD in 2012. The Revised RFI Report was subsequently approved by NMED in a letter  
36   dated August 27, 2012 (NMED, 2012b). The investigation activities described in this Phase 2

- 1 RFI Work Plan have been developed to address the NOD from NMED HWB and to implement
- 2 supplemental recommendations made by the Army in the RFI Report.

1   **2.0   DESCRIPTION OF INVESTIGATION ACTIVITIES**

2   This section provides general information regarding the planned field activities to be completed  
3   as part of this Phase 2 Work Plan. Information specific to SWMU 2, SWMU 19, AOC 64 and 65,  
4   AOC 68, and AOC 75 are presented in Sections 3.0, 4.0, 5.0 respectively.

5   **2.1   Site Safety and Awareness**

6   All work will be accomplished in accordance with Army safety measures. A project-specific  
7   Health and Safety Plan (HASP) will be developed prior to conducting site activities. The HASP  
8   defines the roles and responsibilities of site personnel, establishes proper levels of personal  
9   protective equipment (PPE), and describes emergency response and contingency procedures.  
10   The associated Activity Hazard Analyses define hazards associated with each type of work  
11   activity and how those hazards will be mitigated.

12   All work will be completed by a supervisor, operators, and technicians that have successfully  
13   completed 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER)  
14   training in accordance with 29 *U.S. Code of Federal Regulations* (CFR) 1910.120. A dedicated  
15   Site Safety Officer (SSO) will be on site during all field activities associated with implementation  
16   of this Work Plan. The SSO will be responsible for conducting site-specific training, daily tailgate  
17   safety meetings, and conducting periodic safety inspections.

18   As part of the Hazard Communication Standard, all Material Safety Data Sheets (MSDSs) for  
19   any chemicals used in the execution of the Phase 2 RFI will be submitted to Lura Gonzales,  
20   FWDA Administrative Records Manager, for inclusion in the FWDA MSDS binder.

21   **2.2   Survey of Sample Locations**

22   The location of each sample collected will be surveyed using appropriate instrumentation and  
23   procedures to obtain horizontal accuracy of less than 0.1 feet. A Trimble Total Station Global  
24   Positioning System (GPS), Trimble Static GPS, or equivalent, will be utilized to document each  
25   soil sample location. A North American Datum (NAD) 1983 Northing and Easting in U.S. Survey  
26   Feet will be established for all surveyed points and recorded in a dedicated field notebook.  
27   Survey data will be supplied in the Final Report in New Mexico State Plane and Universal  
28   Transverse Mercator Index (UTM) coordinates.

29   **2.3   Investigation Methods and Quality Control**

30   Investigation methods and quality assurance/quality control (QA/QC) procedures for sampling  
31   within Parcel 21 are detailed in Section 15.0 and 16.0 of the Parcel 21 RFI Work Plan (TPMC,  
32   2008b) and are incorporated into this Work Plan by reference. Investigation activities conducted  
33   as part of this Phase 2 Work Plan will be conducted in general accordance with the original RFI  
34   Work Plan.

1   **2.4   Sample Identification**

2   During sampling unique sample identification numbers will be assigned to each sample or  
3   subsample. Each sample identification (ID) number will consist of a combination of the Parcel  
4   number, SWMU number, additional site identifier, source of sample, increment or boring  
5   number, type of sample, and depth of sample collection in accordance with the latest version of  
6   the FWDA Environmental Information Management Plan (USACE, 2007b). Following is an  
7   example sample number and a description of the sample identifiers to be used during  
8   implementation of this Phase 2 Work Plan.

9        **Example Sample ID:** 2102B515SS01-0.0-0.5D-SO

10       Parcel: 21

11       SWMU or AOC: in this case SWMU 02

12       Additional Site Identifier: in this case B515 (Building 515)

13       Source of Sample: in this case SS (surface soil)

14       Increment Number: Samples collected within each SWMU/AOC will be assigned  
15       sequential 2-digit numbers (in this case 01)

16       Depth Range: In feet (in this case 0.0 to 0.5 feet)

17       Type of Sample: D (discrete)

18       Matrix: SO (Soil)

19   QA/QC samples will carry the same sample nomenclature as the parent sample with a unique  
20   suffix and numeral (if required) to distinguish individual samples. Equipment rinsate blanks, trip  
21   blanks, and field blanks will carry the sample location identifier with an additional designation of  
22   TBXX or EBXX (where XX represents the sequence number of the sample). Each blank will  
23   have a unique tracking number.

24   **2.5   Investigation-Derived Waste**

25   Three types of investigation-derived waste (IDW) may be generated during the sampling of  
26   environmental media during the Parcel 21 Phase 2 RFI activities: residual soil volume,  
27   decontamination fluids, and disposable sampling equipment/PPE. These IDW categories will be  
28   managed as follows:

- 29       • Limited surface and shallow subsurface soil that remains after required sample volumes  
30       have been collected from drive samplers and hand augers will be returned to the hole as  
31       allowed by NMED.

- 1       • Decontamination fluids will be contained within a temporary decontamination pad area  
2       during active sampling and decontamination activities at a site. Volumes of  
3       decontamination fluids are anticipated to be small. Accumulated wash and rinse water  
4       will be left within the decontamination pad area and allowed to evaporate. In the event of  
5       rainfall events, decontamination fluids will be containerized in drums temporarily and  
6       allowed to evaporate at a later date, but prior to demobilization for the sampling event. In  
7       no circumstance will accumulated fluids be stored on-site following the sampling event.  
8       Used, non decontaminated disposable sampling equipment or PPE will be placed in  
9       polyethylene trash bags and treated as general refuse. Refuse will be placed in suitable  
10      facility trash receptacles on a daily basis.

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1    **3.0    SAMPLING AND ANALYSIS AT SWMU 2 – BUILDING 515**

2    The RFI Report for Parcel 21 recommended select corrective measures and additional  
3    characterization activities within SWMU 2. The investigation found that soils within the paint  
4    debris disposal area south of Building 515 contained lead at a concentration exceeding the  
5    established Permit cleanup level. A localized area of paint debris within the larger area was  
6    identified and found to contain both lead and arsenic at concentrations exceeding the Permit  
7    cleanup levels. NMED recommended discrete sample collection from the 1 to 2 foot depth  
8    interval at several locations within this area. In lieu of sampling, the Army plans to remove the  
9    top 1 to 2 feet of soil within the paint debris disposal area and obtain confirmation samples from  
10   the bottom of the excavation. This action will be described in a future corrective measures work  
11   plan.

12   The RFI also found that soils underlying the asphaltic pavement adjacent to the doorway on the  
13   west end of Building 515 contained lead, and arsenic at concentrations exceeding Permit  
14   cleanup levels. Polychlorinated biphenyl (PCB) Arochlor 1254 was also detected. The NMED  
15   NOD also proposed additional sampling in this area. In order to address both the NMED NOD  
16   comments and the RFI Report recommendations, the Army proposes to establish four sample  
17   locations 20 feet horizontally to the north, south, east, and west of sample location  
18   2102B515SS01-0.5D-SO to further delineate the extent of impacted soil. The Army will collect  
19   two samples at each location, from just below the pavement (0 to 0.5 foot interval) and at the 1  
20   to 1.5 foot depth interval. An additional sample will be collected at location 2102B515SS01-  
21   0.5D-SO from the 1 to 1.5 foot depth interval to provide vertical delineation data. All samples will  
22   be analyzed for lead, arsenic, and PCBs. These samples correspond to sample locations  
23   2102B515SS01 through 2102B515SS05 as indicated in Table 3-1 and Figure 3-1.

24   In order to address NMED comment 5, additional sampling will be conducted within the former  
25   acid holding pond for chromium III and chromium VI. Two samples will be collocated with  
26   previous sample locations APBSO03 and APB06 (sample locations 2102B515SS06 and  
27   2102B515SS07). Two additional samples will be located at low points in the pond area (sample  
28   locations 2102B515SS08 and 2102B515SS09). Samples will be collected from the 0.5 to 1.0  
29   foot and 1.5 to 2.0 foot depth intervals. These samples are summarized in Table 3-1 and  
30   illustrated in Figure 3-1, along with associated sample numbers. The locations of samples  
31   2102B515SS08 and 2102B515SS09 illustrated in Figure 3-1 are approximate; they will be  
32   located at low points in the pond area.

33

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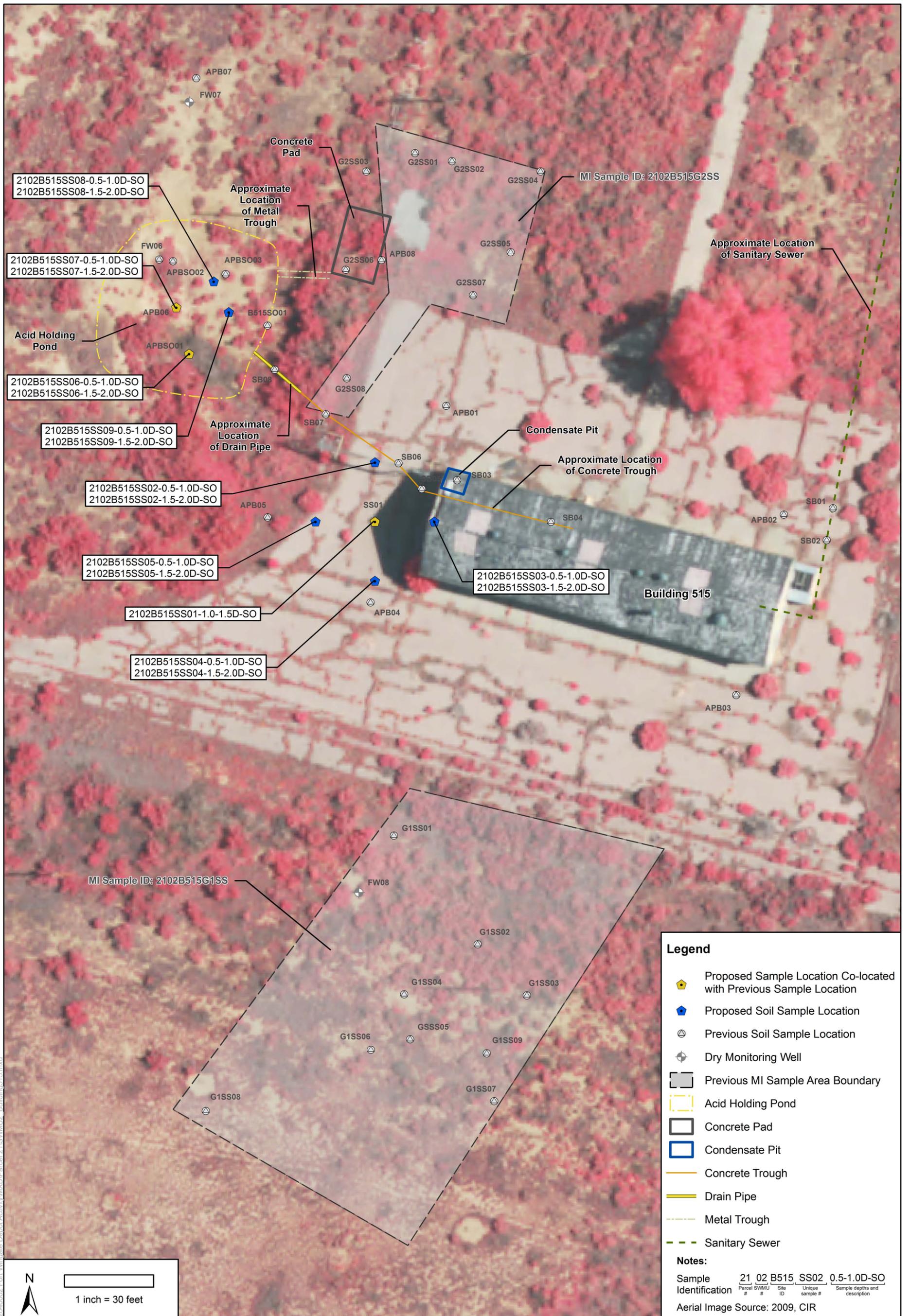
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**Table 3-1. Summary of Samples to be Collected at SWMU 2 – Building 515**

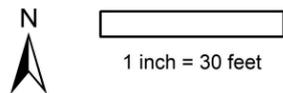
Sample Identification Number	Sample Depth (feet)	Sample Analyses	Regulatory Requirement
2102B515SS01-1.0-1.5D-SO	1 to 1.5	Lead, Arsenic, and PCBs	NMED NOD Comment 3 and Army Recommendations from Section 4.5 of RFI Report
2102B515SS02-0.0-0.5D-SO	0 to 0.5		
2102B515SS02-1.0-1.5D-SO	1.0 to 1.5		
2102B515SS03-0.0-0.5D-SO	0 to 0.5		
2102B515SS03-1.0-1.5D-SO	1.0 to 1.5		
2102B515SS04-0.0-0.5D-SO	0 to 0.5		
2102B515SS04-1.0-1.5D-SO	1.0 to 1.5		
2102B515SS05-0.0-0.5D-SO	0 to 0.5		
2102B515SS05-1.0-1.5D-SO	1.0 to 1.5		
2102B515SS06-0.0-0.5D-SO	0.5 to 1.0	Chromium III and VI	NMED NOD Comment 5
2102B515SS06-1.5-2.0D-SO	1.5 to 2.0		
2102B515SS07-0.0-0.5D-SO	0.5 to 1.0	Chromium III and VI	NMED NOD Comment 5
2102B515SS07-1.5-2.0D-SO	1.5 to 2.0		
2102B515SS08-0.0-0.5D-SO	0.5 to 1.0	Chromium III and VI	NMED NOD Comment 5
2102B515SS08-1.5-2.0D-SO	1.5 to 2.0		
2102B515SS09-0.0-0.5D-SO	0.5 to 1.0	Chromium III and VI	NMED NOD Comment 5
2102B515SS09-1.5-2.0D-SO	1.5 to 2.0		

2

3



Path: X:\Projects\2011\_12\Projects\912640002\_Fort Wingate Depot Activity\MXD\Parcel\_21\SS\WML2\_Building515.mxd



**Legend**

- Proposed Sample Location Co-located with Previous Sample Location
- Proposed Soil Sample Location
- Previous Soil Sample Location
- Dry Monitoring Well
- Previous MI Sample Area Boundary
- Acid Holding Pond
- Concrete Pad
- Condensate Pit
- Concrete Trough
- Drain Pipe
- Metal Trough
- Sanitary Sewer

**Notes:**

Sample Identification: 21 02 B515 SS02 0.5-1.0D-SO

Parcel SWMU # | Site ID | Unique sample # | Sample depths and description

Aerial Image Source: 2009, CIR



**U.S. ARMY CORPS OF ENGINEERS  
FORT WORTH DISTRICT**

DWN BY:	EAC
CHK'D BY:	CW
DATUM:	NAD 1983
PROJECTION:	STATE PLANE NM WEST
SCALE:	1:360

**FORT WINGATE DEPOT ACTIVITY  
PARCEL 21 PHASE 2 RFI WORK PLAN**

DATE:	August 2012
PROJECT NO.:	912640002.0003.01
FIGURE NO.:	

**AMEC  
Environment & Infrastructure, Inc.**



**PHASE 2 SAMPLE LOCATIONS  
SWMU 2 - BUILDING 515**

1 **4.0 SAMPLING AND ANALYSIS AT SWMU 19 – BUILDING 501**

2 The RFI Report proposed no further action for SWMU 19. However, NMED did not approve the  
3 multi-increment (MI) sampling conducted for PCB analysis. The Army proposes to collect  
4 discrete samples for PCB analysis from two different depth intervals at a total of 14 locations, as  
5 stipulated in the NOD. The Army proposes to collect samples from approximate depth intervals  
6 of 0 to 3 inches and 10 to 14 inches as requested by NMED.

7 A summary of samples to be collected at SWMU 19 and associated NMED comment numbers  
8 are presented in Table 4-1. Proposed sample locations are illustrated in Figure 4-1, along with  
9 associated sample numbers.

10

1 **Table 4-1. Summary of Samples to be Collected at SWMU 19 – Building 501**

Sample Identification Number	Sample Depth (feet)	Sample Analyses	Regulatory Requirement
2119B501SS03-0.0-0.5D-SO	0 to 0.5	PCBs	NMED NOD Comments 7 and 9
2119B501SS03-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS04-0.0-0.5D-SO	0 to 0.5		
2119B501SS04-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS05-0.0-0.5D-SO	0 to 0.5		
2119B501SS05-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS06-0.0-0.5D-SO	0 to 0.5		
2119B501SS06-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS07-0.0-0.5D-SO	0 to 0.5		
2119B501SS07-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS08-0.0-0.5D-SO	0 to 0.5		
2119B501SS08-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS09-0.0-0.5D-SO	0 to 0.5		
2119B501SS09-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS10-0.0-0.5D-SO	0 to 0.5		
2119B501SS10-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS11-0.0-0.5D-SO	0 to 0.5		
2119B501SS11-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS12-0.0-0.5D-SO	0 to 0.5		
2119B501SS12-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS13-0.0-0.5D-SO	0 to 0.5		
2119B501SS13-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS14-0.0-0.5D-SO	0 to 0.5		
2119B501SS14-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS15-0.0-0.5D-SO	0 to 0.5		
2119B501SS15-1.0-1.5D-SO	1.0 to 1.5		
2119B501SS16-0.0-0.5D-SO	0 to 0.5		
2119B501SS16-1.0-1.5D-SO	1.0 to 1.5		

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**BUILDING 501  
FORMER BOILER HOUSE AND  
HEATING PLANT NO. 7**

MI Sample ID: 2119B501SS02

TMW13  
2119B501SS06-0.0-0.5D-SO  
2119B501SS06-1.0-1.5D-SO

2119B501SS03-0.0-0.5D-SO  
2119B501SS03-1.0-1.5D-SO

2119B501SS04-0.0-0.5D-SO  
2119B501SS04-1.0-1.5D-SO

2119B501SS07-0.0-0.5D-SO  
2119B501SS07-1.0-1.5D-SO

2119B501SS08-0.0-0.5D-SO  
2119B501SS08-1.0-1.5D-SO

2119B501SS05-0.0-0.5D-SO  
2119B501SS05-1.0-1.5D-SO

MI Sample ID: 2119B501SS01

2119B501SS10-0.0-0.5D-SO  
2119B501SS10-1.0-1.5D-SO

2119B501SS11-0.0-0.5D-SO  
2119B501SS11-1.0-1.5D-SO

2119B501SS09-0.0-0.5D-SO  
2119B501SS09-1.0-1.5D-SO

2119B501SS13-0.0-0.5D-SO  
2119B501SS13-1.0-1.5D-SO

2119B501SS12-0.0-0.5D-SO  
2119B501SS12-1.0-1.5D-SO

2119B501SS14-0.0-0.5D-SO  
2119B501SS14-1.0-1.5D-SO

2119B501SS16-0.0-0.5D-SO  
2119B501SS16-1.0-1.5D-SO

2119B501SS15-0.0-0.5D-SO  
2119B501SS15-1.0-1.5D-SO

Service Road No. 3

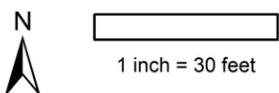
**Legend**

-  Proposed Soil Sample Location
-  Previous Soil Sample Location
-  First Unconsolidated Water Bearing Zone Monitoring Well Location
-  Previous MI Sample Area Boundary
-  Former Building 501

**Notes:**

Sample Identification 21 19 B501 SS03 0.0-0.5D-SO  
Parcel SWMU # Site ID Unique sample # Sample depths and description

Aerial Image Source: 2009, CIR



**U.S. ARMY CORPS OF ENGINEERS  
FORT WORTH DISTRICT**

**AMEC  
Environment & Infrastructure, Inc.**



DWN BY: EAC  
 CHK'D BY: CW  
 DATUM: NAD 1983  
 PROJECTION: STATE PLANE NM WEST  
 SCALE: 1:360

**FORT WINGATE DEPOT ACTIVITY  
PARCEL 21 PHASE 2 RFI WORK PLAN**

**PHASE 2 SAMPLE LOCATIONS  
SWMU 19 - BUILDING 501**

DATE: August 2012

PROJECT NO.: 912640002.0003.01

FIGURE NO.:

1 **5.0 SAMPLING AND ANALYSIS AT AOC 63**

2 The RFI Report noted that 2,4-DNT concentrations in two previous soil samples at AOC 63  
 3 (B509SO001 and 2163B50964B510SS07-1.0D-SO) exceeded the Permit cleanup level. The  
 4 Army plans to establish three additional soil sample locations, 10 feet horizontally to the north,  
 5 west, and south from sample B509SO001. Soil samples for explosives analysis will be collected  
 6 from the 0 to 0.5 foot and 1.0 to 1.5 foot depth intervals at each location. An additional sample  
 7 will be collected from the 1.0 to 1.5 foot depth interval at the same location as the previous  
 8 sample B509SO001 to allow vertical evaluation at the location of previously detected  
 9 concentrations. Similarly, the Army plans to establish three additional soil sampling locations 10  
 10 feet horizontally and to the north, east, and south from sample 2163B50964B510SS07. Soil  
 11 samples for explosives analysis will be collected from the 0 to 0.5 foot, 1.0 to 1.5 foot, and 2.0 to  
 12 2.5 foot depth intervals. An additional sample will be collected from the 2.0 to 2.5 foot depth  
 13 interval at the same location as the previous sample 2163B50964B510SS07.

14 A summary of samples to be collected at AOC 63 is presented in Table 5-1. Proposed sample  
 15 locations are illustrated in Figure 5-1, along with associated sample numbers.

16 **Table 5-1. Summary of Samples to be Collected at AOC 63**

Sample Identification Number	Sample Depth (feet)	Sample Analyses	Regulatory Requirement
2163B509SS11-1.0-1.5D-SO	1 to 1.5	Explosives	Army recommendations from Section 9.5 of RFI Report
2163B509SS12-0.0-0.5D-SO	0 to 0.5		
2163B509SS12-1.0-1.5D-SO	1.0 to 1.5		
2163B509SS13-0.0-0.5D-SO	0 to 0.5		
2163B509SS13-1.0-1.5D-SO	1.0 to 1.5		
2163B509SS14-0.0-0.5D-SO	0 to 0.5		
2163B509SS14-1.0-1.5D-SO	1.0 to 1.5		
2163B509SS07-2.0-2.5D-SO	2 to 2.5		
2163B509SS15-0.0-0.5D-SO	0 to 0.5		
2163B509SS15-1.0-1.5D-SO	1.0 to 1.5		
2163B509SS15-2.0-2.5D-SO	2.0 to 2.5		
2163B509SS16-0.0-0.5D-SO	0 to 0.5		
2163B509SS16-1.0-1.5D-SO	1.0 to 1.5		
2163B509SS16-2.0-2.5D-SO	2.0 to 2.5		
2163B509SS17-0.0-0.5D-SO	0 to 0.5		
2163B509SS17-1.0-1.5D-SO	1.0 to 1.5		
2163B509SS17-2.0-2.5D-SO	2.0 to 2.5		

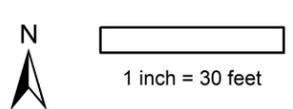
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**Legend**

- Proposed Sample Location Co-located with Previous Sample Location
- Proposed Soil Sample Location
- Previous Soil Sample Location
- Previous MI Sample Area Boundary

**Notes:**

Sample Identification	21	63	B509	SS12	0.0-0.5D-SO
	Parcel #	SWMU #	Site ID	Unique sample #	Sample depths and description

Aerial Image Source: 2009, CIR

Path: X:\Projects\2011\_12640002\_Fort Wingate Depot Activity\MXD\Parcel\_21AOC63\_pwb.mxd

<p><b>U.S. ARMY CORPS OF ENGINEERS</b> <b>FORT WORTH DISTRICT</b></p>	DWN BY: EAC CHK'D BY: CW DATUM: NAD 1983	<p>FORT WINGATE DEPOT ACTIVITY PARCEL 21 PHASE 2 RFI WORK PLAN</p>	DATE: August 2012
			PROJECTION: STATE PLANE NM WEST SCALE: 1:360
		<p>PHASE 2 SAMPLE LOCATIONS AOC 63 - BUILDING 509</p>	<p style="text-align: right;"><b>5-1</b></p>

1     **6.0     SAMPLING AND ANALYSIS AT AOC 68**

2     The RFI Report noted that the Royal Demolition Explosive (RDX) concentration in a previous  
3     soil sample at AOC 68 (B514SO001) exceeded the Permit cleanup level. The Army plans to  
4     establish three additional sample locations, 10 feet horizontally to the north, east, and south  
5     from sample B514SO001. Soil samples for explosives analysis will be collected from the 0 to  
6     0.5 foot and 1.0 to 1.5 foot depth intervals at each location. An additional sample will be  
7     collected from the 1.0 to 1.5 foot depth interval at the same location as the previous sample  
8     B514SO001.

9     A summary of samples to be collected at AOC 68 is presented in Table 6-1. Proposed sample  
10    locations are illustrated in Figure 6-1, along with associated sample numbers.

11                   **Table 6-1. Summary of Samples to be Collected at AOC 68**

Sample Identification Number	Sample Depth (feet)	Sample Analyses	Regulatory Requirement
2168B514SS08-1.0-1.5D-SO	1 to 1.5	Explosives	Army recommendations from Section 11.5 of RFI Report
2168B514SS09-0.0-0.5D-SO	0 to 0.5		
2168B514SS09-1.0-1.5D-SO	1 to 1.5		
2168B514SS10-0.0-0.5D-SO	0 to 0.5		
2168B514SS10-1.0-1.5D-SO	1 to 1.5		
2168B514SS11-0.0-0.5D-SO	0 to 0.5		
2168B514SS11-1.0-1.5D-SO	1 to 1.5		

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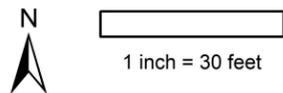
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**Legend**

- Proposed Sample Location Co-located with Previous Sample Location
- Proposed Soil Sample Location
- Previous Soil Sample Location
- Previous MI Sample Area Boundary

**Notes:**

Sample Identification	21	68	B514	SS09	0.0-0.5D-SO
	Parcel #	SWMU #	Site ID	Unique sample #	Sample depths and description

Aerial Image Source: 2009, CIR

<p><b>U.S. ARMY CORPS OF ENGINEERS</b> FORT WORTH DISTRICT</p>	DWN BY: EAC CHK'D BY: CW DATUM: NAD 1983	<p>FORT WINGATE DEPOT ACTIVITY PARCEL 21 PHASE 2 RFI WORK PLAN</p>	DATE: August 2012
			PROJECTION: STATE PLANE NM WEST SCALE: 1:360

1 **7.0 SAMPLING AND ANALYSIS AT AOC 75**

2 The RFI Report describes multi-increment (MI) sampling for PCBs that was conducted on  
3 surfaces surrounding the locations of two transformers within Parcel 21 (referred to as AOC 75).  
4 NMED has requested discrete sampling for PCB analysis. The Army is proposing to collect  
5 discrete samples for PCB analysis from two different depth intervals at a total of 5 locations. The  
6 Army proposes to collect samples from depth intervals of 0.0 to 0.5 feet and 1.0 to 1.5 feet at  
7 each location.

8 A summary of samples to be collected at AOC 75 is presented in Table 7-1. Proposed sample  
9 locations are illustrated in Figure 7-1, along with associated sample numbers.

10 **Table 7-1. Summary of Samples to be Collected at AOC 75**

Sample Identification Number	Sample Depth (feet)	Sample Analyses	Regulatory Requirement
2175B501SS01-0.0-0.5D-SO	0 to 0.5	PCBs	NMED NOD Comment 11
2175B501SS01-1.0-1.5D-SO	1.0 to 1.5		
2175B501SS02-0.0-0.5D-SO	0 to 0.5		
2175B501SS02-1.0-1.5D-SO	1.0 to 1.5		
2175B501SS03-0.0-0.5D-SO	0 to 0.5		
2175B501SS03-1.0-1.5D-SO	1.0 to 1.5		
2175B515SS01-0.0-0.5D-SO	0 to 0.5		
2175B515SS02-0.0-0.5D-SO	0 to 0.5		

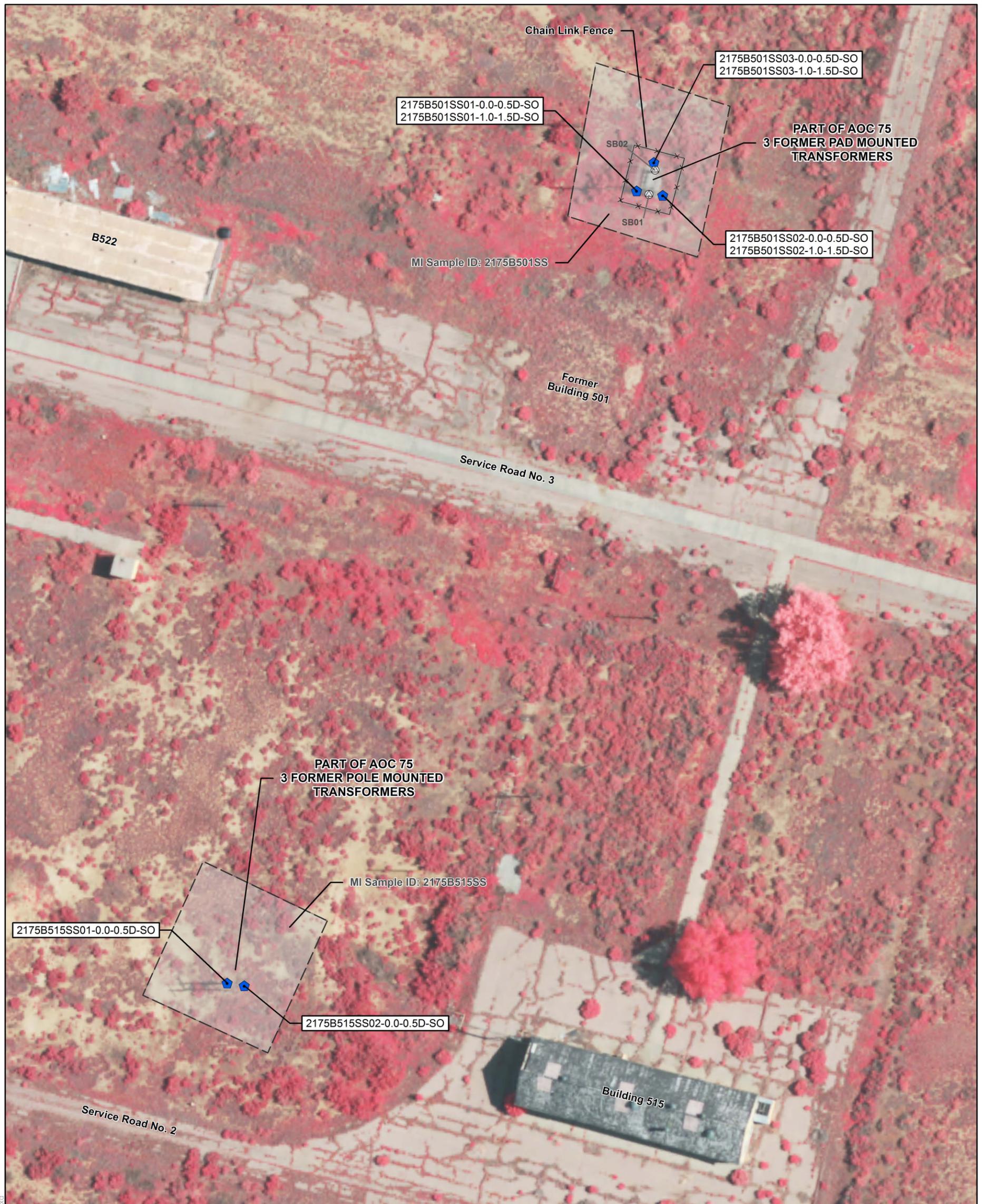
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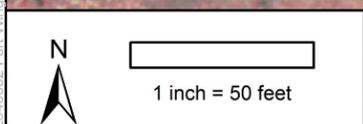
2175B515SS01-0.0-0.5D-SO

2175B515SS02-0.0-0.5D-SO

2175B501SS01-0.0-0.5D-SO  
2175B501SS01-1.0-1.5D-SO

2175B501SS03-0.0-0.5D-SO  
2175B501SS03-1.0-1.5D-SO

2175B501SS02-0.0-0.5D-SO  
2175B501SS02-1.0-1.5D-SO



**Legend**

- Proposed Soil Sample Location
- Previous Soil Sample Location
- Previous MI Sample Area Boundary
- Chain Link Fence

**Notes:**

Sample Identification: 21 75 B515 SS01 0.0-0.5D-SO

Aerial Image Source: 2009, CIR

Path: X:\Projects\2011\_12\Projects\912640002\_Fort Wingate Depot Activity\MXD\Parcel\_21AOC75.mxd

<p><b>U.S. ARMY CORPS OF ENGINEERS</b> FORT WORTH DISTRICT</p>	DWN BY: EAC	<p>FORT WINGATE DEPOT ACTIVITY PARCEL 21 PHASE 2 RFI WORK PLAN</p>	DATE: August 2012
	CHK'D BY: CW		PROJECT NO.: 912640002.0003.01
<p><b>AMEC</b> Environment &amp; Infrastructure, Inc. </p>	DATUM: NAD 1983	<p>PHASE 2 SAMPLE LOCATIONS AOC 75 - FORMER ELECTRICAL TRANSFORMERS</p>	FIGURE NO.: <b>7-1</b>
	PROJECTION: STATE PLANE NM WEST SCALE: 1:600		

1 **8.0 POST-IMPLEMENTATION REPORTING**

2 All activities conducted as part of this Phase 2 RFI Work Plan will be documented in a brief  
3 Phase 2 RFI Letter Report. The final report will contain, at a minimum, a detailed schedule of  
4 completed activities, a summary of analytical data, and an evaluation of data comparing results  
5 to NMED's Risk Assessment Guidance for Site Investigation and Remediation, dated February  
6 2012 (NMED, 2012c).

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1   **9.0   SCHEDULE**

2   A summary of the expected schedule for conducting the Phase 2 RFI activities at Parcel 21 is  
3   presented below. Days listed are days following NMED approval of this Work Plan and Army  
4   notice to proceed.

- 5       •   30 days – Provide 30 day notice to NMED
- 6       •   60 days – Initial mobilization to conduct investigation
- 7       •   120 days – Submittal of Army Draft Phase 2 Report
- 8       •   270 days – Submittal of Final Phase 2 Report

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1   **10.0 REFERENCES**

2   NMED, 2012a. Notice of Disapproval, RCRA Facility Investigation Report, Parcel 21, Fort  
3   Wingate Depot Activity, New Mexico. New Mexico Environment Department, 20 March 2012.

4   NMED 2012b. Approval Revised RCRA Facility Investigation Report, Parcel 21, Fort Wingate  
5   Depot Activity, New Mexico. New Mexico Environment Department, 27 August 2012.

6   NMED 2012c. Risk Assessment Guidance for Site Investigations and Remediation. New Mexico  
7   Environment Department, February 2012.

8   TPMC, 2008a. Summary Report of Historical Information, Parcel 21, Fort Wingate Depot  
9   Activity. TerranearPMC, 7 February 2008.

10   TPMC, 2008b. RCRA Facility Investigation Work Plan, Parcel 21, Fort Wingate Depot Activity,  
11   Revision – 30 September 2008. TerranearPMC, 30 September 2008.

12   TPMC, 2011. RCRA Facility Investigation Report, Parcel 21, Fort Wingate Depot Activity.  
13   TerranearPMC, 14 January 2011.

14   USACE, 2007. Environmental Information Management Plan, Fort Wingate Depot Activity. U.S.  
15   Army Corps of Engineers. 21 December 2007

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