Fact Sheet / Statements of Basis

Kirtland Air Force Base
Request for Approval of No Further Action
for
24 Solid Waste Management Units and Areas of Concern

(RCRA Permit No. 9570024423)

November 8, 2007

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ACRONYMS AND ABBREVIATIONS

KAFB	Kirtland Air Force Base
AOC	Area of Concern
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMS	Corrective Measures Study
DRO	Diesel range organics
EMP	electromagnetic pulse
EPA	U.S. Environmental Protection Agency
ft	feet
GRO	gasoline-range organics
HPD	Horizontal Polarized Dipole
HSWA	Hazardous and Solid Waste Amendments
ICM	Interim Corrective Measures
mg/kg	milligrams per kilogram
MWSA	Manzano Weapons Storage Area
NFA	no further action
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMEID	New Mexico Environmental Improvement Division
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SOR	Starfire Optical Range
SSL(s)	soil screening level(s)
SVOC(s)	semivolatile organic compound(s)
SWMU(s)	solid waste management unit(s)
TAL	Target Analyte List
TPH	total petroleum hydrocarbons
USAF	U.S. Air Force
VCM	Voluntary Corrective Measures
VPD	Vertical Polarized Dipole
VOC(s)	volatile organic compound(s)

FACT SHEET / STATEMENT OF BASIS
Proposals for No Further Action Status for
24 Solid Waste Management Units/Areas of Concern
RCRA Permit No. NM9570024423

Introduction

Under authority of the New Mexico Hazardous Waste Act (Section 74-4-1 et seq., NMSA 1978, as amended, 1992) and the New Mexico Hazardous Waste Management Regulations (20.4.1 NMAC), the New Mexico Environment Department (NMED) intends, pending public input, to approve a February 5, 2007, permit modification request to grant No Further Action (NFA) status for 24 solid waste management units and/or areas of concern (SWMUs/AOCs) currently listed on the Hazardous and Solid Waste Amendments (HSWA) Corrective Action module of the Kirtland Air Force Base (KAFB) *Resource Conservation and Recovery Act* (RCRA) Hazardous Waste Management Facility Permit (NM9570024423) issued to KAFB on October 10, 1990 (U.S. Environmental Protection Agency [EPA], 1990). Additionally, two SWMUs/AOCs are being removed from Table B and relisted on Table A.

If approved, the proposed modification would grant NFA status for 24 SWMUs/AOCs. Table A, Module IV of KAFB's RCRA Permit lists SWMUs/AOCs at the KAFB facility where corrective action may be necessary to characterize and/or remediate past releases of hazardous wastes or hazardous waste constituents. If this modification is approved by NMED, the 24 SWMUs/AOCs would be transferred from Table A to Table B as SWMUs/AOCs that have been approved for NFA. Two SWMUs/AOCs, RW-068 and DP-067, shall be removed from Table B and relisted on Table A due to the discovery of additional solid wastes at or near these sites.

A. Facility Description

KAFB is located in Albuquerque, Bernalillo County, New Mexico (Figure 1). The base covers 52,223 acres on a high, arid mesa approximately 5 miles east of the Rio Grande. KAFB is bounded on the north and northwest by the City of Albuquerque, on the east by the Cibola National Forest, on the south by the Pueblo of Isleta, and on the west by land owned by the State of New Mexico and the Albuquerque International Sunport. KAFB was originally named Oxnard Field and began operation in 1928. In 1981 KAFB began the Installation Restoration Program (IRP) that completed a Phase I Records Search of potential contaminated sites. As a result of the facility's operations from 1944 to the present, KAFB has generated, treated, stored, disposed of, and otherwise handled a variety of solid wastes, hazardous wastes, hazardous waste constituents, and radioactive wastes. Today, it is home to the 377th Air Base Wing, KAFB's host organization.

The Permittee is located at the following address:
Kirtland Air Force Base
2000 Wyoming Blvd., SE
KAFB, NM 87117-5000

The Permittee's primary contact for this action is:
Mr. Carl J. Lanz
Chief, Restoration Section
377th CES / CEVR
2050 Wyoming Blvd., SE, Suite 118
KAFB, NM 87117-5270

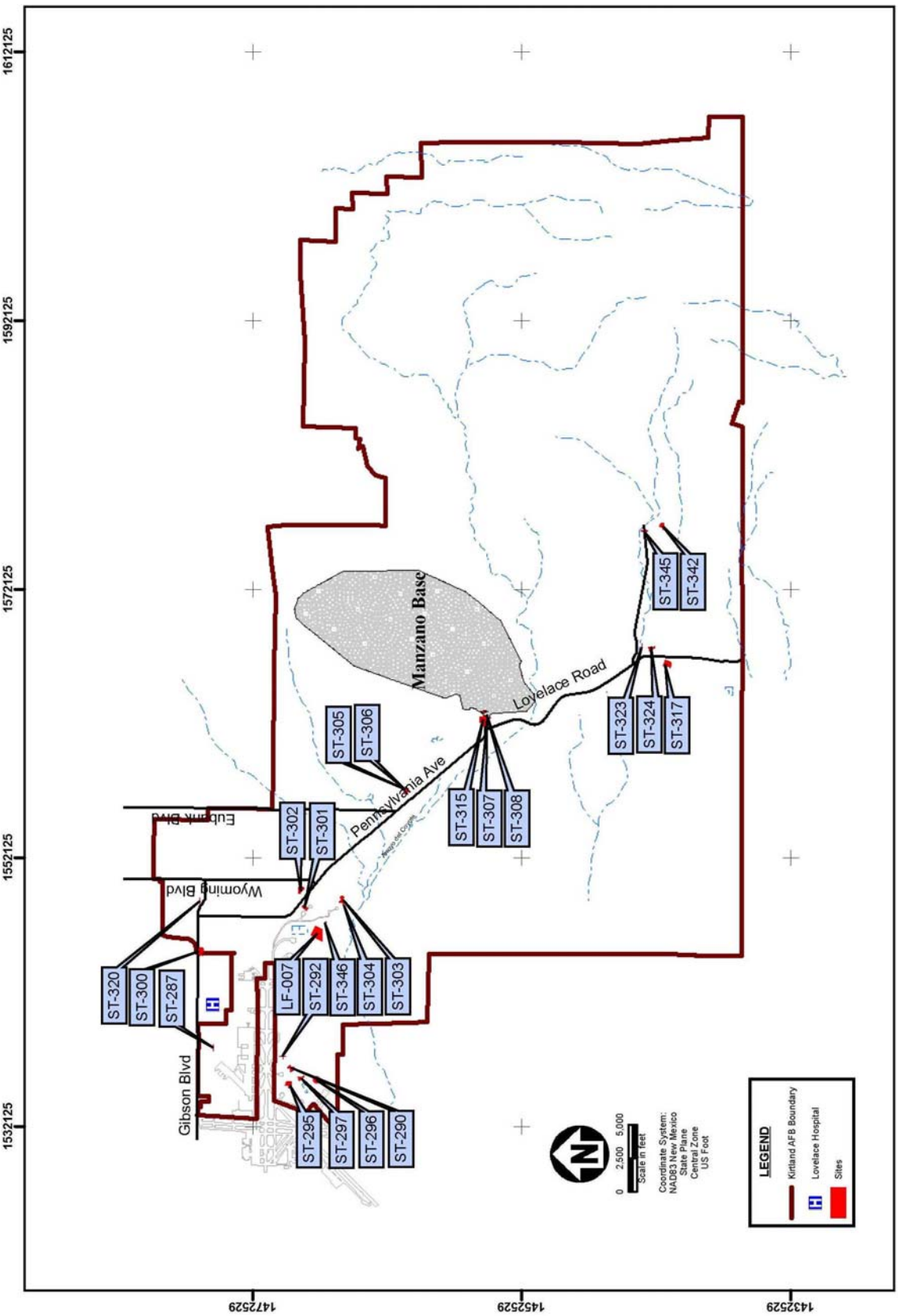

Figure 1
Location Map
Kirtland Air Force Base, New Mexico

B. History of Investigation

The EPA and the New Mexico Environmental Improvement Division (NMEID), now known as the NMED, jointly issued KAFB's Hazardous Waste Permit in October 1990. One module of the permit, Module IV, Special Conditions Pursuant to the 1984 HSWA to RCRA, concerns the investigation of SWMUs. The HSWA Module requires KAFB to determine whether or not there have been any releases of hazardous waste from any SWMU and to take appropriate corrective measures for any such releases. On January 2, 1996, the NMED received authorization for corrective action under the HSWA and became the administrative authority for this action.

Section H, below, briefly describes the location, history, evaluation of relevant information, and the bases for determination for each of the 24 SWMUs proposed for NFA. More detailed descriptions of the particulars for each SWMU can be found in the original NFA proposal for each SWMU/AOC and other referenced documentation constituting the Administrative Record.

This Statement of Basis describes 24 SWMUs/AOCs that were identified as "potentially appropriate for NFA." In summary, if KAFB's request for a permit modification is approved by NMED, these 24 SWMUs/AOCs will be listed in Module IV, Table B as being approved for NFA.

C. Administrative Record

The Administrative Record for this proposed action consists of the KAFB Permit Modification Request, the Fact Sheet / Statement of Basis, the Public Notice, the draft Permit that consists of the proposed Tables A and B, and the referenced supporting documentation for each site. The complete Administrative Record may be reviewed at the following location during the public comment period:

NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
(505) 476-6000
Monday - Friday from 8:00 a.m. to 5:00 p.m.
Contact: Pam Allen (505) 476-6000

The KAFB Permit Modification Request, the Fact Sheet / Statement of Basis, the Public Notice, and the draft Permit that consists of the proposed Tables A and B may be reviewed at the following locations during the public comment period:

NMED-District 1 Albuquerque Office
5500 San Antonio NE
Albuquerque, New Mexico 87109
(505) 222-9500
Monday - Friday from 8:00 a.m. to 5:00 p.m.
Contact: William McDonald (505) 222-9582

A copy of the Fact Sheet / Statement of Basis, the Public Notice, and the draft Permit that consists of the proposed Tables A and B are also available on the NMED website at: www.nmenv.state.nm.us/HWB/kafbperm.html under No Further Action. To obtain a copy of the Administrative Record or a portion thereof, in addition to further information please contact Ms.

Pam Allen at (505) 476-6064, or at the address given above. NMED will provide copies, or portions thereof, of the administrative record at a cost to the requestor.

D. No Further Action Criteria

NFA is proposed for these SWMUs based upon one or more of the following: field surveys, historical records, aerial photographs, employee interviews, site investigations, confirmatory sampling and/or remediation activities that yielded either no release, insignificant releases, or clean-up of a hazardous waste release to the environment. The criteria to propose a SWMU for NFA are:

The SWMU cannot be located, does not exist, or is a duplicate SWMU.

The SWMU/AOC has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

No release to the environment has occurred or is likely to occur in the future from the SWMU.
There was a release from the SWMU to the environment but the site was characterized and/or remediated under another authority that adequately addressed corrective action, and documentation such as a closure letter is available.

The SWMU has been characterized or remediated in accordance with current applicable state and/or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use.

E. Public Participation

Fifteen people (including representatives from KAFB and NMED) attended a public meeting arranged by KAFB on 24 August 2006 from 6:00 pm to 8:00 pm at the Manzano Mesa Multigenerational Center, located at 501 Elizabeth St. SE, Albuquerque, New Mexico. Subsequent to the meeting, no written comments were submitted to KAFB or NMED.
NMED issued a public notice on **November 8, 2007,** to announce the beginning of a 60-day comment period that will end at **5:00 p.m., January 7, 2008**. Any person who wishes to comment on this action or request a public hearing should submit written or electronic mail (e-mail) comment(s) with the commenter's name and address to the respective address below. Only comments and/or requests received on or before **5:00 p.m. MST, January 7, 2008,** will be considered.

John E. Kieling, Program Manager
Hazardous Waste Bureau - New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303
Ref: KAFB – No Further Actions
e-mail: john.kieling@state.nm.us

Written comments must be based on the administrative record. Documents in the administrative record need not be re-submitted if expressly referenced by the commenter. Requests for a public

hearing shall provide: (1) a clear and concise factual statement of the nature and scope of the interest of the person requesting the hearing; (2) the name and address of all persons whom the requestor represents; (3) a statement of any objections to the proposed action, including specific references; and (4) a statement of the issues which such persons proposes to raise for consideration at the hearing. Written comment and requests for Public Hearing must be filed with Mr. John Kieling on or before **5:00 p.m. MST, January 7, 2008,** at NMED Hazardous Waste Bureau, 2905 Rodeo Park Drive East, Building 1, Santa Fe, New Mexico, 87505-6303. The NMED will provide a thirty (30) day notice of a public hearing, if scheduled.

F. Next Steps

The NMED will ensure that the approved draft Permit is consistent with the New Mexico Hazardous Waste Management Regulations. All written comments submitted on the draft Permit will become part of the administrative record, will be considered in formulating a final decision, and may cause the draft Permit to be modified. NMED will respond in writing to all significant public comment. The response will specify which provisions, if any, of the draft Permit have been changed in the final Permit decision, and the reasons for the change. This response will also be posted on the NMED website in addition to notifying all persons providing written comments.

The NMED will notify KAFB, each person on the facility mailing list, and each person who made a public comment of the final decision. The final decision will become effective 30 days after service of the decision unless a later date is specified or a review is requested under the New Mexico Hazardous Waste Management Regulations, 20.4.1.900 NMAC.

G. Contact Person for Additional Information

For additional information, contact the following individual:

Mr. John E. Kieling
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Bldg 1
Santa Fe, NM 87505-6303
E-mail: john.kieling@state.nm.us
Telephone: (505) 476-6000
Fax: (505) 476-6030

Mr. William McDonald
NMED – Hazardous Waste Bureau
5500 San Antonio NE
Albuquerque, NM 87109
E-mail: william.mcdonald@state.nm.us
Telephone: (505) 222-9582
Fax: (505) 222-9510

H. Description of Solid Waste Management Units Proposed for No Further Action

The descriptions for each of the 24 sites being proposed for NFA are presented in the following sections.

1. <u>SWMU 10-21-A, Building 525 Septic System (ST-287)</u>

Location and Current Land Use

SWMU 10-21-A (ST-287), located south of Building 525, is a restroom facility adjacent to a softball field in the northwest portion of KAFB. The land use near ST-287 is considered urban/industrial. The doors on the restroom facility are locked at times when the softball facility is not in use. Figure A-1 shows the SWMU location and features (United States Air Force

[USAF] 1995). Two production wells are located near this septic tank and leach field area: KAFB-14 is 1,980 feet (ft) southwest and KAFB-15 is 2,000 ft to the southeast.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-287. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

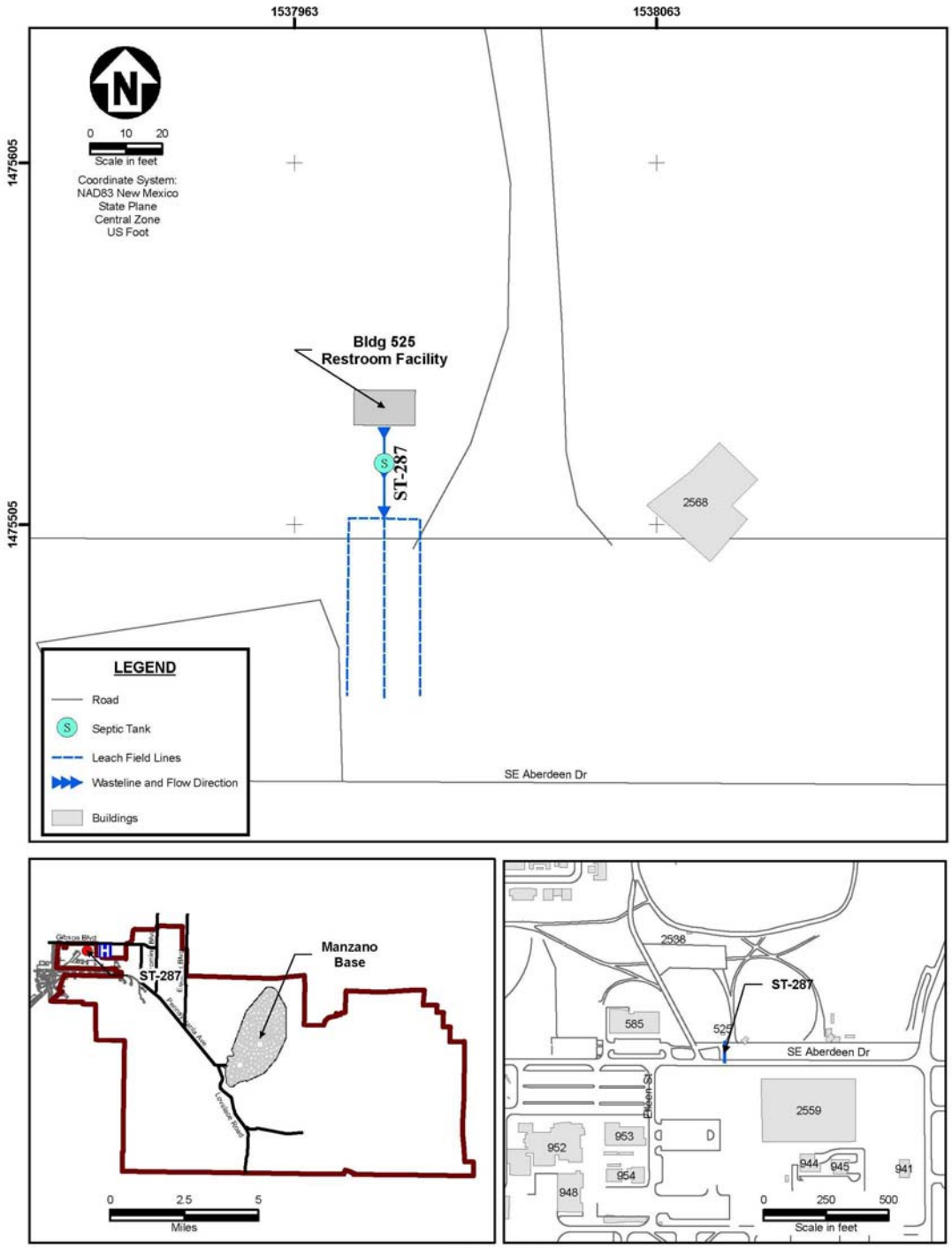

Figure A-1
SWMU 10-21-A, Septic System Building 525 (ST-287)
Kirtland Air Force Base, New Mexico

History

No historical information was discovered for Building 525. However, there is no evidence to suggest the facility was used for anything other than a restroom for the sports facility (USAF 2001). There is no historical evidence to suggest this septic system was at any point in time associated with a facility used as a laboratory, maintenance shop, or for chemical storage. All available information suggests this septic system was used only for disposal of domestic-type waste and that hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-287 was investigated as part of the Appendix III RCRA Facility Investigation (RFI) in 1995 (USAF, 1995). The objective of the investigation was to determine the presence or absence of contaminants in soil within the septic system leach field. On February 9, 1995, four boreholes were drilled and soil samples were collected using direct push drilling techniques. One borehole was drilled north of the leach field area to collect background data for the site. The other three boreholes were drilled in the leach field area. Based on engineering drawings and observed field conditions, the leach field lines were determined to be 3 ft below ground surface (bgs). From each boring, a sample was collected right below the leach field lines and another one up to 5 ft below the leach field line. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), metals, mercury, pH, and soil moisture. Methylene chloride (0.006 to 0.007 milligrams per kilogram (mg/kg)) was the only VOC detected and was at a concentration well below the current NMED residential soil screening level (SSL) of 182 mg/kg (NMED 2006b). Bis(2-ethylhexyl) phthalate was the only SVOC analyte detected at 0.44 mg/kg in a background sample, below the NMED residential SSL of 347 mg/kg (NMED 2006b).

Arsenic was detected at concentrations in two samples at 4.2 and 5.2 mg/kg; one detection was above the NMED-approved background concentration (NMED 1997) of 4.4 mg/kg and both were above the NMED residential SSL of 3.9 mg/kg. The arsenic concentrations detected at ST-287 are consistent with naturally occurring levels commonly detected in soil samples throughout Kirtland AFB and are not the result of past activities at the site. Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

Basis for Determination

In a letter dated July 28, 2006, the NMED agreed that SWMU 10-21-A, (ST-287) is suitable for No Further Action (NFA) (NMED 2006a). This NFA proposal is based upon NMED's NFA Criterion 2: The SWMU has been never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

2. SWMU 10-21-B, Septic System Building 619 (ST-290)

Location and Current Land Use

SWMU 10-21-B (ST-290) is located south of Building 619 in an urban/industrial zone in the northwest portion of KAFB and serves administrative offices. The leach field lines were reportedly 3 ft below grade. Figure B-1 shows the SWMU location and features (USAF 1995). Two production wells are located in this area of KAFB: KAFB-2 is 3,600 ft east-northeast, and KAFB-14 is 3,800 ft north.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-290. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 619 and the septic system were built in 1990. The building has housed administrative offices since that time (USAF 2001). There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage, and there are no floor drains. All available information suggests this septic system was used only for disposal of domestic-type waste and hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-290 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). The objective of the investigation was to determine the presence or absence of contaminants in soil within the septic system leach field. On February 20, 1995, three boreholes were drilled and sampled using direct push drilling techniques. All boreholes were drilled in the leach field area. Based on engineering drawings and observed field conditions, leach field lines were determined to be 3 ft bgs. From each boring, a sample was collected right below the leach field lines and another one up to 5 ft below the leach field line. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Three soil samples were analyzed for VOCs, SVOCs, TPH, metals, mercury, pH, and soil moisture. No analytes were detected at or above NMED-approved background levels or NMED residential SSLs and TPH screening guidelines (NMED 1997, 2005, and 2006b). Under a residential risk-based scenario, it was determined that this site does not pose an unacceptable level of risk to human health or the environment.

Basis for Determination

In a letter dated July 28, 2006, the NMED agreed that SWMU 10-21-B, ST-290 is suitable for NFA (NMED 2006a). This NFA proposal is based upon NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

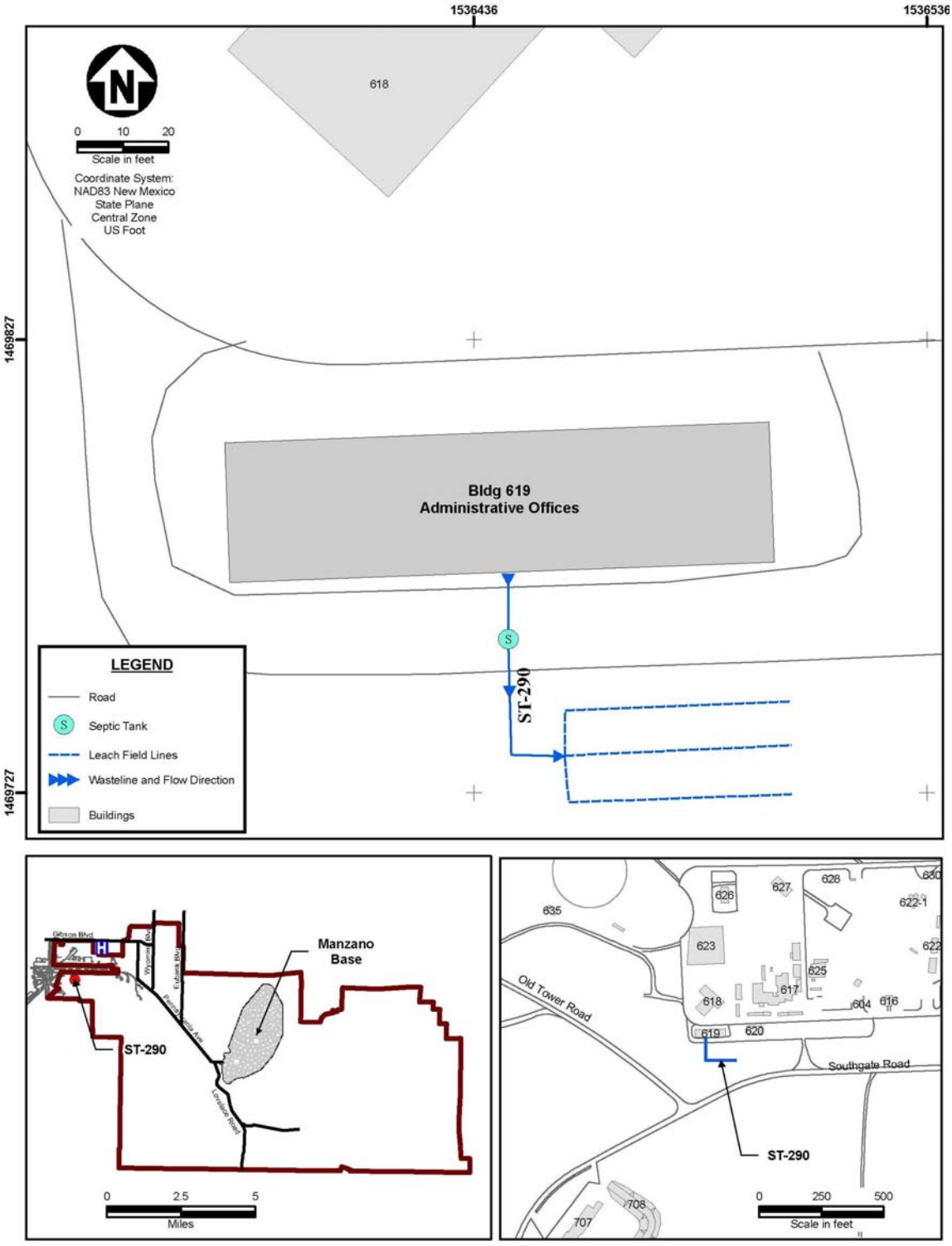

Figure B-1
SWMU 10-21-B, Septic System Building 619 (ST-290)
Kirtland Air Force Base, New Mexico

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

3. Appendix C SWMU 10-21-B, Septic System Building 622 (ST-292)

Location and Current Land Use

SWMU 10-21-B (ST-292) is located east of Building 622-1, a former physics science laboratory, in the northwest portion of KAFB. The site is located in the urban/industrial land use area. The septic tank is active and is pumped periodically. The general SWMU location and features are shown on Figure C-1 (USAF 1995). The nearest production wells are KAFB-2, 3,500 ft east-northeast, and KAFB-14 3,500 ft north of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-292. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 622 was built in 1964 as an Electromagnetic Pulse Test Simulator Laboratory for testing of major weapons and communications systems, including the Atlas and Poseidon missiles, a scale B-1 Strategic Bomber, and AGM-122A Sidearm Missiles. The Building 622 facility actually consisted of a central, underground building (Building 622), and northern (622-1) and southern (622-2) building. Engineering drawings show septic pipe lines emanating from 622-1 and from a portable building or trailer that is no longer on site (USAF 2001). The facility is currently unoccupied.

Evaluation of Relevant Information

ST-290 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). The objective of the investigation was to determine the presence or absence of contaminants in soil beneath the septic system leach field. On February 13, 1995, four boreholes were drilled and sampled using direct push techniques. Three boreholes were drilled in the leach field area and one borehole was drilled in a background area. Soil samples were collected from a depth of 4 to 6 ft bgs. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for volatile organic compounds, semi-volatile organic compounds, TPH as gasoline-range organics (GRO) and diesel-range organics (DRO), metals, mercury, pH, and soil moisture.

DRO was detected at concentrations below the NMED residential SSL (NMED 2005). Barium and copper were detected at concentrations below their respective NMED residential SSLs (NMED 2006). Arsenic was also detected in site soils but at concentrations below the NMED-approved background concentration for this constituent (NMED 1997). Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of risk to human health or the environment.

Basis for Determination

In a letter dated January 3, 2007, the NMED agreed that SWMU 10-21-B, ST-292 is suitable for NFA (NMED 2007). This NFA proposal is based upon NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

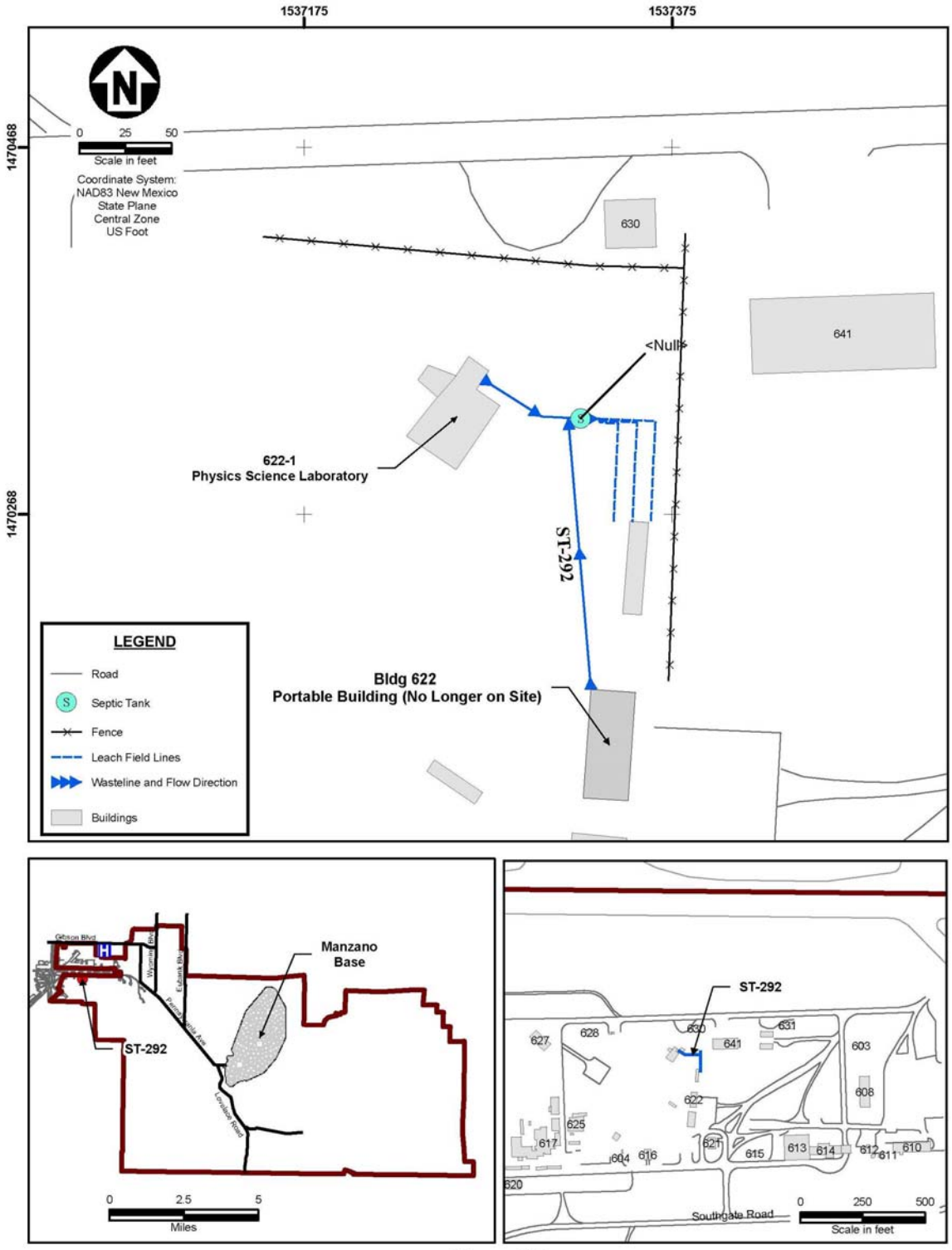

Figure C-1
SWMU 10-21-B, Septic System Building 622 (ST-292)
Kirtland Air Force Base, New Mexico

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

4. Appendix D SWMU 10-21-C, Septic System Building 638 (ST-295)

Location and Current Land Use

SWMU 10-21-C (ST-295) was located south-southeast of Building 638, a fire station, in the northwest portion of KAFB. The septic tank and leach field lines were removed and disposed of in 1997. Based on engineering drawings, inflow and outflow line lengths were approximately 230 ft and 15 ft long, respectively. The tank discharged to a 100-ft by 40-ft leach field to the south. The site is located in the urban/industrial land use area. The general SWMU location and features are shown on Figure D-1 (USAF 1995). The nearest production wells are KAFB-2, 5,700 ft east-northeast, and KAFB-14, 4,600 ft north-northeast of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-295. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 638 was built in 1954 and used as a Fire Station until 1964, after which the building was occupied by the Aero Club, who inhabited the building until 1967. From 1967 until 1970, Building 638 was known as an Aircraft Engineering Facility and served as an instrumentation building for electromagnetic pulse (EMP) aircraft tests. The building was also used for missile and aircraft storage. Through the 1970s and 1980s, Building 638 supported different EMP engineering and equipment research projects, including the Vertically Polarized Dipole facility (USAF 2001). Currently, Building 638 serves again as a Fire Station.

Evaluation of Relevant Information

ST-295 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). The objective of the investigation was to determine the presence or absence of contaminants in soil beneath the septic system leach field. On February 22, 1995, four boreholes were drilled and sampled using direct push drilling techniques. Three boreholes were drilled in the leach field area and one borehole was drilled in a background area. In three boreholes, soil samples were collected from a depth of 3 to 5 ft bgs and in one borehole from 6 to 8 ft bgs. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture.

SVOCs were detected at concentrations above their respective residential SSLs applicable at the time of the investigation (USAF 1995). Also, DRO were detected at a concentration above the NMED TPH screening guideline applicable at the time of the investigation (NMED 2005). Arsenic and beryllium were detected at elevated concentrations that were attributed to natural conditions.

The analytical results in the 1995 RFI indicated that a release of SVOCs and DRO may have occurred via the septic system and additional soil sampling to define lateral and vertical extent of potential contamination was recommended.

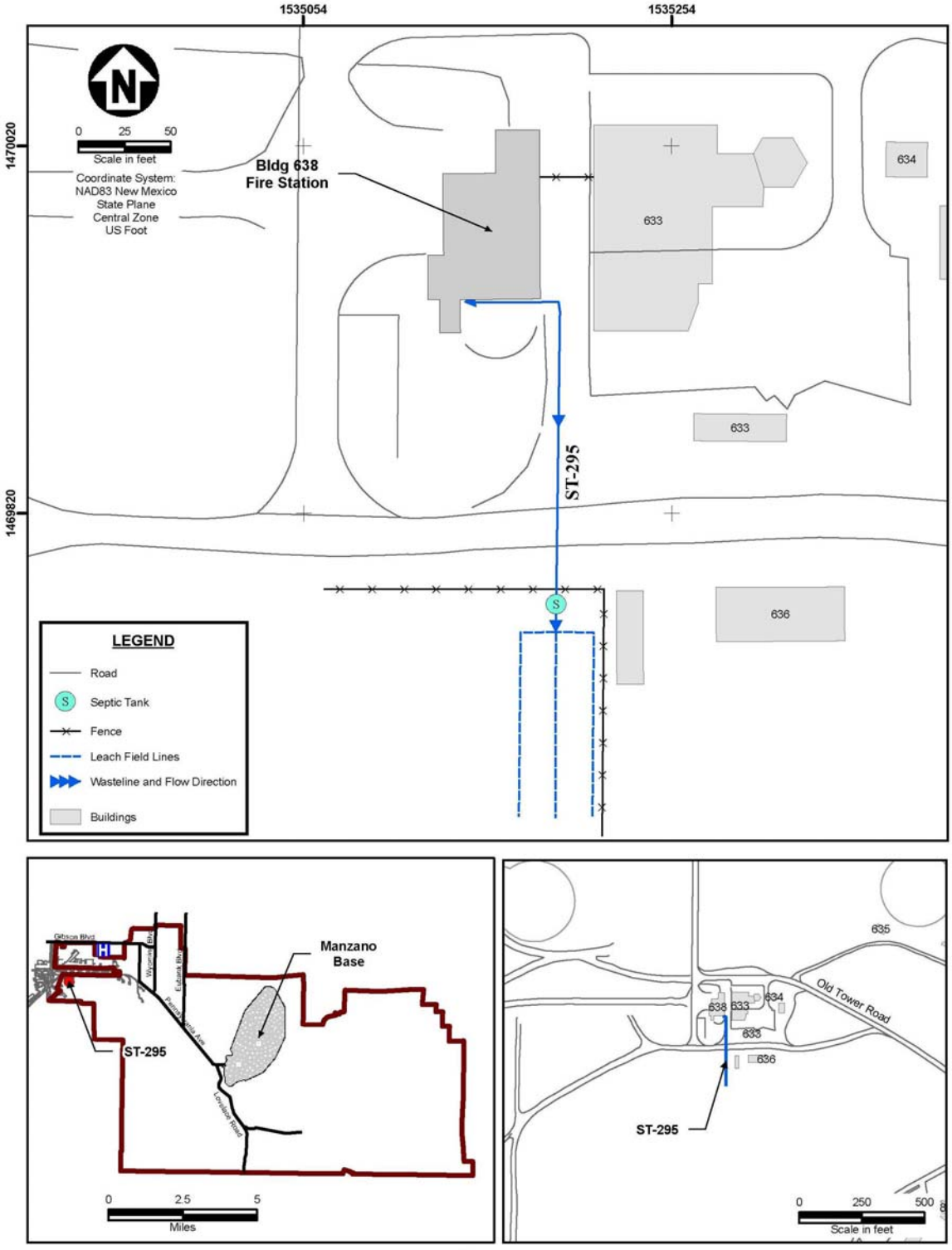

Figure D-1
SWMU 10-21-C, Septic System Building 638 (ST-295)
Kirtland Air Force Base, New Mexico

In 1996, during the Phase 2 RFI (USAF 1997), an additional four boreholes were drilled and sampled to investigate the extent of contamination discovered during the 1995 RFI. Borings within the leach field were sampled from 3 to 5 ft bgs and from 10 to 12 ft bgs. SVOCs were detected at concentrations significantly below their respective residential SSLs applicable at the time of the investigation (USAF 1995). None of the SVOCs that were detected during the 1995 RFI were detected. GRO were detected at levels significantly below the NMED residential soil screening guideline (NMED 2005). Due to SVOCs and DRO impact to soils around a borehole within the leach field, the Phase 2 RFI recommended removal of shallow soils from a 10 ft by 10 ft by 5 ft deep area surrounding this borehole.

An Interim Corrective Measure (ICM) was conducted in 1997 to remove contaminated soil (USAF 1998). In addition to the soil removal, the action included removal of sludge and liquid from the septic tank, removal of the tank and the capping of inflow lines. Three asbestos-concrete leach field lines discovered during the excavation were also removed. Soil samples collected from the sides and bottom of the excavated area showed elevated levels of SVOCs and DRO, so an additional 2 ft of soil were removed from the bottom and west side of the excavation. Based on samples collected after the excavation was expanded which showed no detection of SVOCs or petroleum hydrocarbon analytes it was determined that this site does not pose an unacceptable level of risk to human health or the environment. The excavated soil and septic tank debris were disposed of in the Kirtland AFB landfill, and the excavations were backfilled with clean fill material and graded. The asbestos-concrete pipes were disposed of off site as a special waste.

In a letter to Kirtland AFB, dated April 16, 1999 (NMED 1999), the NMED approved the Kirtland AFB ICM report and findings for ST-295 and agreed with the recommendation that the site be granted NFA status under a residential-risk based scenario.

Basis of Determination

In a letter dated January 3, 2007, the NMED has agreed that SWMU 10-21-C, ST-295 is suitable for NFA (NMED 2007). This NFA proposal is based upon NMED's NFA Criterion 5: The SWMU has been characterized or remediated in accordance with current applicable state or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected land use.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 1999. Letter from Mr. Benito Garcia, Hazardous & Radioactive Materials Bureau, to Mr. Christopher B. DeWitt, Kirtland Air Force Base Chief, Restoration Section. April 16.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 1997. Draft Final RCRA Facility Investigation Report, Appendix III Phase 2 Report. Halliburton NUS Corporation, Albuquerque, New Mexico. July.

USAF. 1998. Interim Corrective Measures report for SWMU 10-21, Septic Tank, Leach Field, and Lines (ST-295 AND ST-311). Brown and Root Environmental, Albuquerque, New Mexico. January.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

5. Appendix E SWMU 10-21-D, Septic System Building 702 (ST-296)

Location and Current Land Use

SWMU 10-21-D (ST-296) was located east of Building 702, the Aircraft Engine Test Cell Facility. Building 702, located in the northwest portion of KAFB, was built in 1954 and demolished in November 2001. The septic tank was abandoned in place and closed on July 19, 2000, in accordance with the NMED "Liquid Waste Disposal Regulations" 20 New Mexico Administrative Code 7.3. Based on engineering drawings, inflow and outflow lines were approximately 240 ft and 10 ft long, respectively. The tank discharged to a 50-ft by 40-ft leach field to the southeast. The general SWMU location and features are shown on Figure E-1. The site is located in the urban/industrial land use area (USAF 1995). The nearest production wells are KAFB-2, 1.2 miles north, and KAFB-14, 1.1 miles north-northeast of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-296. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 702 was the administrative office for the Aircraft Engine Test Cell Facility, where the effectiveness of jet engines was tested and aircraft engine inspection and repair took place. Building 702 was used solely as office space and for storage of tools, personal gear, technical data, and computers. An engineering drawing showing the general floor plan of Building 702 shows that the associated septic system (ST-702) received only domestic type waste (USAF 2001). Hazardous materials were never managed, stored, or disposed of in Building 702. There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage. A notification for closure of the ST-296 septic system was submitted to the NMED on August 3, 2000. The closure notification includes details of the abandonment procedures and photographs taken during the procedure (USAF 2000).

Evaluation of Relevant Information

ST-296 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On February 23, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled northeast of the leach field area to collect background data for the site and three boreholes were drilled in the leach field area. Soil samples were collected from a depth of 2 to 7 ft bgs, based on engineering drawings indicating the leach field lines were at a depth of 2 ft bgs. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. One SVOC was detected at a concentration significantly below the current NMED residential SSLs. Arsenic was detected at concentrations above the NMED residential SSL, but below the NMED-approved background concentration, while copper was detected at concentrations above the NMED-approved background concentration but below the NMED residential SSL (NMED 2006). Kirtland AFB submitted the requested supplemental information which confirmed that the detectable concentrations were below the current residential SSLs and the site did not pose an unacceptable level of risk to human health or the environment.

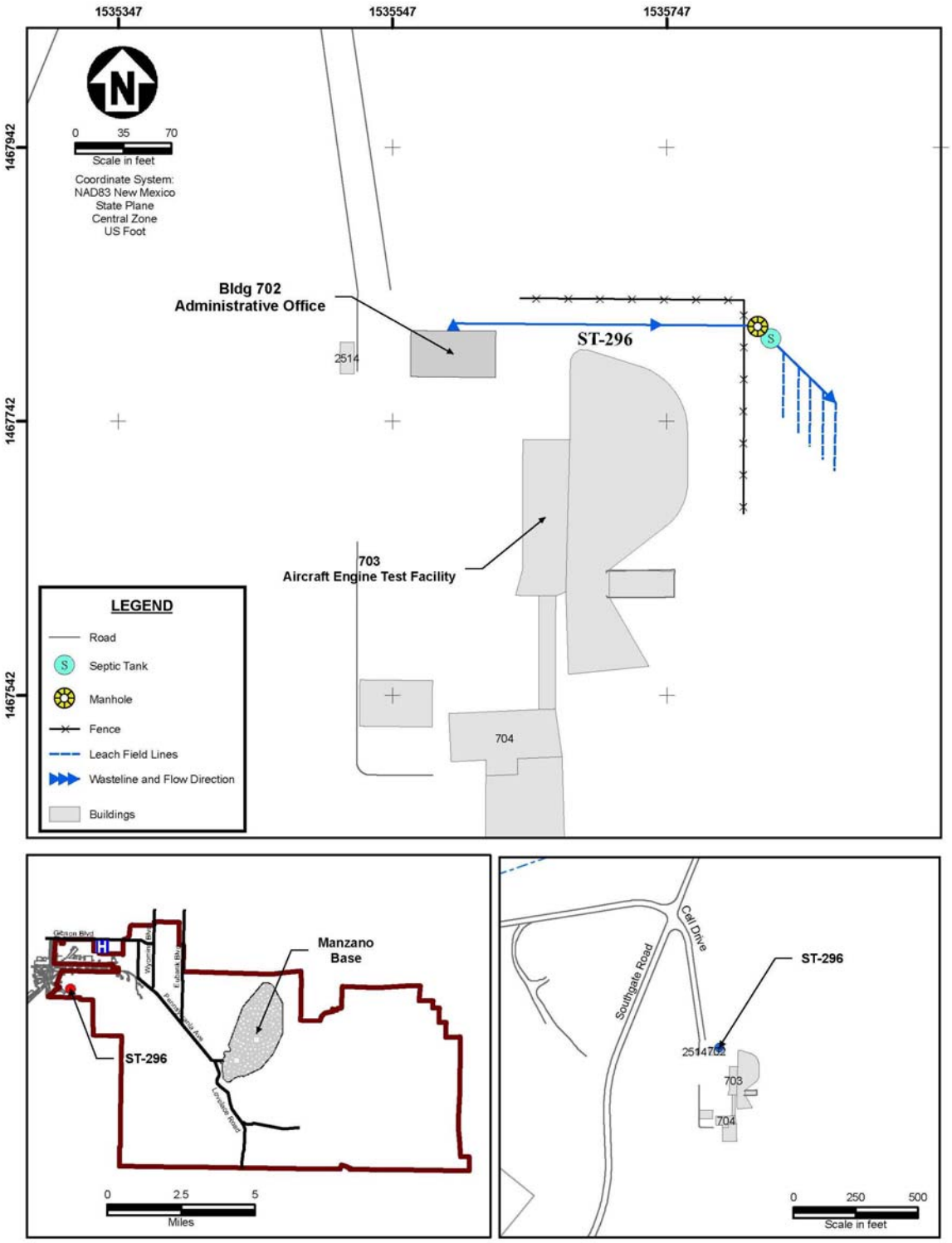

Figure E-1
SWMU 10-21-D, Septic System Building 702 (ST-296)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated January 3, 2007, the NMED agreed that SWMU 10-21-D, ST-296, does not pose unacceptable risk to human health or the environment and is appropriate for NFA (NMED 2007). This NFA proposal is based upon NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2000. Letter from Kirtland Air Force Base (AFB) to NMED regarding colsure of A Septic System at Building 702 (Engine Test Fac.). August 3.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

6. Appendix F SWMU 10-21-D, Septic System Building 707 (ST-297)

Location and Current Land Use

SWMU 10-21-D (ST-297) was composed of a 500-gallon septic tank, distribution lines and a leach field located 65 ft southwest of Building 707, a small-arms indoor firing range, in the northwest portion of KAFB. ST-297 is located in an urban/industrial land use area. ST-297 was closed and abandoned on April 13, 2004, in accordance with the NMED "Liquid Waste Disposal Regulations" 20 New Mexico Administrative Code 7.3 (USAF 2004). Reportedly, inflow and outflow line lengths were approximately 65 ft and 75 ft, respectively. The tank discharged to a leach field to the south with a drainage area of approximately 50 ft by 30 ft. Reportedly, the leach field lines were 3 ft below grade. The general SWMU location and features are shown on Figure F-1 (USAF 1995). Two production wells are located in this area of Kirtland AFB: KAFB-2 is 5,200 ft northeast and KAFB-14 is 5,100 ft north of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-297. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 707 is more than 50 years old and has been used as a small-arm firing range since it was constructed. The existing septic system was closed when the buildings were renovated in 2004 and a new septic system was installed at the site (USAF 2001). There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage, and there are no floor drains. All available information suggests this septic system was used only for disposal of domestic-type waste and hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-297 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On February 23, 1995, four boreholes were drilled and sampled using direct push techniques. One borehole was drilled north of the leach field area to collect background data for the site. Three boreholes were drilled in the leach field area. Based on engineering drawings and observed field conditions, the leach field lines were determined to be 3 ft bgs. The sample interval at each borehole extended 5 ft below the depth of the leach field line. One sample was collected from the top and one from the bottom of this interval. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. SVOCs were detected in two soil samples at concentrations below NMED residential SSLs (NMED 2006b). No analytes were detected at or above NMED-approved background levels or NMED residential SSLs or screening guidelines (NMED 1997, 2005, and 2006b). The sample results do not indicate a contaminant release to the environment that warrants further action. This site does not pose unacceptable risk to human health or the environment.

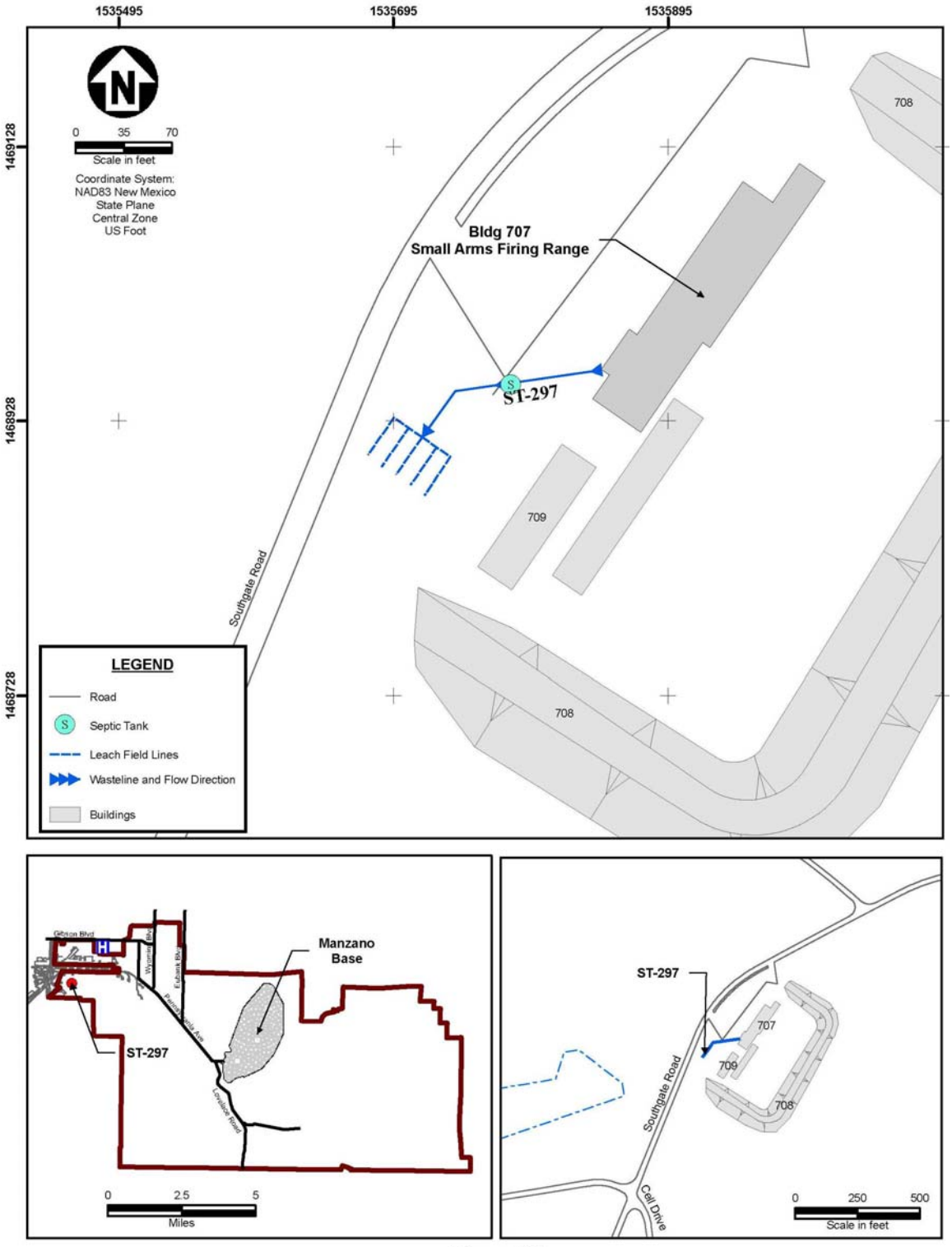

Figure F-1
SWMU 10-21-D, Septic System Building 707 (ST-297)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated July 28, 2006, the NMED agreed that SWMU 10-21-D, ST-297 is suitable NFA (NMED 2006a). This NFA proposal is based upon NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

U.S. Air Force (USAF). 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

USAF. 2004. Correspondence from John R. Poland, 377 MSG/CEV, Kirtland AFB to Larryutierrez, NMED, Regarding Closure Notification For Liquid Waste System at Building 709 Small Arms Range. April 16.

7. Appendix G SWMU 10-21-E, Septic System Building 20199 (ST-300)

Location and Current Land Use

SWMU 10-21-E (ST-300), located approximately 55 ft south of Building 20199, was closed and taken out of service in June 2000. Building 20199, the former Gibson Gate House, was located approximately 120 ft east of Louisiana Boulevard on the south side of Gibson Boulevard in the northwest portion of KAFB. The building was demolished in June 2000. The new Gibson gate is located approximately ¼-mile east and the Louisiana/Gibson intersection has been reconfigured resulting in the area of the former guard house and septic tank being paved over. The land use in this area is considered open space and is currently used for vehicle parking. The general SWMU location and features are shown on Figure G-1 (USAF 1995). The production wells located nearest to the septic tank and leach field area are KAFB-3, 3,000 ft to the northeast and KAFB-1, 4,200 ft north of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-300. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 20199, the Gibson Gate House, was demolished in June 2000 in conjunction with the ST-300 closure. A records review for building 20199 indicates this building has always been used as a guard house/civilian control center (USAF 2001). The septic tank closure performed in 2000 was conducted in accordance with the NMED "Liquid Waste Disposal Regulations" 20 NMAC 7.3 (USAF 2000). Based on engineering drawings, inflow and outflow line lengths were approximately 55 ft and 105 ft, respectively. The 500-gallon septic tank discharged to a leach field located to the west with a drainage area approximately 40 ft by 130 ft. There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage, and there were no floor drains. This building was constructed solely for use as a guard house and visitor control center and the associated septic system (ST-300) received only domestic-type waste. Hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-300 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On March 28, 1995, four boreholes were drilled and sampled using direct push techniques. One borehole was drilled northeast of the leach field area to collect background data for the site and three boreholes were drilled in the leach field area. Based on engineering drawings and observed field conditions, the leach field lines were determined to be 3 ft bgs. The sample interval at each borehole extended 5 ft below the depth of the leach field line. One sample was collected from the top and one from the bottom of this interval. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. One SVOC was detected at a concentration significantly below the current NMED residential SSLs (NMED 2006). Arsenic was detected at concentrations above the NMED residential SSL (NMED 2006), but below the NMED-approved background concentration (NMED 1997). The sample results do not indicate a contaminant release to the

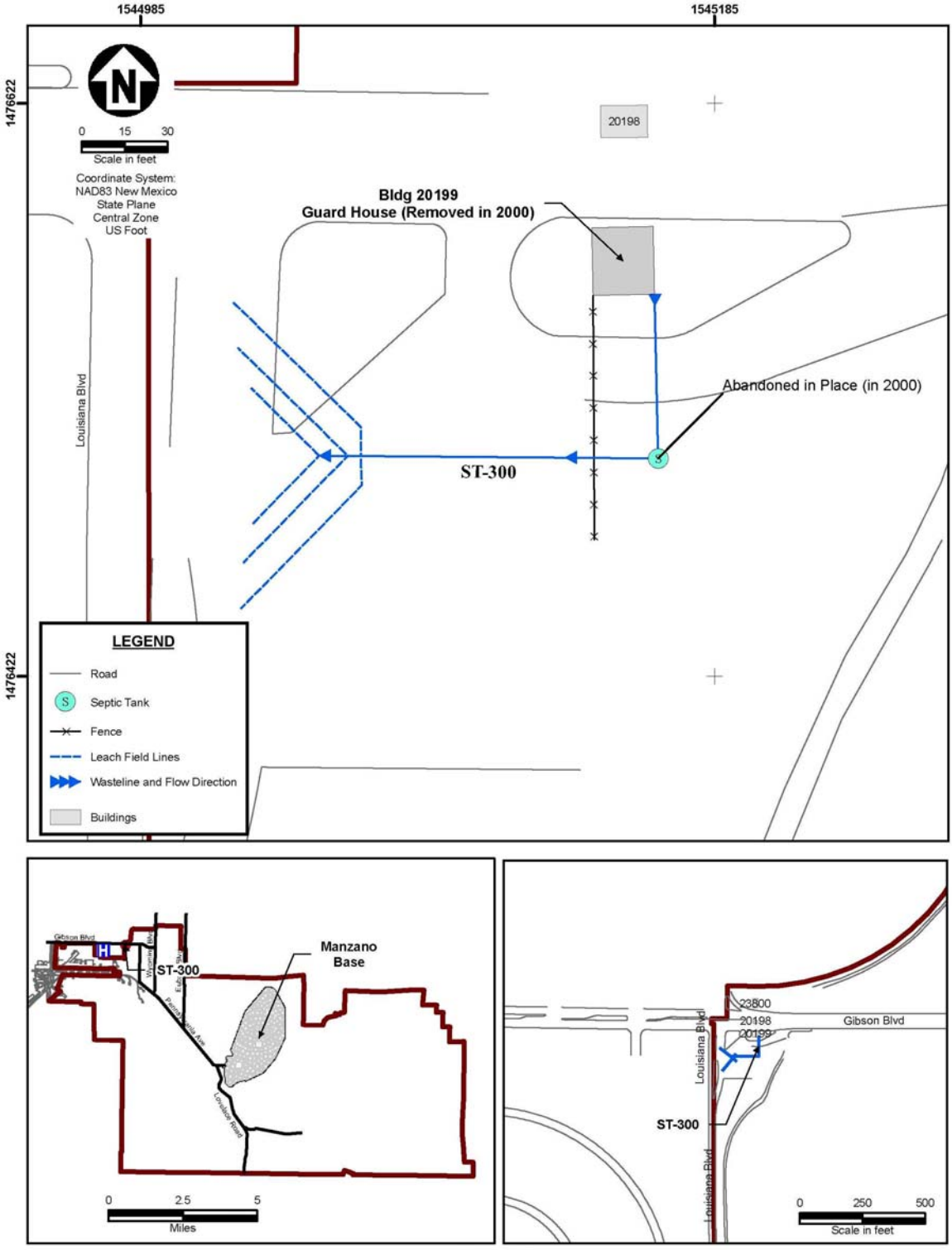

Figure G-1
SWMU 10-21-E, Septic System Building 20199 (ST-300)
Kirtland Air Force Base, New Mexico

environment that warrants further action. This site does not pose unacceptable risk under a residential risk-based scenario to human health or the environment.

Basis for Determination

In a letter dated January 3, 2007, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-E, ST-300 is appropriate for NFA (NMED 2007). This NFA proposal is based upon NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2000. Correspondence from Mr. Terry W. Cooper, Kirtland AFB Chief, Compliance Section, 377 Air Base Wing/Environmental Management, to Ms. Lorie Stoller, NMED, Regarding Closure Notification For Septic System at Building 20199 Gibson Gate House. July 6.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

8. Appendix H SWMU 10-21-F, Septic System Building 20560 (ST-301)

Location and Current Land Use

SWMU 10-21-F (ST-301) is located northwest of Building 20560, at the Horizontal Polarized Dipole (HPD) Facility, in the central portion of KAFB. With the cessation of work on this project, most of the buildings in this area of KAFB were abandoned. The septic tank has been converted to a pump station and is now connected to the sanitary sewer system. Based on engineering drawings, inflow and outflow line lengths into the former septic tank were approximately 120 ft and 75 ft, respectively. The tank discharged to a 60 ft by 50 ft leach field to the northwest. The site is located in the urban/industrial land use area. The general SWMU location and configuration are shown on Figure H-1 (USAF 1995). The nearest production wells are KAFB-1, 4,950 ft north and KAFB-4, 825 ft southwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-301. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Originally built in 1961, Building 20560 served as the Riding Academy Clubhouse until 1974. It was then renovated to serve as the base operations for the HPD, an electromagnetic pulse testing facility. The building also served as the base of operations for the Vertical Polarized Dipole (VPD) Facility. Numerous ancillary HPD/VPD project support trailers were also served by ST-301 (USAF 2001). Building 20560 is currently being used for storage. There is no historical evidence to suggest the facilities attached to ST-301 were used as a laboratory, maintenance shop, or for chemical storage. An engineering drawing showing the general floor plan of Building 20560 shows that the septic system would have received only domestic type waste.

Evaluation of Relevant Information

ST-301 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On February 27, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled northeast of the leach field area to collect background data for the site and three boreholes were drilled in the leach field area. Soil samples were collected from a depth of 3 to 5 ft bgs based on a reported depth of leach field lines of 3 ft bgs. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. DRO were detected, but at concentrations significantly below the NMED residential screening guidelines (NMED 2005). Arsenic was detected at concentrations above the current NMED residential SSLs (NMED 2006) but below the NMED-approved background concentration (NMED 1997). Copper and vanadium were detected at concentrations above their respective NMED-approved background concentrations but below current NMED residential SSLs (NMED 1997 and 2006). Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of risk to human health or the environment.

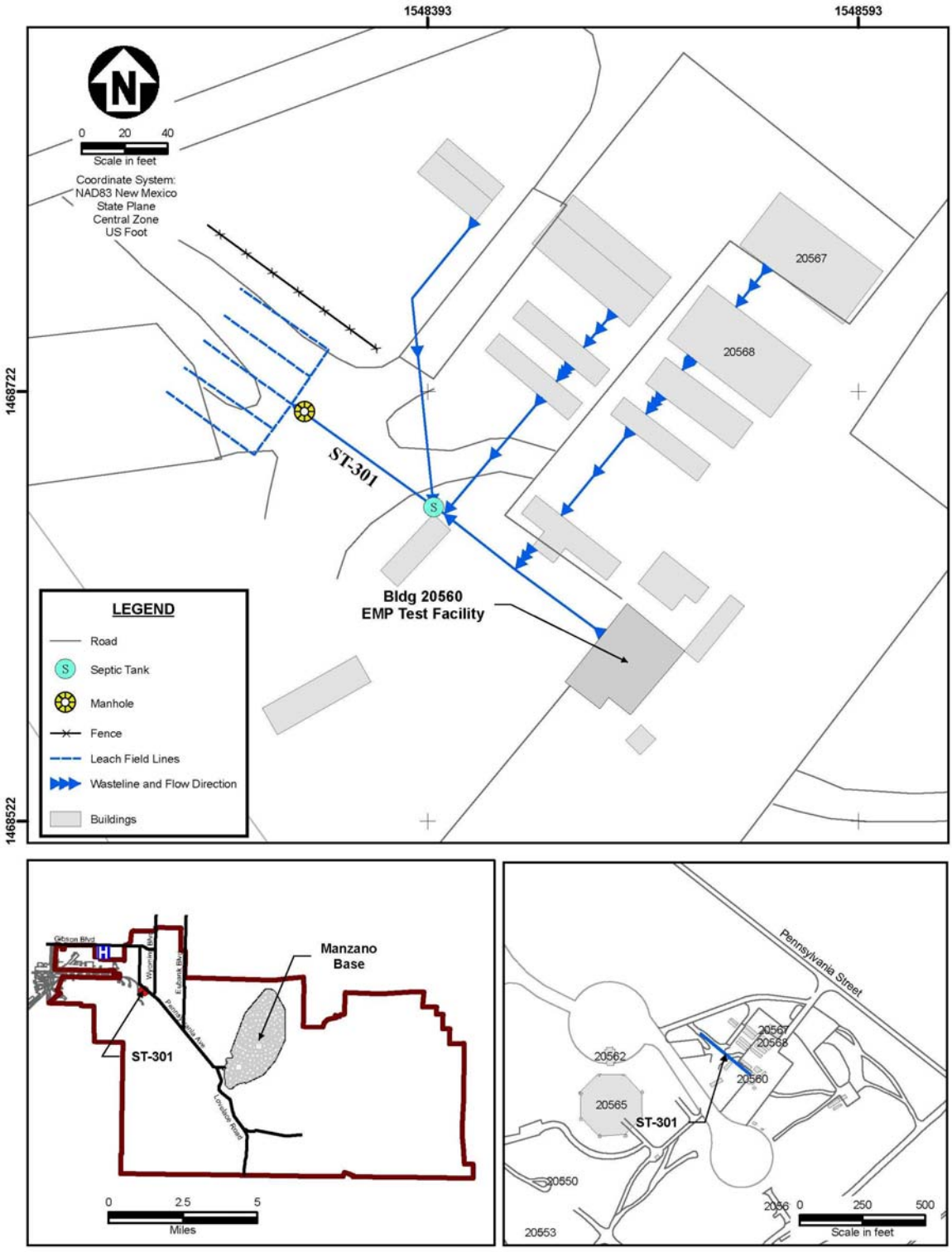

Figure H-1
SWMU 10-21-F, Septic System Building 20560 (ST-301)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated January 3, 2007, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-F, ST-301, appears to be suitable for NFA (NMED 2007). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

9. Appendix I SWMU 10-21-G, Septic System Building 20599 (ST-302)

Location and Current Land Use

SWMU 10-21-G (ST-302) is located south-southwest of Building 20599, a radio transmitter facility, in the central portion of KAFB. The land use near ST-302 is considered urban/industrial and is in an active portion of the base. Based on engineering drawings and observed site conditions, the 500-gallon septic tank discharges to a leach field to the southwest having a drainage area measuring approximately 135 ft by 10 ft. The leach field lines are reportedly 3 ft below ground surface. This site normally supports lavatory facilities for two employees for an 8-hour shift, 5 days per week. The general SWMU location and features are shown on Figure I-1 (USAF 1995). Two production wells are located in this area of Kirtland AFB: KAFB-1 is 4,500 ft north-northwest, KAFB-4 is 2,100 ft southwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-302. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 20599 is 56 years old and has served as an airfield communications receiver support facility since its construction in 1950. Architecturally, it has undergone minor renovations, including the replacement of windows with glass block (USAF 2001). There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage, and there are no floor drains. All available information suggests this septic system was used only for disposal of domestic-type waste and hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-302 was investigated as part of the Appendix III Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) in 1995 (USAF, 1995). On February 14, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled northeast of the leach field area to collect background data for the site. Three boreholes were drilled in the leach field area. Based on engineering drawings and observed field conditions, the leach field lines were determined to be 3 ft bgs. The sample interval at each borehole extended from the depth of the leach field line to 5 ft below the leach field line. From this interval, two samples were collected: one at a depth equal to the base of the leach field line, the other from 3 ft below the base of the leach field line. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. DRO were detected at a concentration well below the NMED residential screening guidelines (NMED 2005). No analytes were detected at or above NMED-approved background levels or NMED SSLs (NMED 1997 and 2006b). The sample results do not indicate a contaminant release to the environment that warrants further action.

Basis for Determination

In a letter dated July 28, 2006, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-G, ST-302, appears to be suitable for NFA (NMED 2006a). This NFA proposal is based on

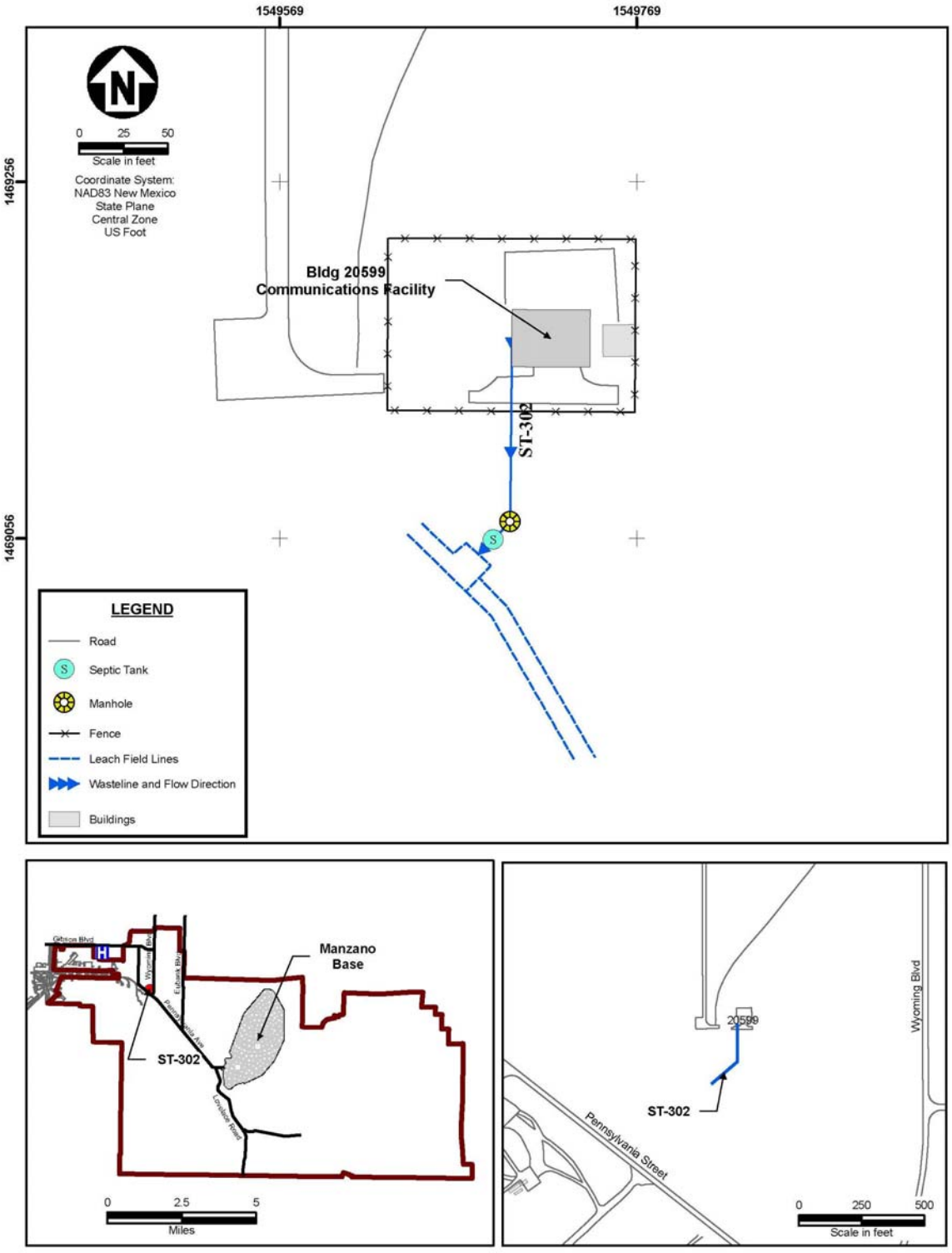

Figure I-1
SWMU 10-21-G, Septic System Building 20599 (ST-302)
Kirtland Air Force Base, New Mexico

NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

10. Appendix J SWMU 10-21-H, Septic System Building 20749 (ST-303)

Location and Current Land Use

SWMU 10-21-H (ST-303) is located 80 ft south of Building 20749, the Advanced Research Electromagnetic Simulation (ARES) Support Building, in the central portion of KAFB. Reportedly, inflow and outflow line lengths are approximately 120 ft and 20 ft, respectively. Two 1,000-gallon septic tanks discharge to four cesspools to the south with a drainage area of approximately 100 ft by 45 ft. Additionally, another cesspool is located about 25 ft south of the southwest corner of Building 20749. Influent to this cesspool flows from a separate line originating from the south side of the building. ST-303 is located in the urban/industrial zone. The general SWMU location and features are shown on Figure J-1 (USAF 1995). The nearest production well is KAFB-4, 2,600 ft to the northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-303. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 20749 was constructed in 1975. It served as an administration building for the Air Force Weapons Lab EMP simulator, a site for EMP testing at Kirtland AFB. This building contained a computer room, conference room, data storage and analysis rooms, and offices for contractors. This facility was part of the overall EMP area, which was divided into different facilities that conducted various types of EMP testing. These were the Trestle facility, the Advanced Research Electromagnetic Simulator, the Horizontally Polarized Dipole, and the Vertically Polarized Dipole II (USAF 2001). The facility currently houses contractor offices that support several programs at KAFB. There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage, and there are no floor drains. All available information suggests this septic system was used only for disposal of domestic-type waste and hazardous materials were never managed, stored or disposed of at the site.

Evaluation of Relevant Information

ST-303 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On February 13, 1995, four boreholes were installed and sampled using direct push drilling techniques: three in the cesspool field and one at a background location. One sample was collected from each borehole. The depth of the cesspools was not determined. The sample interval at each borehole extended from 4 ft bgs to 9 ft bgs. From this interval, two samples were collected: one at a depth 4 ft and the other from 8 ft bgs. Each sample interval was field-screened using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. DRO were detected at concentrations well below the NMED residential SSLs (NMED 2005). No analytes were detected at or above NMED-approved background levels or SSLs (NMED 1997 and 2006b). Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

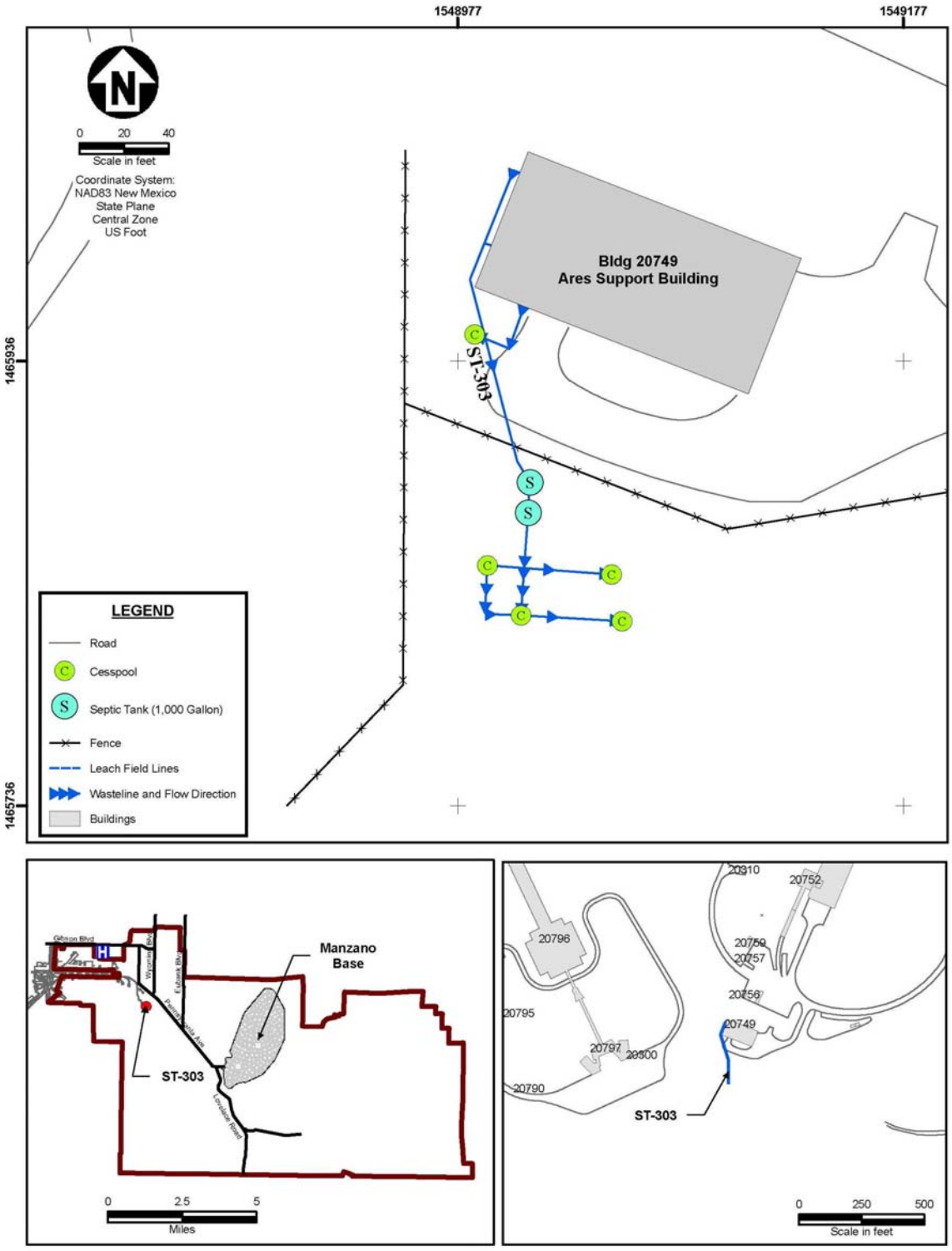

Figure J-1
SWMU 10-21-H, Septic System Building 20749 (ST-303)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated July 28, 2006, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-H, ST-303, appears to be suitable for NFA (NMED 2006a). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

11. Appendix K SWMU 10-21-I, Septic System Building 20797 (ST-304)

Location and Current Land Use

SWMU 10-21-I (ST-304) is located 400 ft south of Building 20797, part of the Trestle Facility, in the north-central portion of KAFB. Based on engineering drawings, inflow and outflow line lengths are approximately 250 ft and 150 ft, respectively. The septic tank discharges to a leach field located to the south with a drainage area of approximately 80-ft by 50-ft. The tank is active and is pumped quarterly. ST-304 is located in an urban/industrial land use area. The general SWMU location and features are shown on Figure K-1 (USAF 1995). The nearest production well is KAFB-4, 2,500 ft north-northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-304. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 20797 was constructed in 1975 and is part of the Air Force Weapons Laboratory EMP Simulation Facility which tests the effects of EMP on aircraft and other large structures. Building 20797 is the control center for the Trestle Facility, also known historically as the Central Ground Plane Wedge. For projects such as Big Crow, this facility served as offices, a shield room for command and control, data transmission, and pulsar maintenance area (USAF 2001). There is no historical evidence to suggest the facility was used as a laboratory or for chemical storage.

Evaluation of Relevant Information

ST-304 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On March 7, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled northeast of the leach field area to collect background data for the site and three boreholes were drilled in the leach field area. Soil samples were collected from a depth of 4 to 9 ft bgs based on a reported leach field line depth of 4 ft bgs. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. One SVOC was detected at a concentration significantly below the current NMED residential SSLs. Arsenic was the only metal detected at concentrations above the NMED residential SSL (NMED 2006). The arsenic concentrations are below the NMED-approved background concentration (NMED 1997). Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

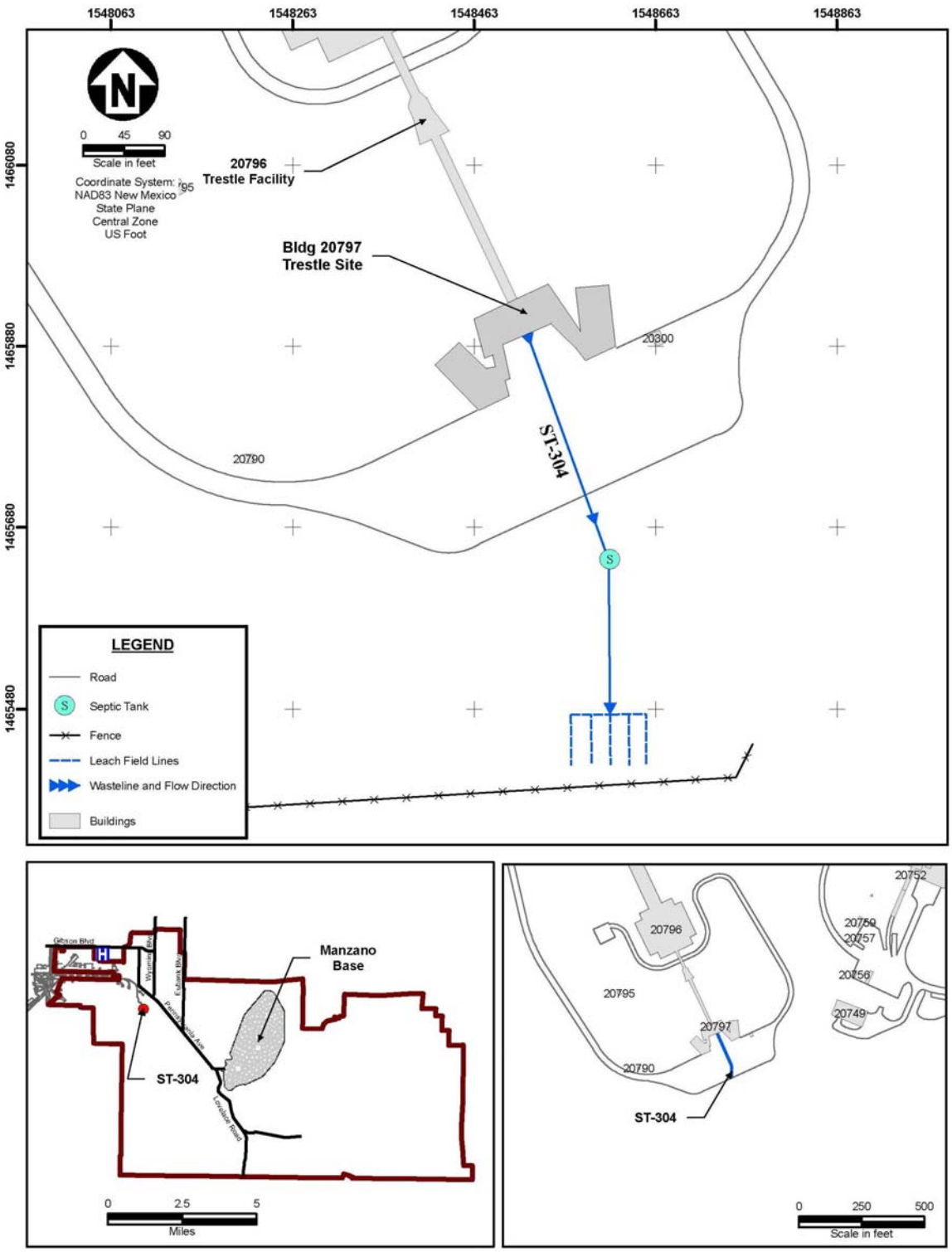

Figure K-1
SWMU 10-21-I, Septic System Building 20797 (ST-304)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated January 3, 2007, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-I, ST-304, appears to be suitable for NFA (NMED 2007). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

12. Appendix L SWMU 10-21-J, Septic System Building 28054 (ST-305)

Location and Current Land Use

SWMU 10-21-J (ST-305) is located east of Building 28054, the golf course club house and northwest of Building 28050, the former clubhouse, in the central portion of KAFB. ST-305 (co-located with ST-306) is located on the KAFB Golf Course recreational area, just east of an urban/industrial land use zone. Engineering drawings indicate effluent from Building 28054 and 28050 discharges into a series of three 1000-gallon septic tanks. These septic tanks discharge to a leach field to the east, with a drainage area of approximately 60 ft by 44 ft. The septic system is still active. The general SWMU location and features are shown on Figure L-1 (USAF 1995). One production well, KAFB-4, is located 2 miles northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-305. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 28050 was built in 1975 as a Golf Course Clubhouse consisting of a restaurant, a restroom and a golf cart garage. In 1978, Building 28054, the current clubhouse, was built to replace Building 28050 (USAF 2001). The current clubhouse consists of a pro shop, restaurant, a locker room with showers, restrooms, and a golf cart parking garage. Golf carts and equipment maintenance is performed at another facility, not connected to the ST-305 and ST-306 septic systems. Building 28050 currently is used to store equipment and food for the current clubhouse restaurant. There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage. In Building 28054 there are floor drains in the kitchen, and locker room showers. The utility room, which contains a gas furnace and water heater, also has one floor drain connected to the septic system. Building 28050 has one floor drain in the golf cart parking garage connected to the septic system. All available information suggests the septic systems associated with Buildings 28054 and 28050 were used only for disposal of domestic-type waste and hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-305 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On March 28, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled north of the leach field area to collect background data for the site. Three boreholes were drilled in the leach field area. Based on engineering drawings and observed field conditions, the leach field lines were determined to be 3 ft bgs. The sample interval at each borehole extended from the depth of the leach field line to 5 ft below the leach field line. From this interval, two samples were collected: one at a depth equal to the base of the leach field line, the other from 3 ft below the base of the leach field line. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. Arsenic was detected at concentrations above the NMED residential SSL and just at the NMED-approved background concentration (NMED 1997 and 2006b). Naturally

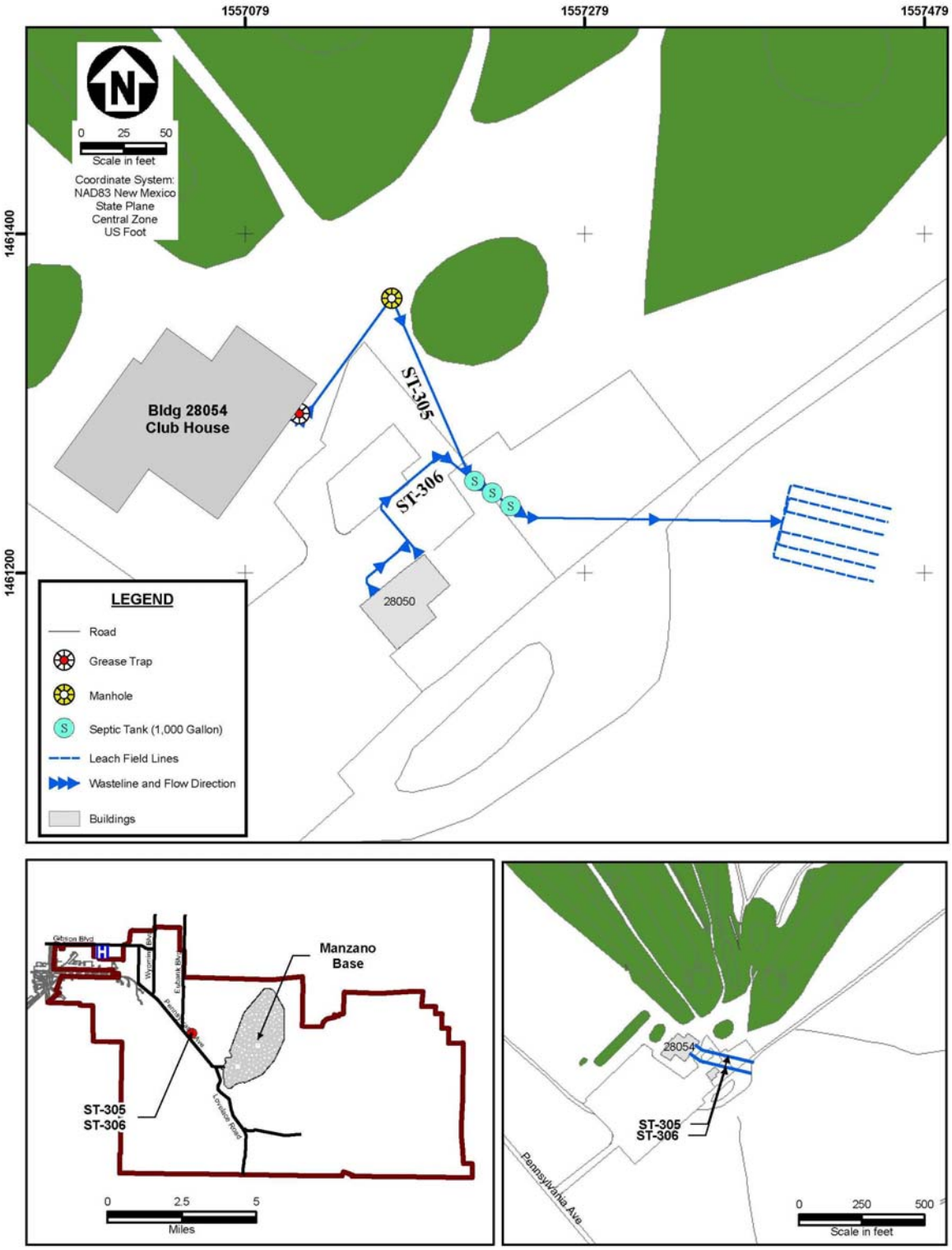

Figure L-1
SWMU 10-21-J, Septic System Building 28054 (ST-305)
Kirtland Air Force Base, New Mexico

occurring arsenic is commonly detected throughout Kirtland AFB at levels that exceed screening levels (NMED 2006b). No other analytes were detected at or above NMED-approved background levels or NMED residential SSLs. The sample results do not indicate a contaminant release to the environment that warrants further action.

Basis for Determination

In a letter dated July 28, 2006, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-J, ST-305, appears to be suitable for NFA (NMED 2006a). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

13. Appendix M SWMU 10-21-J, Septic System Building 28050 (ST-306)

Location and Current Land Use

SWMU 10-21-J (ST-306) is located east of Building 28050 and northwest of Building 28050, the clubhouse at the golf course, in the central portion of KAFB. ST-306 (co-located with ST-305) is located on the KAFB Golf Course recreational area, just east of an urban/industrial land use zone. Engineering drawings indicate effluent from Buildings 28054 and 28050 discharges into a series of three 1,000-gallon septic tanks. These septic tanks discharge to a leach field to the east, with a drainage area measuring approximately 60 ft by 44 ft. The general SWMU location and features are shown on Figure M-1 (USAF 1995). One production well, KAFB-4, is located 2 miles northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-306. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 28050 was built in 1975 as a Golf Course Clubhouse consisting of a restaurant, a restroom and a golf cart garage. In 1978, Building 28054, the current clubhouse was built to replace the Building 28050 clubhouse (USAF 2001). The current clubhouse consists of a pro shop, restaurant, a locker room with showers, restrooms, and a golf cart parking garage. Golf carts and equipment maintenance is performed at another facility, not connected to the ST-305 and ST-306 septic system. Building 28050 currently is used to store equipment and food for the current clubhouse restaurant. There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage. In Building 28054 there are floor drains in the kitchen, and locker room showers. The utility room, which contains a gas furnace and water heater, also has one floor drain connected to the septic system. Building 28050 has one floor drain in the golf cart parking garage connected to the septic system. All available information suggests the septic systems associated with Buildings 28054 and 28050 were used only for disposal of domestic-type waste and hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-306 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On March 28, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled north of the leach field area to collect background data for the site. Three boreholes were drilled in the leach field area. Based on engineering drawings and observed field conditions, the leach field lines were determined to be 3 ft bgs. The sample interval at each borehole extended from the depth of the leach field line to 5 ft below the leach field line. From this interval, two samples were collected: one at a depth equal to the base of the leach field line, the other from 3 ft below the base of the leach field line. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. Arsenic was detected at concentrations above the NMED residential SSL and just at the NMED-approved background concentration (NMED 1997 and 2006b). No other

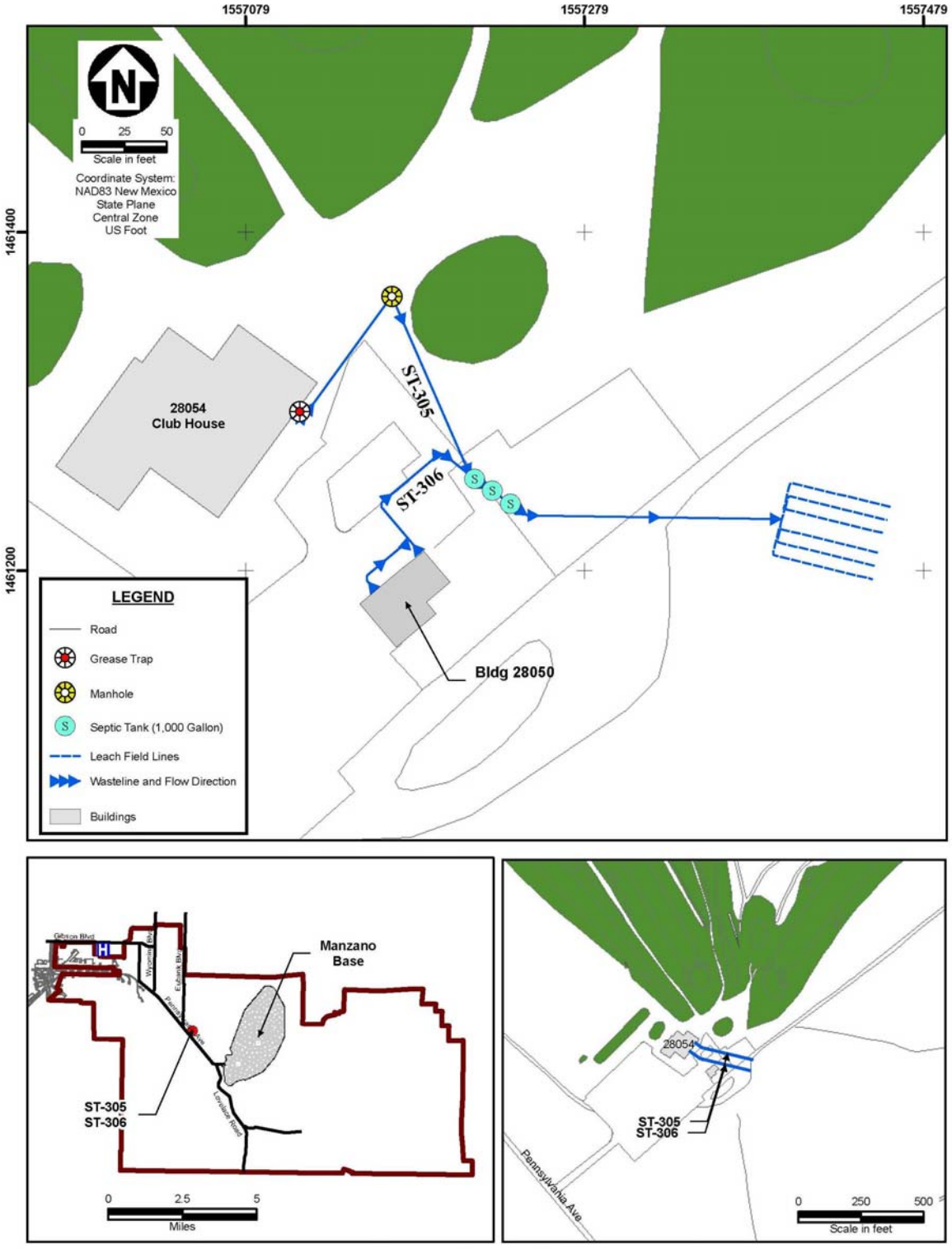

Figure M-1
SWMU 10-21-J, Septic System Building 28050 (ST-306)
Kirtland Air Force Base, New Mexico

analytes were detected at or above NMED approved background levels or NMED residential SSLs. The sample results do not indicate a contaminant release to the environment that warrants further action.

Basis for Determination

In a letter dated July 28, 2006, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-J, ST-306, appears to be suitable for NFA petition (NMED 2006a). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006a. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

14. Appendix N SWMU 10-21-K, Septic System Building 30101 (ST-307)

Location and Current Land Use

SWMU 10-21-K (ST-307) is located 5 ft south of Building 30101, a building located at the entrance to the former Manzano Weapons Storage Area (MWSA) at KAFB. Building 30101 is the Environmental Management field office and is currently in use by KAFB contractors for field equipment storage. The septic tank, control box, piping and leach field were excavated and removed in 1995. Based on engineering drawings, septic system inflow and outflow line lengths were approximately 30 ft and 125 ft, respectively. The septic tank discharged to a 70-ft by 25-ft leach field to the southwest. Because of the isolated location of Building 30101 at the entrance to the MWSA, it is outside of the urban/industrial land use area of the base in an area designated for industrial use. The general SWMU location and features are shown on Figure N-1 (USAF 1995). The nearest production well is KAFB-4, located 3.7 miles northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-307. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 30101 was built in 1958 and functioned until 1992 as an administrative office in support of the MWSA. During this period, the building served as housing for security police operations and as a mobility training facility (USAF 2001). A leach pit, located west of Building 30101, was also plumbed to the building and was likely added to the building's septic system due to insufficient capacity of the original septic tank or due to infiltration problems with the existing leach field. This was a common practice throughout Sandia National Laboratories and KAFB. Post 1992, Building 30101 has been used by various contractors as a field staging area and for equipment storage. After excavation of the septic system in 1995, the building was connected to a sanitary sewer system serving the entire western portion of the MWSA. A manhole where the leach pit was located remains on site and is considered officially closed.

Evaluation of Relevant Information

ST-307 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). In February 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled northeast of the leach field area to collect background data for the site and three boreholes were drilled in the leach field area. Soil samples were collected from a depth of 3 to 8 ft bgs. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. SVOCs were detected, but at concentrations significantly below the NMED residential SSLs (NMED 2006). Arsenic was detected at concentrations above the NMED residential SSL, but below the NMED-approved background concentration. Iron was also detected at a concentration slightly above the NMED residential SSL; however, there is no NMED-approved background concentration for iron at Kirtland AFB. In the absence of other indicators, the iron concentration is presumed to be naturally occurring in this area and throughout Kirtland AFB (USAF 1995). Several other metals including total chromium, cobalt, copper, nickel and vanadium, were detected at concentrations above NMED-approved

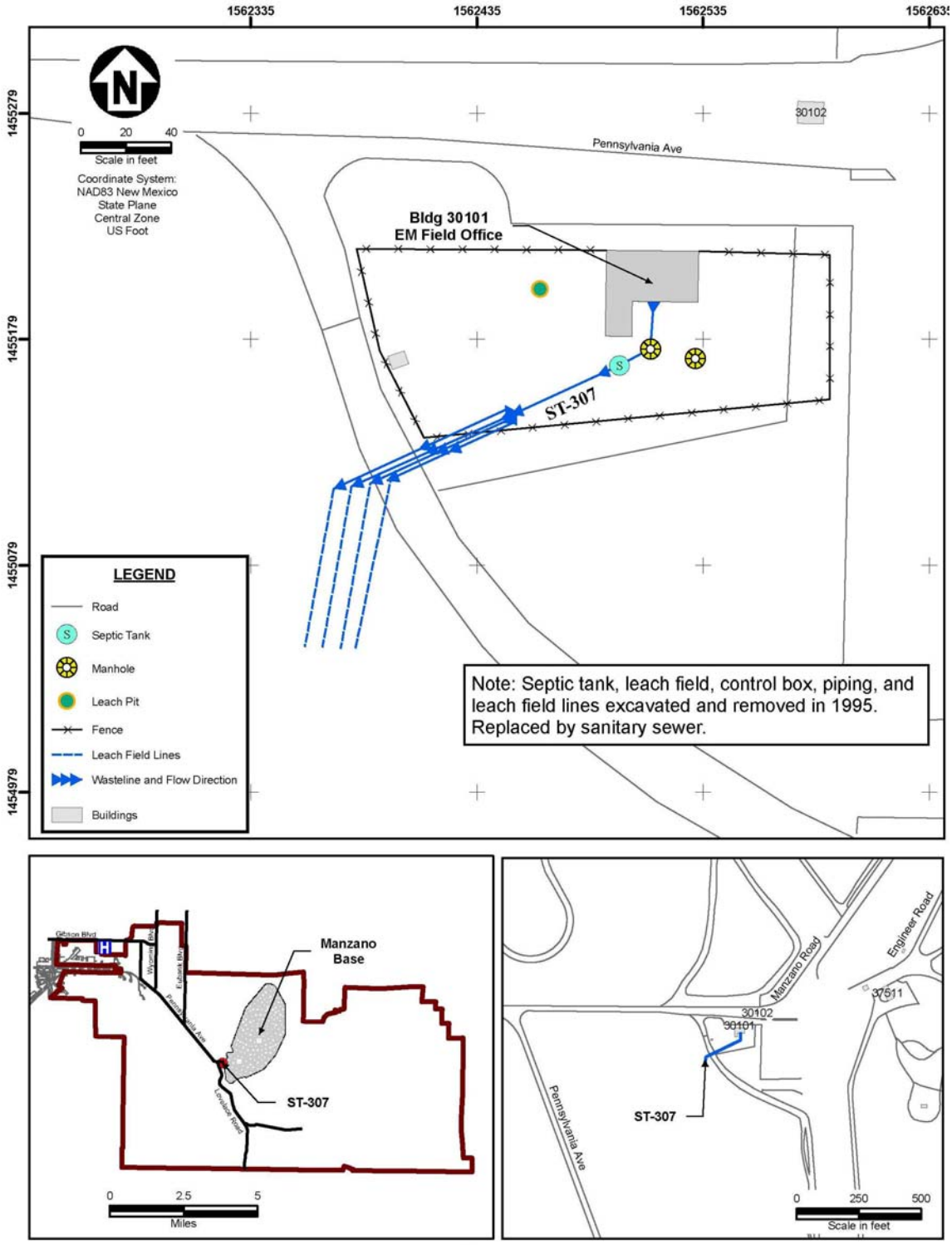

Figure N-1
SWMU 10-21-K, Septic System Building 30101 (ST-307)
Kirtland Air Force Base, New Mexico

background concentrations, but significantly below residential SSLs (NMED 1997 and 2006). Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

Basis for Determination

In a letter dated January 3, 2007, the NMED Hazardous Waste Bureau agreed that SWMU 10-2-K, ST-307, appears to be suitable for NFA (NMED 2007). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

U.S. Air Force (USAF). 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

15. Appendix O SWMU 10-21-L, Septic System Building 37511 (ST-308)

Location and Current Land Use

SWMU 10-21-L (ST-308) was located southwest of Building 37511, in the central portion of KAFB. Building 37511 is located just inside the security gate at the western entrance to the former MWSA and is not being used currently. The septic tank, control box, piping and leach field were excavated and removed in 1995. Based on engineering drawings, inflow and outflow line lengths were approximately 420 ft and 65 ft, respectively. The tank discharged to a 110-ft by 30-ft leach field to the south-southwest. Because of the isolated location of Building 37511 inside the MWSA, it is outside of the urban/industrial land use area in an area designated for industrial use. The general SWMU location and features are shown on Figure O-1 (USAF 1995). The nearest production well is KAFB-4, located 3.8 miles northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-308. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 37511, the Rescue Fire Team Facility, is a building designed to accommodate Static Reaction Security Force personnel and includes a day room, efficiency kitchen, bathroom facilities, and garage. The garage was designed for protective storage of vehicles during defensive exercises and no vehicle maintenance or repair took place in this facility. Building 37511 was constructed solely for use as security guard quarters and the associated septic system (ST-308) received only domestic-type waste (USAF 2001). After excavation of the septic system in 1995, the building was connected to a sanitary sewer system serving the entire western portion of the MWSA.

Evaluation of Relevant Information

ST-308 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On March 6, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled northeast of the leach field area to collect background data for the site and three boreholes were drilled in the leach field area. Soil samples were collected from a depth of 3 to 5 ft bgs based on engineering drawings indicating the leach field lines were at a depth of 3 ft bgs. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. SVOCs were detected at concentrations significantly below the current NMED residential SSLs (NMED 2006). DRO were detected but at a concentration significantly below the NMED residential SSLs (NMED 2005). Arsenic was detected at concentrations above the NMED residential SSL but below the NMED-approved background concentration. Iron was also detected at a concentration slightly above the NMED residential SSL. There is no NMED-approved background concentration for iron at KAFB (NMED 1997 and 2006). In the absence of other indicators, the iron concentration is presumed to be naturally occurring in this area and throughout Kirtland AFB (USAF 1995). Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

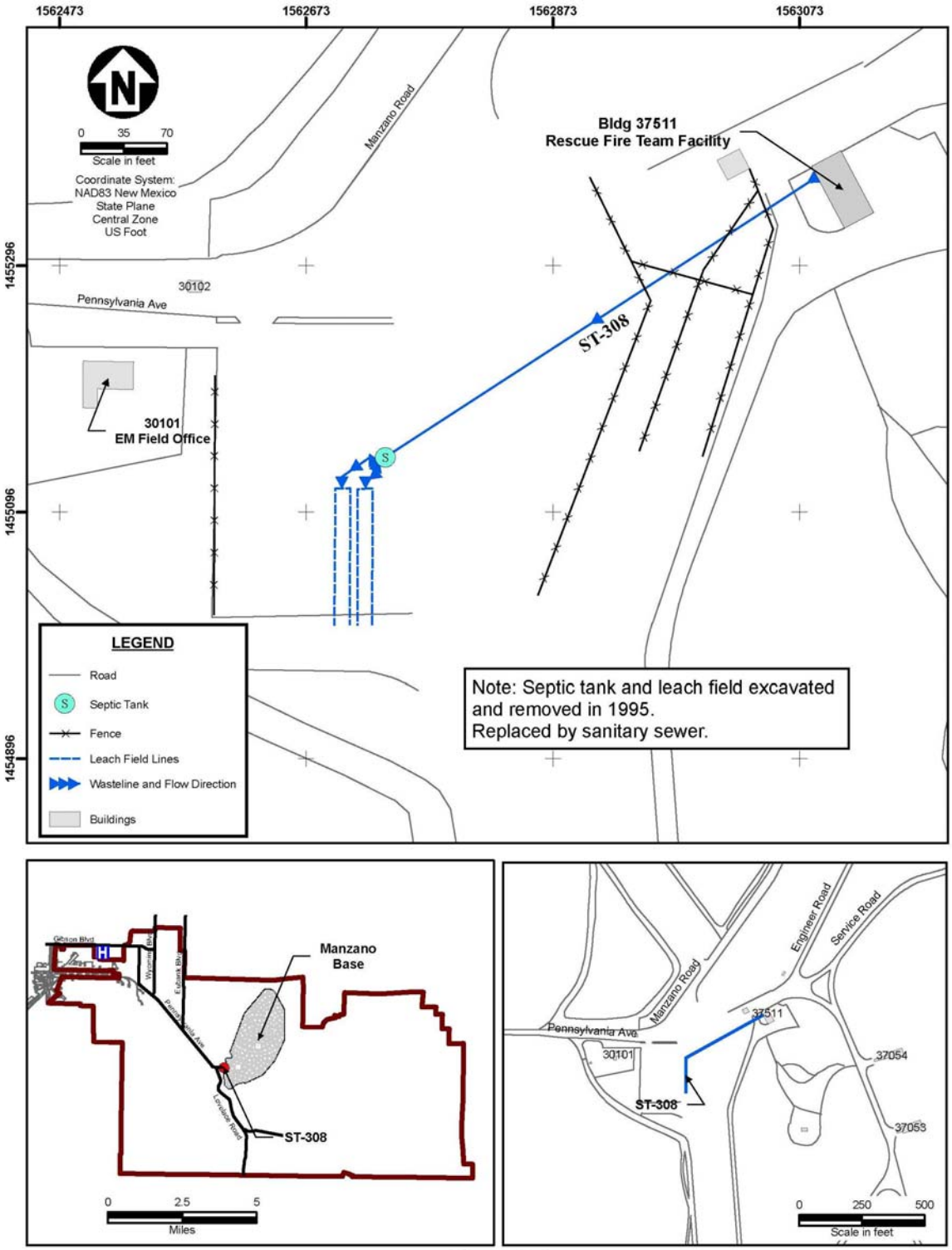

Figure O-1
SWMU 10-21-L, Septic System Building 37511 (ST-308)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated January 3, 2007, the NMED Hazardous Waste Bureau agreed that SWMU 10-2-L, ST-308, appears to be suitable for NFA (NMED 2007). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

16. Appendix P SWMU 10-21-K, Septic System Building 30102 (ST-315)

Location and Current Land Use

SWMU 10-21-K (ST-315) is an abandoned system located approximately 440 ft northwest of Building 30102, a former guard shack in the central portion of KAFB. Records indicate that ST-315 was an old septic system associated with temporary construction facilities, which was abandoned and left in place as early as the 1960s. The ST-315 septic system was not connected to Building 30102, as originally thought. The site is located near the entrance to the former MWSA and is isolated from the urban/industrial land use zone. Building ST-37511 (ST-308), the former Rescue Fire Team Facility, is located approximately 800 ft to the east. The general SWMU location and features are shown on Figure P-1 (USAF 1995). The nearest production well is KAFB-4, located 3.7 miles northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-315. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

ST-315 is located outside the western entrance to the MWSA, north of existing Building 30101, a former MWSA visitor processing center and administration building. Building 30102 was a small guard shack located just north of 30101. The KAFB Geographic Environmental Management System database contains a 1951 photograph showing an array of small buildings in the area of ST-315, including three rectangular buildings that appear to be construction trailers. Subsequent photos as early as the 1960s show the absence of these buildings, supporting their temporary status (USAF 2001). It is believed that ST-315 served this area of buildings that were involved with the construction of the MWSA's western entrance and warehouse support as well as the training center, which is located to the north. Building 30102 was not likely to have been connected to ST-315. A November 1995 Department of the Air Force Notification of Demolition Memorandum includes an abandoned system "near 30102" on a list of abandoned septic tanks (USAF 1995a). A sanitary sewer manhole, part of the sewerage main serving the western portion of the MWSA, is now in place of the former ST-315.

Evaluation of Relevant Information

ST-315 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995b). On February 27, 1995, three boreholes were drilled and sampled using direct push drilling techniques, including one background borehole located northeast, and two boreholes adjacent to the septic tank. One sample was collected from each borehole at a depth of 3 to 5 ft bgs and submitted for laboratory analyses. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Three soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. Arsenic was detected at concentrations above the current NMED residential SSL but below the NMED-approved background concentration (NMED 1997 and 2006). This site does not pose unacceptable risk to human health or the environment.

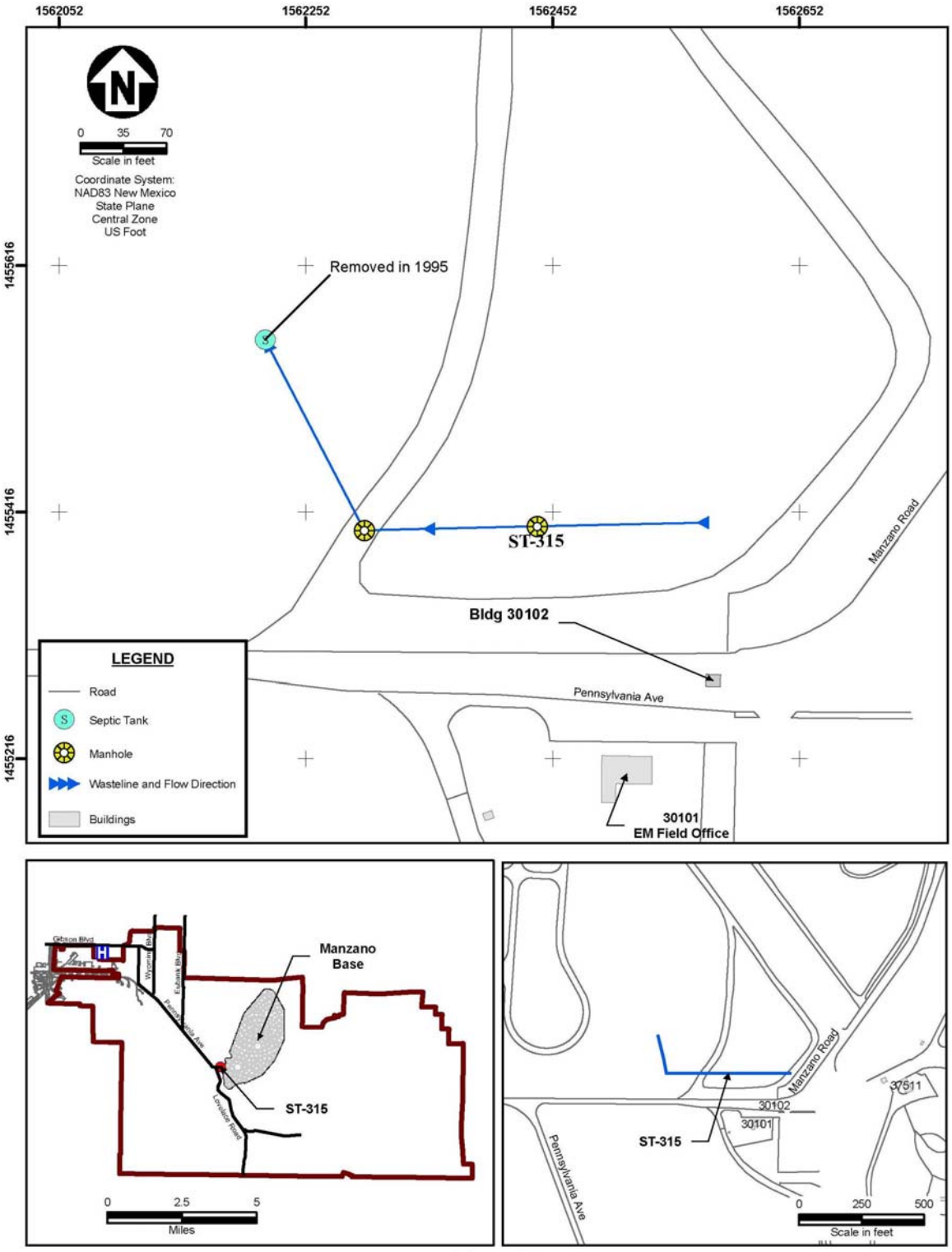

Figure P-1
SWMU 10-21-K, Septic System Building 30102 (ST-315)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated January 3, 2007, the NMED Hazardous Waste Bureau agreed that SWMU 10-2-K, ST-315, appears to be suitable for NFA (NMED 2007). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995a. Memorandum from Mr. Daniel R Yocum, Project Engineer, Kirtland AFB 377 CEG/CECA, to Nancy Long, Kirtland AFB 377 CEG/CERR, November 2.

USAF. 1995b. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

17. Appendix Q SWMU 10-21-T, Septic System Building 57011 (ST-317)

Location and Current Land Use

SWMU 10-21-T (ST-317) is located east of Building 57011, an administrative building at the former Civil Engineering Research Facility, Shock Tube Test Annex, in the south-central portion of KAFB. The tank is active and is pumped periodically. Based on engineering drawings, inflow and outflow line lengths are approximately 20 ft and 390 ft, respectively. The tank discharges to a 50-ft by 60-ft leach field to the south-southwest. The leach field lines are reported to be 2 ft bgs. Building 57011 is currently still used for the shock tube testing program. The general SWMU location and features are shown on Figure Q-1 (USAF 1995). The nearest production well is KAFB-4, about 6 miles to the northwest.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-317. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 57011 was constructed in 1979 and serves as an administrative building at the Shock Tube Test Annex. The facility was used to create controlled explosive effects to test materials for their resistance to explosions. Historical documents indicate that a small welding shop was also located in the northeast corner of the building (USAF 2001). Some chemical storage may be associated with welding activities; however, it is unlikely such chemicals have entered the environment through the septic system. The history of use of this building suggests that the associated septic system (ST-317) received only domestic waste. There is no historical evidence to suggest the facility was used for any activities other than those described above.

Evaluation of Relevant Information

ST-317 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On February 28, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled east of the leach field area to collect background data for the site and three boreholes were drilled in the leach field area. Soil samples were collected from a depth of 2 to 9 ft bgs. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. DRO were detected at concentrations significantly below the NMED residential screening guidelines (NMED 2005). Arsenic was detected at concentrations above both the NMED-approved background concentration and the NMED residential SSLs (NMED 1997 and 2006). The arsenic concentrations detected at ST-317 are consistent with naturally occurring levels commonly detected in soil samples throughout KAFB and are not the result of past activities at the site. Other metals, including barium, cobalt and copper, were detected at concentrations above their respective NMED-approved background concentrations for this area of Kirtland AFB, but were below NMED residential SSLs (NMED 1997 and 2006). Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

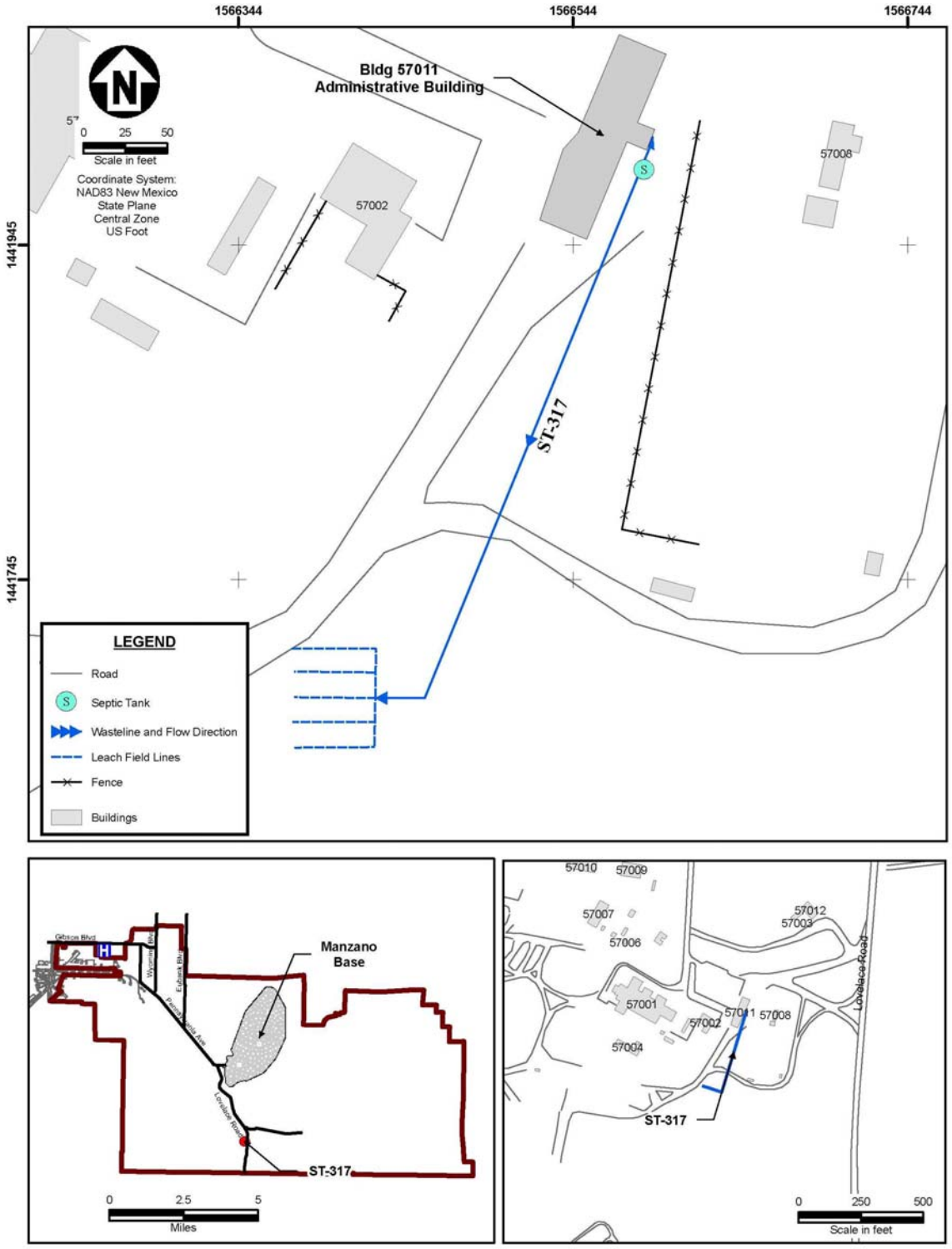

Figure Q-1
SWMU 10-21-T, Septic System Building 57011 (ST-317)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated January 3, 2007, the NMED Hazardous Waste Bureau agreed that SWMU 10-2-T, ST-317, appears to be suitable for NFA (NMED 2007). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

18. Appendix R SWMU 10-21-W, Septic System Building 20149 (ST-320)

Location and Current Land Use

SWMU 10-21-W (ST-320) was reported to be located southwest of Building 20149. A review of KAFB Civil Engineering Department records indicates that Building 20149 was actually not a building, but was a transformer pad erroneously assigned a building number, and that there is in fact, no septic system. This was verified with the KAFB Real Properties office in a correspondence from their office to KAFB confirming the error in building number (USAF 2006). The transformer pad is located approximately 400 ft north of Gibson Boulevard and 25 ft west of 1st Street in the northwest portion of KAFB. The transformer pad is in the northeast corner of an approximately one-acre vacant lot that has never been developed. The transformer served hospital facilities to the east (Building 20140) and continues to serve a portion of the hospital ("F-Wing") retained after the majority of the hospital was demolished beginning in 1997. The land use in the area is mixed commercial/urban. The general SWMU location and features are shown on Figure R-1 (USAF 1995). The nearest production wells are KAFB-1, 3,200 ft south and KAFB-3, 3,200 ft north of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-320. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

The lot where transformer pad 20149 is located, on the northwest corner of Gibson Boulevard and 1st Street, has never been developed. However, the lot is surrounded by development including a child care facility located immediately north of the subject site; health care facilities to the east; military housing and recreational fields to the south; and a base commissary to the west.

Evaluation of Relevant Information

ST-320 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). In May 1995 the RFI was conducted in an area approximately 50 ft southwest of the transformer pad where a drain field was presumed to be located. Four boreholes, including one background borehole and three boreholes located in the presumed drain field location were drilled and sampled using direct push drilling techniques. Soil samples, collected from a depth of 3 to 5 ft bgs, were submitted for laboratory analyses. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. One SVOC was detected but at a concentration significantly below the NMED residential SSL (NMED 2006). DRO were detected at concentrations significantly below the NMED residential SSLs (NMED 2005). Arsenic was the only metal detected at concentrations above the NMED residential SSL, but below the NMED-approved background concentration (NMED 1997 and 2005). Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

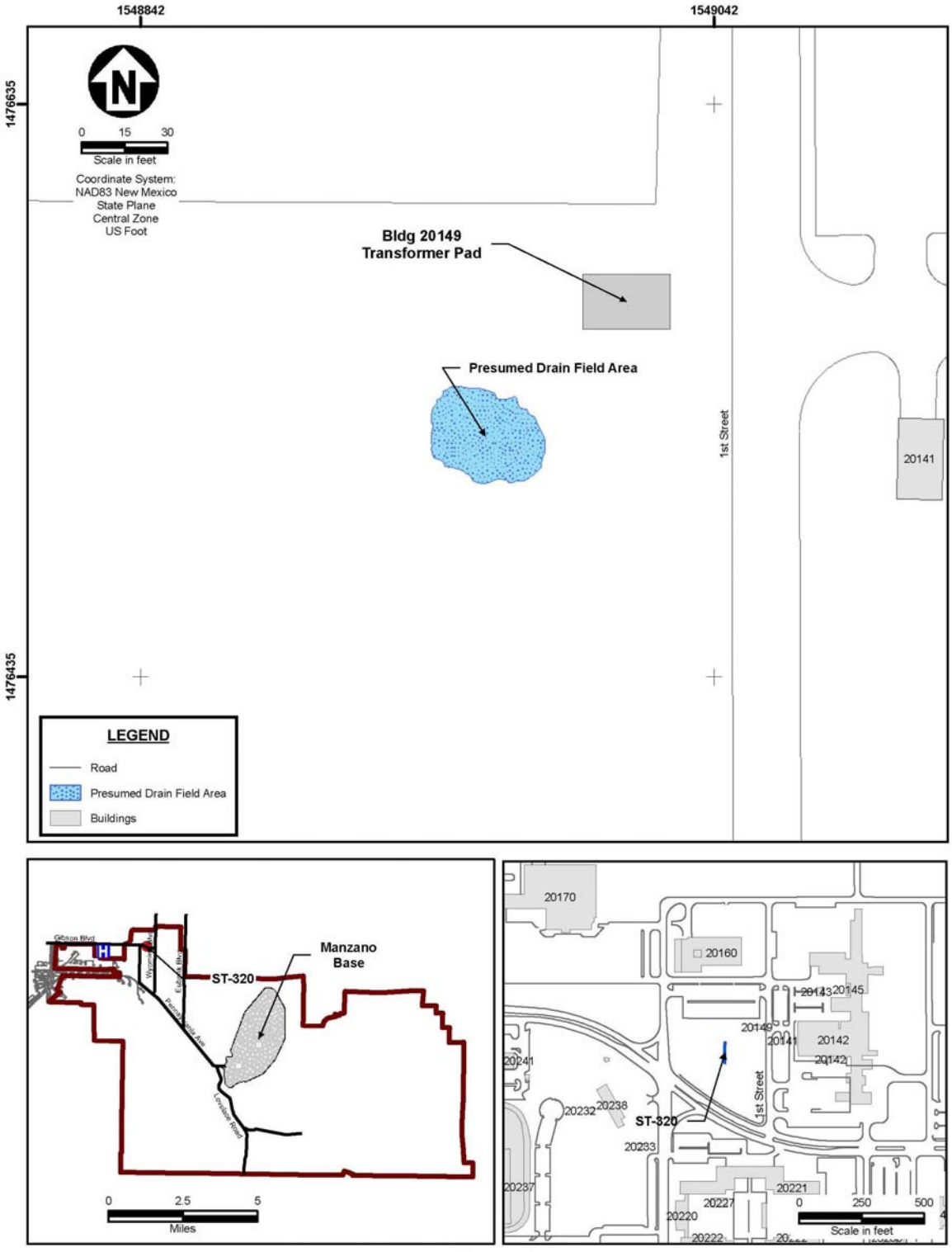

Figure R-1
SWMU 10-21-W, Septic System Building 20149 (ST-320)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated January 3, 2007, the NMED Hazardous Waste Bureau agreed that SWMU 10-2-W, ST-320, appears to be suitable for NFA (NMED 2007). This NFA proposal is based on NMED's NFA Criterion 1: The SWMU cannot be located, does not exist or is a duplicate.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

NMED. 2007. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. January 3.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

USAF. 2006. Letter from Mr. Carlos M. Valdez, Assistant Real Estate Manager, Kirtland AFB 377/MSG/CECR to Mr. Jeffrey Walker, Project Manager, TLI Solutions Inc. July 20.

19. Appendix S SWMU 10-21-X, Septic System Building 29042 (ST-323)

Location and Current Land Use

SWMU 10-21-X (ST-323) serves the Blast Overpressure site and is located north of Building 29042 in the south-central portion of KAFB. Reportedly, the outflow line length to the septic tank is approximately 30 ft. There are no engineering drawings for the system and field observations indicate that ST-323 consists of a cesspool with no leach field. The land use near ST-323 is considered urban/industrial and is in an active portion of the base. The general SWMU location and features are shown on Figure S-1 (USAF 1995). The nearest production wells are KAFB-17, 4.3 miles to the west and KAFB-4, 6 miles northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-323. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 29042 is more than 62 years old. It was built in 1944 as part of the New Mexico Proving Ground, where the World War II proximity fuse was developed. The building primarily served as housing during the proximity fuse development program (USAF 2001) and is currently used as quarters for Explosives and Ordnance Disposal personnel. There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage, and there are no floor drains. All available information suggests this septic system was used only for disposal of domestic-type waste and hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-323 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On February 14, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled east of the cesspool area to collect background data for the site. Three boreholes were drilled around the cesspool. Field observations indicated the bottom of the septic tank was at 5 ft bgs. The sample interval at each borehole extended from the base of the septic tank to 5 ft below (approximately 10 ft bgs). From this interval, two samples were collected: one at a depth equal to the base of the septic tank, the other from 3-5 ft below the base of the septic tank. One sample from this interval was submitted for laboratory analysis. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. DRO were detected in all samples at concentrations well below the NMED SSLs (NMED 2005). Arsenic was detected at concentrations above the NMED-approved background concentration and above the NMED residential SSLs (NMED 1997 and 2006b). Arsenic concentrations exceeding screening levels commonly occur naturally throughout KAFB (NMED 1997 and 2006b). The concentrations are consistent with naturally occurring levels at KAFB and are not considered to be the result of historical activities at this site.

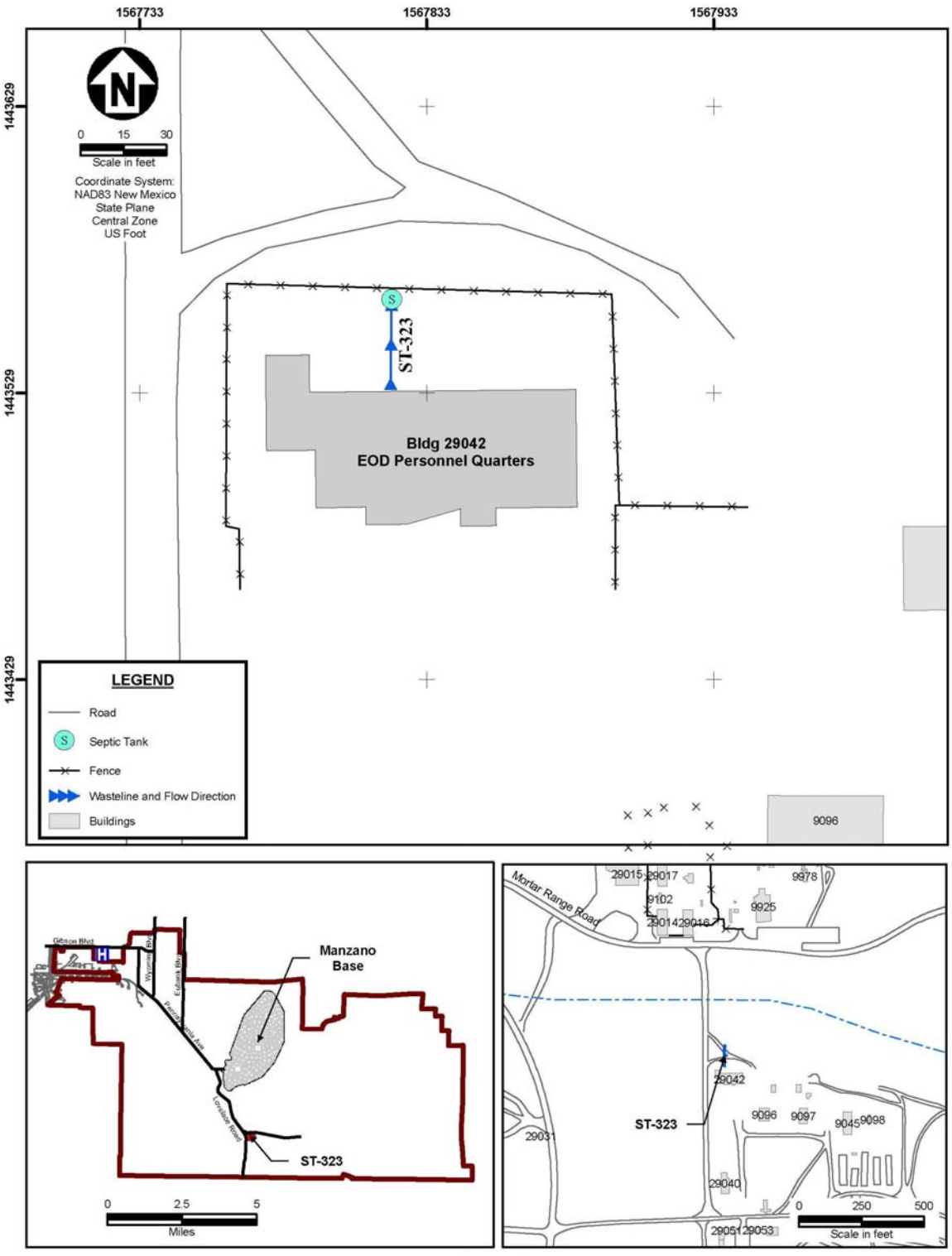

Figure S-1
SWMU 10-21-X, Septic System Building 29042 (ST-323)
Kirtland Air Force Base, New Mexico

No other analytes were detected at or above NMED-approved background levels or NMED SSLs. Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

Basis for Determination

In a letter dated July 28, 2006, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-X, ST-323 appears to be suitable for NFA (NMED 2006a). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

20. Appendix T SWMU 10-21-Y, Septic System Building 29051 (ST-324)

Location and Current Land Use

SWMU 10-21-Y (ST-324) is located approximately 40 ft west of Building 29051, an administrative office building, in the south-central portion of KAFB. The land use near ST-324 is considered urban/industrial and is in an active portion of the base. Based on engineering drawings and observed site conditions, septic tank inflow and outflow line lengths are approximately 110 ft and 10 ft, respectively. This 1,000-gallon tank discharges to a leach field to the west with a drainage area of approximately 95 ft by 30 ft. The general SWMU location and features are shown on Figure T-1 (USAF 1995). The nearest production wells are KAFB-17, 4.3 miles to the west and KAFB-4, 6 miles northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-324. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 29051 is 63 years old. It was built in 1944 as the headquarters for the New Mexico Proving Ground, where the World War II proximity fuze was developed. There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage, and there are no floor drains. All available information suggests this septic system was used only for disposal of domestic-type waste and hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-324 was investigated as part of the Appendix III RFI in 1995 (USAF, 1995). On March 1, 1995, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled north of the leach field area to collect background data for the site. Three boreholes were drilled in the leach field area. Based on engineering drawings and observed field conditions, the leach field lines were determined to be 3 ft bgs. The sample interval at each borehole extended from the depth of the leach field line to 5 ft below the leach field line. From this interval, at each borehole two samples were collected and one sample was submitted for laboratory analysis. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Four soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. DRO were detected at concentrations well below the NMED residential SSLs (NMED 2005). Arsenic was detected at concentrations above the NMED-approved background concentration and the NMED residential SSLs (NMED 1997 and 2006b). Arsenic concentrations exceeding screening levels commonly occur naturally throughout KAFB.

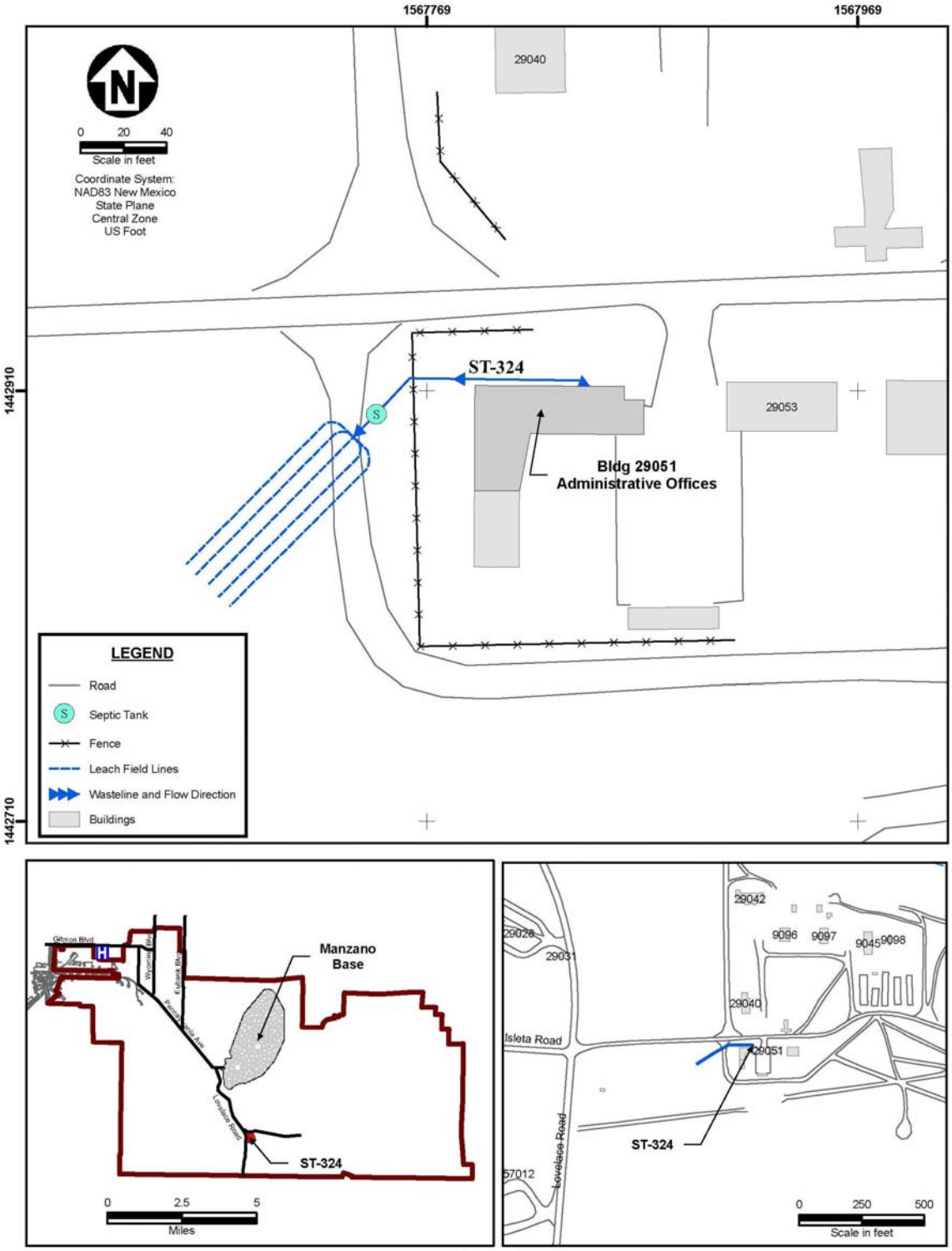

Figure T-1
SWMU 10-21-Y, Septic System Building 29051 (ST-324)
Kirtland Air Force Base, New Mexico

The concentrations are consistent with naturally occurring levels at KAFB and are not considered to the result of historical activities at this site (NMED 1997 and 2006b). No other contaminants were detected at or above NMED approved background levels or NMED residential SSLs. Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

Basis for Determination

In a letter dated July 28, 2006, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-Y, ST-324, appears to be suitable for NFA (NMED 2006a). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

USAF. 1995. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Wasteline Sites. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. October 23.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

21. Appendix U. SWMU 10-21-AA, Septic System SOR Building 66029 (ST-342)

Location and Current Land Use

SWMU 10-21-AA (ST-342) is located southeast of Building 66029, an office building at the Starfire Optical Range (SOR), in the southeast portion of KAFB. Reportedly, the inflow and outflow line lengths associated with this 1,200-gallon septic tank are 100 ft and 15 ft, respectively. The outflow line discharges southeast to a leach field measuring 15 ft by 40 ft. Reportedly, the leach field lines were 3 ft below grade. The general SWMU location and features are shown on Figure U-1 (USAF 1997). The nearest production wells are KAFB-17, 6 miles to the west and KAFB-4, 7.2 miles northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-342. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 66029 has served as administrative offices since its construction in 1981 supporting the Airborne Laser Laboratory which was associated with a significant Cold War defense research project (USAF 2001). There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage, and there are no floor drains. All available information suggests this septic system was used only for disposal of domestic-type waste and hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-342 was investigated in 1996 as part of a Phase 2 RFI (USAF 1997). On December 12, 1996, four boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled north of the leach field area to collect background data for the site. Three boreholes were drilled in the leach field area. Based on field observations, the leach field lines were determined to be 3 ft bgs. Granite bedrock was encountered in boreholes and prevented sampling in the 8 ft to 10 ft interval. Refusal at 5 ft in the background borehole allowed collection of only one sample. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Seven soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. VOCs and SVOCs were detected at concentrations below current NMED residential SSLs (NMED 2006b). GRO were detected at concentrations below the NMED residential SSLs (NMED 2005). Arsenic was detected at a concentration slightly above the NMED-approved background concentration and the NMED residential SSL (NMED 1997 and 2006b). Arsenic concentrations exceeding screening levels commonly occur naturally throughout Kirtland AFB. The concentrations are consistent with naturally occurring levels at Kirtland AFB and are not considered to be the result of historical activities at this site. No other analytes were detected at or above NMED-approved background levels or NMED residential SSLs. Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

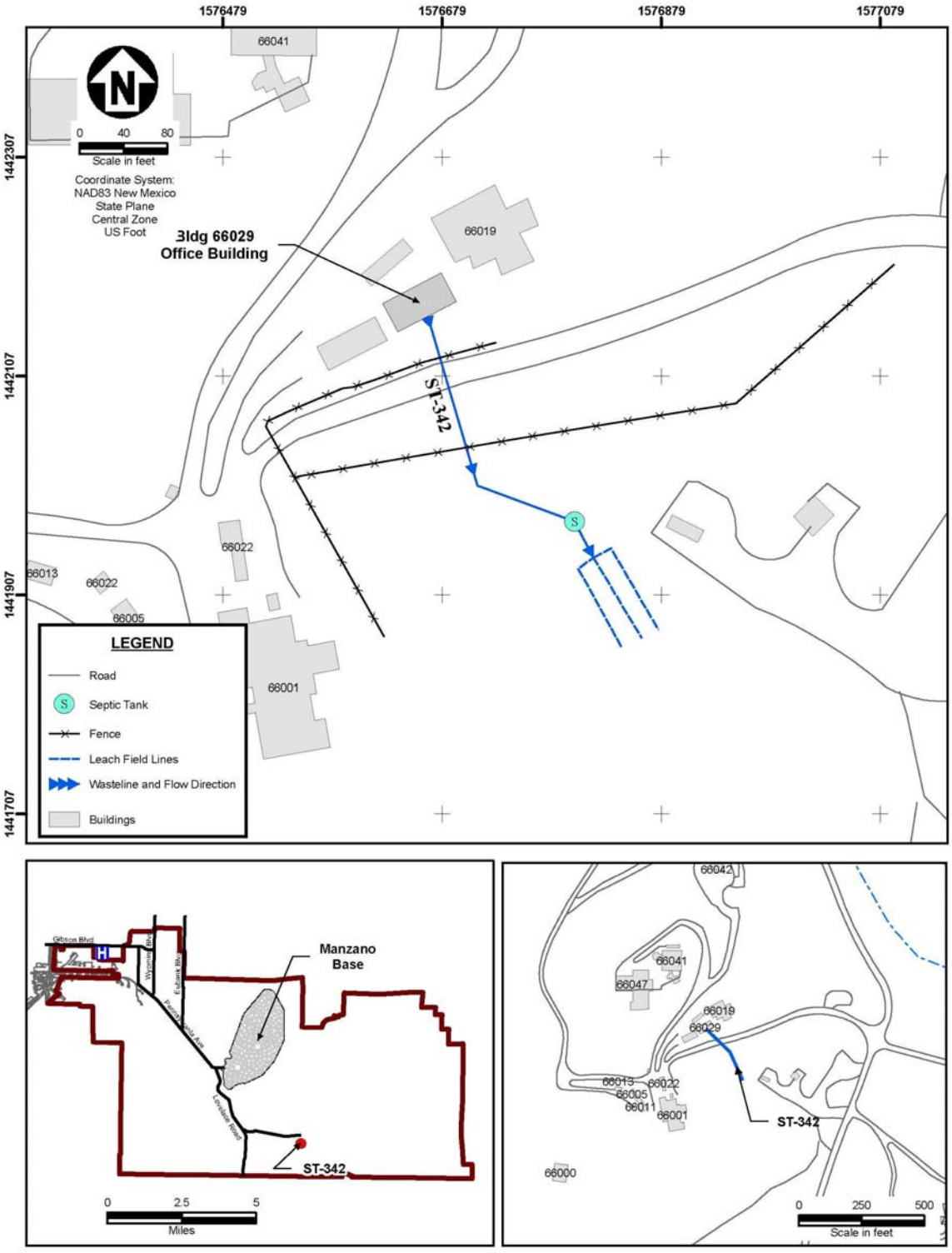

Figure U-1
SWMU 10-21-AA, Septic System Building 66029 (ST-342)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated July 28, 2006, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-AA, ST-342, appears to be suitable for NFA (NMED 2006a). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

USAF. 1997. Resource Conservation and Recovery Act Facility Investigation Report, Appendix III Phase 2. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. July.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

22. Appendix V SWMU 10-21-AA, Septic System SOR Building 66006 (ST-345)

Location and Current Land Use

SWMU 10-21-AA (ST-345) is located east of Building 66006, a guard house at the Starfire Optical Range (SOR) in the southeast portion of KAFB). The land use near ST-345 is considered urban/industrial and is in an active portion of the base. Based on observed site conditions, the septic tank discharges to a leach field situated less than 20 ft to the northeast, with a drainage area of approximately 20 ft by 10 ft. This site normally supports one employee for an 8 hour shift, 5 days per week with lavatory facilities. The general SWMU location and features are shown on Figure V-1 (USAF 1997). The nearest production wells are KAFB-17, 6 miles to the west and KAFB-4, 7.2 miles northwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-345. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

Building 66006 was constructed in 1971. It has a minor support role for the SOR as a visitor check-in point/security at the entrance to the facility (USAF 2001). There is no historical evidence to suggest the facility was used as a laboratory, maintenance shop, or for chemical storage, and there are no floor drains. All available information suggests this septic system was used only for disposal of domestic-type waste and hazardous materials were never managed, stored, or disposed of at the site.

Evaluation of Relevant Information

ST-345 was investigated in 1996 as part of a Phase 2 RFI (USAF 1997). On December 13, 1996, three boreholes were drilled and sampled using direct push drilling techniques. One borehole was drilled west of the leach field area to collect background data for the site. Two boreholes were drilled in the leach field area. Based on observed field conditions, the leach field lines were estimated to be 4 ft bgs. Samples were collected from each borehole at 4 ft to 6 ft bgs and 9 ft to 11 ft bgs. Each sample interval was field screened for possible contamination using a beta-gamma meter and a flame ionization detector. No elevated readings were detected with these instruments.

Six soil samples were analyzed for VOCs, SVOCs, TPH as GRO and DRO, metals, mercury, pH, and soil moisture. VOCs and SVOCs were detected at concentrations below their current NMED residential SSLs (NMED 2006b). Both DRO and GRO were detected at concentrations below the NMED residential SSLs (NMED 2005). Arsenic was detected at concentrations at or above the NMED-approved background concentration and the NMED residential SSL. Arsenic concentrations exceeding screening levels commonly occur naturally throughout Kirtland AFB. The concentrations are consistent with naturally occurring levels at Kirtland AFB and are not considered to the result of historical activities at this site (NMED 1997 and 2006b). No other analytes were detected at or above NMED-approved background levels or NMED SSLs. Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

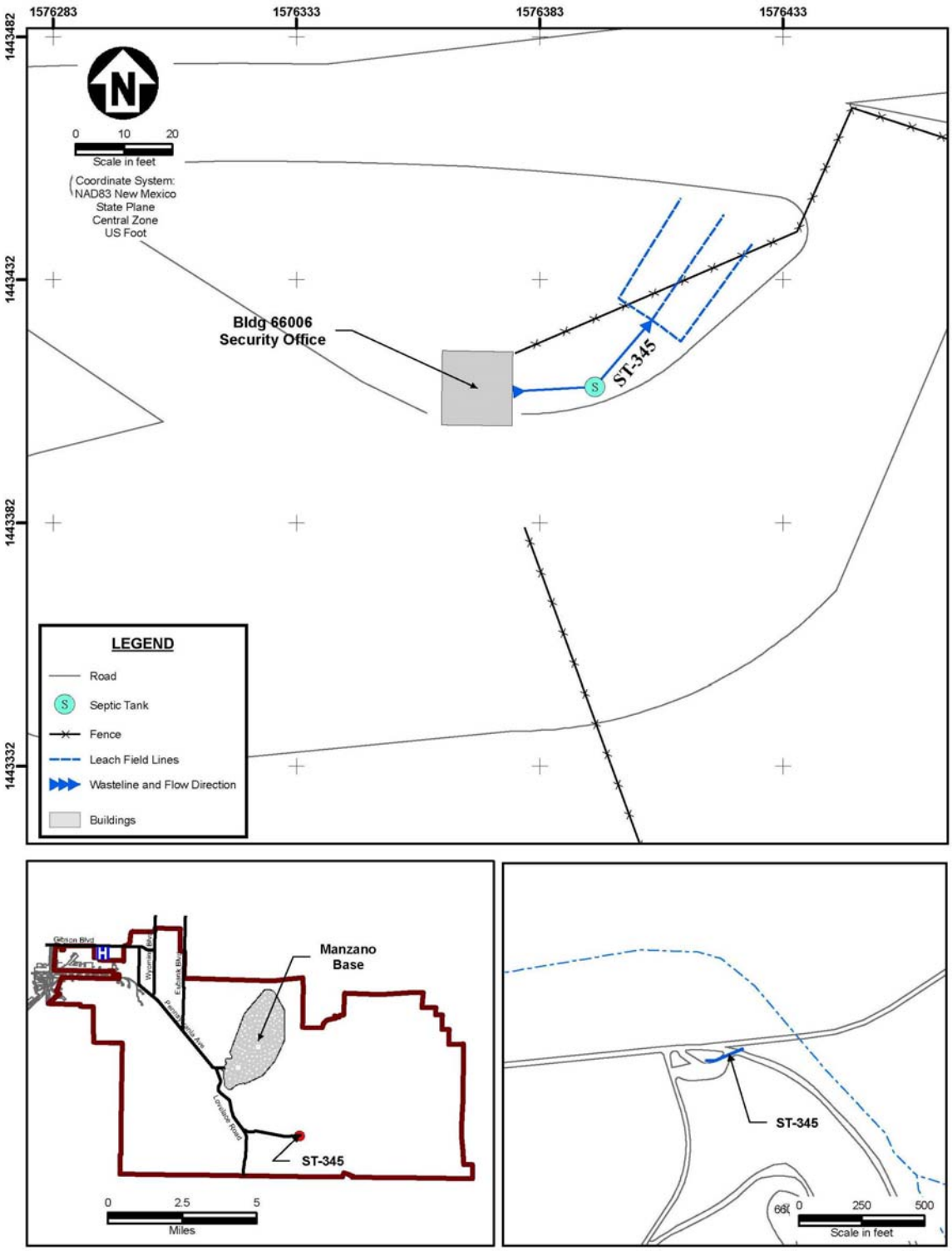

Figure V-1
SWMU 10-21-AA, Septic System Building 66006 (ST-345)
Kirtland Air Force Base, New Mexico

Basis for Determination

In a letter dated July 28, 2006, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-AA, ST-345, appears to be suitable for NFA (NMED 2006a). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

References

KAFB. 2002. Land Use Management Plan.

NMED. 1997. Hazardous Waste Bureau (formerly Hazardous and Radioactive Materials Bureau), Approved Background Concentrations, Sandia National Laboratories/Kirtland AFB, New Mexico.

NMED. 2005. Total Petroleum Hydrocarbons Screening Guidelines. November.

NMED. 2006a. Letter from Mr. John Kieling, Hazardous Waste Bureau Manager of the Permits Management Program, to Mr. Carl Lanz, Kirtland Air Force Base Chief, Restoration Section. July 28.

NMED. 2006b. Technical Background Document for Development of Soil Screening Levels. New Mexico Environment Department Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. Revision 4.0. August.

USAF. 1997. Resource Conservation and Recivery Act Facility Investigation Report, Appendix III Phase 2. Draft Final. Halliburton NUS Corporation, Albuquerque, New Mexico. July.

USAF. 2001. Kirtland Air Force Base Cultural-Historic Building Survey, Geographic Environmental Management System Database.

23. Appendix W SWMU 10-21-BB, Trestle Site Septic Tank (ST-346)

Location and Current Land Use

SWMU 10-21-BB (ST-346) includes a septic tank and leach field near Trestle Tow Road near Tijeras Arroyo in the northwest portion of KAFB). The inflow line runs 60 ft from the cleanout access to the septic tank and leach field. The leach field drainage area measures approximately 50 ft by 100 ft. The leach field lines are approximately 5 ft bgs. The general location of ST-346 is shown on Figure W-1 (United States Air Force [USAF] 1998). The site is located in the urban/industrial land use area. The nearest production well is KAFB-4, 1,000 ft north-northeast of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at ST-346. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

The temporary facilities served by ST-346 were part of the Air Force Weapons Laboratory Electro-Magnetic Pulse (EMP) Simulation Facility which tests the effects of EMP on aircraft and other large structures (USAF 2001). There is no historical evidence to suggest the facilities connected to ST-346 were used as a laboratory, maintenance shop, or for chemical storage. The septic tank received septic wastes from temporary work trailers and a designated latrine trailer onsite.

Evaluation of Relevant Information

ST-346 was investigated in 1997 as part of a Phase 2 RFI (USAF 1998). In June 1997, eight boreholes were advanced using a direct-push drill rig to depths of approximately 12 ft bgs or until refusal was met. Soil samples were collected every 5 ft and were field screened with a photoionization detector and submitted to an analytical laboratory for analysis for VOCs, SVOCs, metals, cyanide, and TPH. Three surface samples also were collected from areas at the site that may have been used for the improper disposal of chemical wastes and analyzed for the same parameters.

No VOCs were detected in the samples. Two SVOCs were detected at concentrations significantly below the current NMED residential SSLs (NMED 2006). Arsenic was determined to be a naturally occurring compound at this site (NMED 1997). Detections of aluminum, beryllium, and iron were determined to be a naturally occurring constituent of the weathered granitic deposits present in the alluvial deposits at the site (USAF 1998). Under a residential risk-based scenario it was determined that this site does not pose an unacceptable level of to human health or the environment.

Basis for Determination

In a letter dated January 3, 2007, the NMED Hazardous Waste Bureau agreed that SWMU 10-21-BB, ST-346, appears to be suitable for NFA (NMED 2007). This NFA proposal is based on NMED's NFA Criterion 2: The SWMU has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents or other CERCLA hazardous substances.

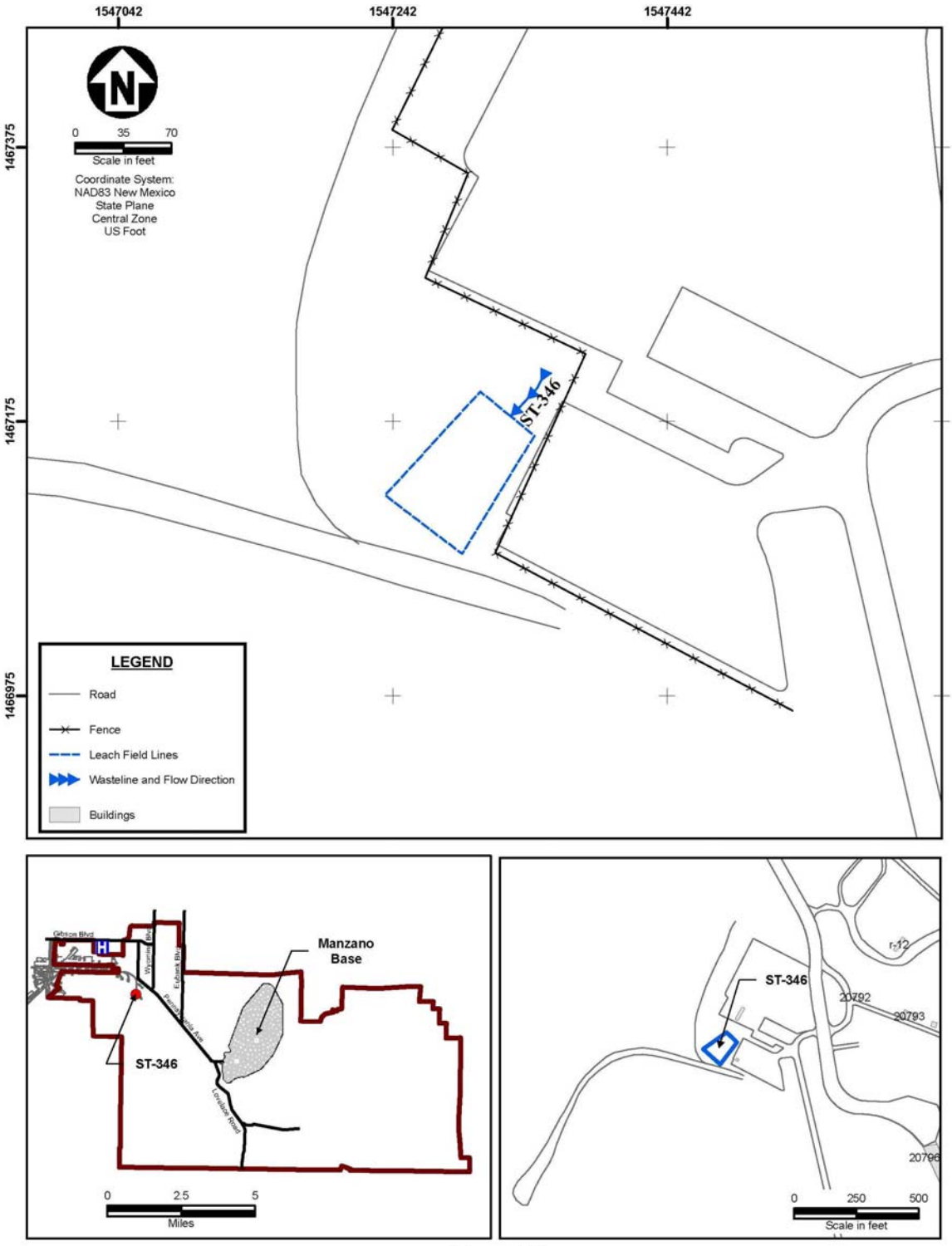

Figure W-1
SWMU 10-21-BB, Trestle Site Septic Tank (ST-346)
Kirtland Air Force Base, New Mexico

References

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24. Appendix X SWMU 6-3, Landfill 3 (LF-007)

Location and Current Land Use

SWMU 6-3, (LF-007) Landfill 3, is located west of the Trestle Facility, on the northern side of Tijeras Arroyo. The site covers approximately seven acres that includes an upper, sloped portion and lower, terraced area. The general location of LF-007 is shown on Figure X-1. The site is located in the urban/industrial land use area. The nearest production well is KAFB-4, 1,000 ft west-southwest of the site.

Projected Future Land Use

According to the Land Use Management Plan (KAFB, 2002), there are no proposed changes for the land use at LF-007. However, the more conservative residential land use scenario was used for all risk-based screening assessments.

History

The area initially investigated was limited to 1.5 acres. However, results of the investigations ultimately extended the area of the site to approximately seven acres. In the 1970s, LF-007 (Landfill 3) received materials originating from excavations at SWMU 6-2, Landfill 2 (LF-002) during construction of the Trestle Facility (United States Air Force [USAF] 1985). The majority of the material placed in LF-007 reportedly comprised burned aircraft parts (USAF 1997).

Evaluation of Relevant Information

Four phases of investigation were performed at LF-007 prior to the implementation of Voluntary Corrective Measures (VCMs) that were eventually completed in 2006. These included the following: Phase II, Stage 1 Confirmation/Quantification Report (USAF 1985); the Stage 2A RFI (USAF 1993); Phase 2 RFI (USAF 1997); and the Supplemental Assessment of Multiple Landfills including LF-007 (USAF 2002).

During the Stage 2A RFI (USAF 1993), 55-foot boreholes were augered at each of the six sample locations and samples were collected from each borehole at depths at or near 5, 25, and 55 ft bgs. All samples were analyzed for metals, VOCs, SVOCs, and soil moisture. Background soil samples were collected from two locations. No analytes were detected above the screening levels applicable at the time with the exception of beryllium and manganese, which are naturally occurring in soils at Kirtland AFB in the vicinity of this site. Six organic compounds were detected at concentrations well below action levels and it was undetermined if these compounds were indeed present in soils or were laboratory contaminants. Following this investigation, it was recommended that a geophysical investigation should be performed at this site to delineate the landfill, determine potential soil gas sampling boundaries, perform a soil gas survey, and collect soil samples from areas where there was an indication of impact.

The Phase 2 RFI (USAF 1997) included a geophysical survey, drilling of two auger and two direct push borings, soil sampling for chemical and geotechnical analysis, and a topographic survey of the site. Based on the geophysical data, two potential disposal areas were identified: the upper slope and an area to the southwest of the landfill. Soil samples collected from the boreholes were analyzed for VOCs, SVOCs, target analyte list (TAL) metals, herbicides, pesticides, and polychlorinated biphenyls. Only metal concentrations, below action levels applicable at that time, were reported during the two investigations.

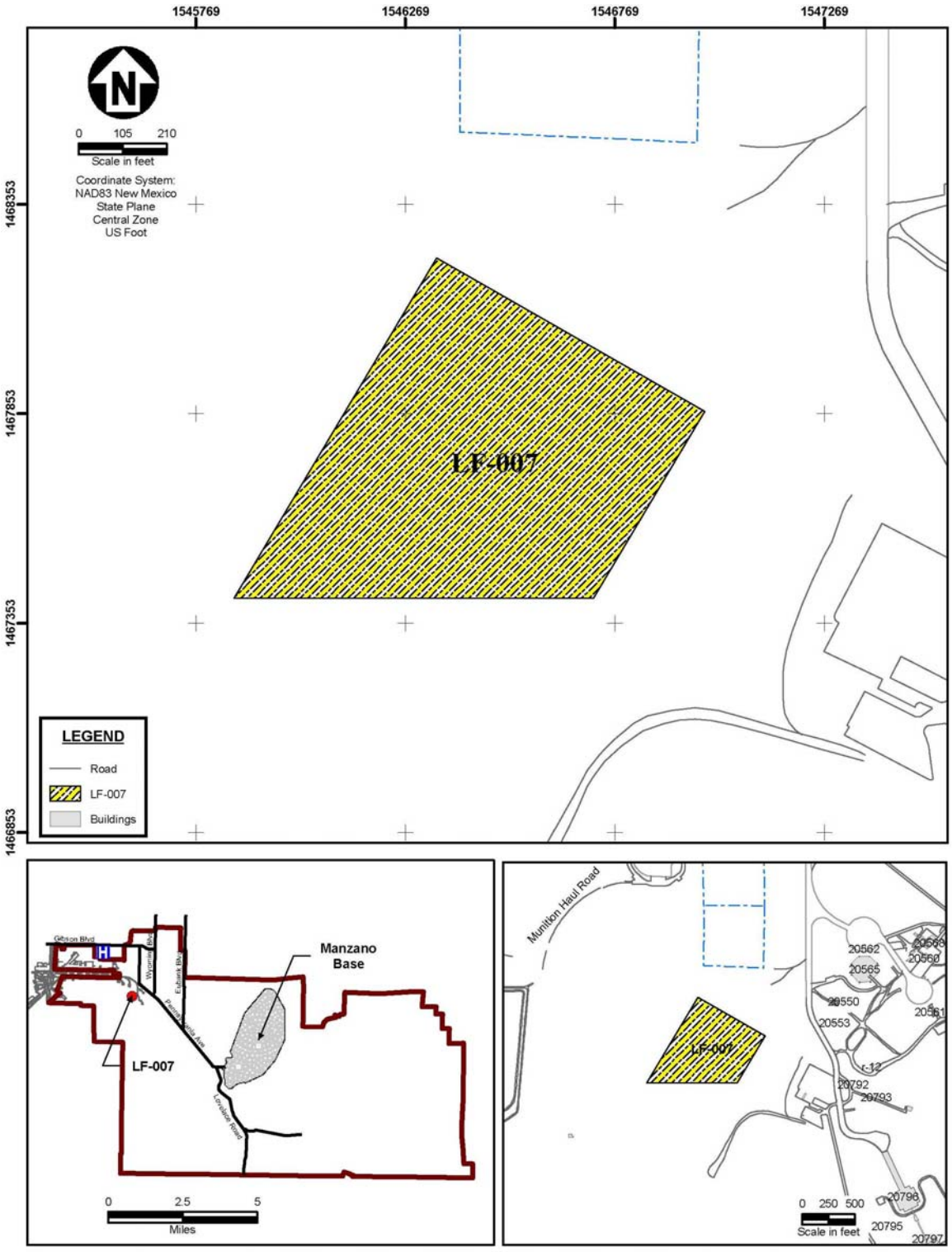

Figure X-1
SWMU 6-3, Landfill 3 (LF-007)
Kirtland Air Force Base, New Mexico

In response to NMED's request for additional information in 2001, an investigation consisting of a soil gas survey and test pit excavation was conducted as part of a supplemental landfill assessment (USAF 2002). Passive soil gas samples were collected from 42 locations and evaluated for VOCs. 12 VOCs were detected in 17 samples and represent compounds related to petroleum fuels and chlorinated hydrocarbons. In areas of highest soil gas concentrations, seven test pits were excavated to a maximum depth of 13 ft bgs to determine the source of the elevated vapor detections. Debris was encountered in every test pit and consisted of glass, wire, plastic, concrete rubble, and metal (aircraft parts). The amount of debris decreased with depth and was minimal at the bottom of all excavations. No evidence of staining was observed in any of the test pits, but a light-colored discoloration of soil was noted near the surface at Test Pit (TP)-03. Two subsurface soil samples were collected from each test pit, one from the debris layer and one from the excavation bottom. Samples were analyzed for VOCs, SVOCs, and TAL metals. Arsenic, lead, and benzo(a)pyrene were the only analytes detected above NMED residential SSLs (NMED 2006a).

A Voluntary Corrective Measure (VCM) was conducted at LF-007 between October 2004 and May 2005 to excavate and remove waste and debris from the landfill to prepare the site for a NFA proposal (USAF, 2006a). Test pits were excavated to characterize landfill materials for potential offsite disposal and delineate the landfill boundary. The test pits confirmed the presence of significant quantities of debris on the upper slope of the site and no significant disposal areas on the lower terrace. None of the waste samples analyzed exhibited hazardous characteristics, and soils determined to be clean through laboratory analysis were used as backfill. Materials excavated from the landfill were segregated into stockpiles of scrap metal for recycling and debris for disposal at the KAFB Landfill (LF-268). A minimal quantity of asbestos-containing materials (less than 1 cubic yard) was segregated and disposed of at a licensed facility. The site was proposed for NFA; however, additional debris was encountered on the ground surface during a site visit conducted after completion of the VCM. As a result, a supplemental VCM was performed at the site (USAF 2006b).

The two-phase supplemental VCM was conducted from August through September 2006 (USAF 2006b). Field activities included geophysical surveys, surface cleanup, trench excavation and a final site inspection. Electromagnetic induction and magnetic geophysical surveys were conducted to determine the extent and distribution of residual debris at the site. Based on the results of the geophysical surveys, field activities were able to focus on surface and near-surface cleanup of metal debris from the site. All debris has been removed from the site. This site does not pose unacceptable risk to human health or the environment.

Basis for Determination

In a letter dated October 26, 2006, the NMED Hazardous Waste Bureau agreed that SWMU 6-3, LF-007, appears to be suitable for NFA (NMED 2006b). This NFA proposal is based on NMED's NFA Criterion 5: The SWMU has been characterized or remediated in accordance with current applicable state or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected land use.

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