Draft

ENVIRONMENTAL ASSESSMENT FOR OPERATIONS, UPGRADES, AND CONSOLIDATION AT THE WESTERN COMMAND SITE, NEW MEXICO

April 2012

National Nuclear Security Administration
Office of Secure Transportation
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Cover Sheet

ENVIRONMENTAL ASSESSMENT FOR OPERATIONS, UPGRADES, AND CONSOLIDATION AT THE WESTERN COMMAND SITE, NEW MEXICO

Proposed Action: The Department of Energy (DOE) National Nuclear Security Administration (NNSA) proposes to construct and operate a consolidated Western Command facility at Kirtland Air Force Base (KAFB).

Report Designation: Draft Environmental Assessment

Responsible Agency: NNSA

Affected Location: Kirtland AFB, New Mexico

Abstract: To facilitate greater operational efficiency and cost-effectiveness and meet the NNSA strategic goal to increase Office of Secure Transportation (OST) agents and vehicles, the NNSA proposes to consolidate Western Command Operations into a new single complex at the Western Secure Transportation Center. The Agent Operation Western Command building currently being used for Federal agent operations is inadequate to support the operational mission of the OST. The existingVehicle Maintenance Facility (VMF) and the Mobile Equipment Maintenance Facility (MEMF), located on Sandia National Laboratories property, are in poor condition and are not adequately sized for OST future growth. OST has an immediate mission need to increase its vehicle maintenance capabilities. With all vehicle maintenance functions co-located with the Western Secure Transportation Center and expanded to simultaneously handle multiple vehicles, the time needed to generate each convoy would be significantly reduced.

The proposed site, the OST Driver Track at KAFB, is administered by the United States Air Force (USAF) and permitted to NNSA for use by the OST. **Consolidation and facility construction on this permitted property is conditioned upon approval from the USAF through its realty process and funding through the NNSA budget process.** Proposed new construction would entail a new agent operations building with parking lot; new VMF/MEMF with parking areas; OST communication depot; aboveground water tank; fuel station with wash rack; a Physical Training and Defensive Intermediate Use of Force Training (PT/IUF) or munitions office; warehouse; munitions storage site; a new OST headquarters office; and a visual screening wall.

The analysis in the EA will consider the Proposed Action and the No Action Alternative, and aids in determining whether a Finding of No Significant Impact (FONSI) can be prepared or whether an environmental impact statement is needed.

Public Involvement: NNSA encourages public participation in the National Environmental Policy Act (NEPA) review process. NNSA invites comments on this Draft EA via e-mail, nepa@nnsa.doe.gov ; mail or facsimile (505) 845-4239 marked attention to the NEPA Compliance Officer listed below by the close of the comment period. The comment period ends April 30, 2012. For additional information regarding the proposed project contact the document manager listed below.

Availability: The Draft EA is available for public review on NNSA's website at http://nnsa.energy.gov/nepa and at public reading rooms in the Albuquerque, NM: at Central New Mexico Community College Montoya Campus, 4700 Morris NE, Albuquerque, NM; Zimmerman Library, University of New Mexico Campus, Albuquerque, NM; and KAFB Library, Bldg 20204, Kirtland AFB, NM. This Draft EA is also available on DOE's NEPA web site at http://nepa.energy.gov/DOE_NEPA_documents.htm.

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EXECUTIVE SUMMARY

ES.1 Introduction

This environmental assessment (EA) has been prepared for the Department of Energy (DOE) National Nuclear Security Administration (NNSA) to identify and assess the potential environmental impacts associated with constructing, operating, and maintaining a new consolidated Western Secure Transportation Center at Kirtland Air Force Base (KAFB).

This EA was developed in accordance with the *National Environmental Policy Act* (NEPA) (42 U.S.C. § 4321 et seq.); implementing regulations issued by the President's Council on Environmental Quality (CEQ), 40 *Code of Federal Regulations* (CFR) Parts 1500-1508; and the DOE NEPA implementing regulations (10 CFR Part 1021).

ES.2 Purpose and Need

The purpose of the Proposed Action is to consolidate Western Command Operations into a new single complex at the existing Agent Western Command Operations and Training Facility. The need for agency action is to enhance efficiency and cost-effectiveness of Western Command operation; minimize the need to drive trucks and support vehicles to multiple locations to support single transportation campaigns and overall maintenance activities; and integrate training and operations as effectively as practicable. The Operations and Training Facility (OTF) currently being used for Federal agent operations is inadequate to support the operational mission of Agent Operations Western Command (AOWC). The building was never designed for a fully staffed operational agent facility.

ES.3 Description of Proposed Action and Alternatives

Proposed Action. To facilitate greater operational efficiency and cost-effectiveness, the NNSA proposes to consolidate Western Command Operations, currently conducted at several locations on KAFB located in Albuquerque, New Mexico, into a single new complex at the Office of Secure Transportation (OST) Driver Track called the Western Secure Transportation Center. The OST Driver Track area, utilized by OST under a land use permit granted by KAFB in 1989, currently contains a 1-mile loop driver track and a 4-acre secured, limited access area for OST's AOWC. Proposed new construction would entail a new agent operations building with parking lot; new Vehicle Maintenance Facility/Mobile Electronic Maintenance Facility (VMF/MEMF) with parking areas; OST communication depot; aboveground water tank; fuel station and wash rack; a Physical Training and Defensive Intermediate Use of Force Training (PT/IUF) or munitions office; warehouse; munitions storage site; a new OST headquarters office; and a visual screening wall.

The primary role of the agent operations facility is to support the operational duties of the Federal agents based at this facility. These Federal agents are responsible for the daily safeguard and transport of nuclear weapons, components, test assemblies, and strategic quantities of weapons grade special nuclear material up to and including Secret Restricted Data. The nature of operations would remain the same as in the current agent command and VMF/MEMF; however, the designs of the building would be more efficient, and would provide room for growth of personnel. In addition to the current activities in the MEMF, work activities would include the OST communications depot and maintenance and testing. Increased munitions storage would be required and would consist of six secure aboveground explosives storage magazines for up to

10,000 pounds of munitions. All agents that are not on mission status would train at the PT/IUF building at least 3 hours daily rather than using an off-site gym.

No Action Alternative. Under the No Action Alternative, NNSA would continue operations at the current AOWC and VMF/MEMF sites. The inclusion of the No Action Alternative is prescribed by the CEQ regulations implementing NEPA and serves as a benchmark against which the environmental impacts of the action alternatives may be evaluated.

Alternatives Considered and Eliminated from Further Analysis. Three alternative sites, all DOE-owned properties, were considered and eliminated from further analysis based on the sites failing to meet the project objectives. The Eubank South Plot and the Eubank North Plot are 20-acre areas which would limit future growth and the sites also have logistical constraints with munitions storage. Consequently, these alternatives would not meet the purpose or need for agency action and were not analyzed in detail. The Sandia National Laboratories Tech Area II is DOE-owned property located on KAFB. The site is an environmental restoration site with long-term monitoring wells and Sandia National Laboratories/New Mexico (SNL/NM) is in the process of cleaning up the site. DOE currently has other future long-term growth plans for this area once the site is restored; therefore, this alternative would not meet the need for agency action and was not analyzed in detail.

ES.6 Environmental Consequences

Consistent with NEPA implementing regulations and guidance, DOE focuses the analysis in an EA on topics with the greatest potential for environmental impacts. This sliding-scale approach is consistent with NEPA [40 CFR 1502.2(b)], under which impacts, issues, and related regulatory requirements are investigated and addressed with a degree of effort commensurate with their importance. DOE concluded that the proposed project would result in no impacts or negligible impacts to the resource areas: cultural resources, aesthetics and visual resources, socioeconomics and environmental justice; land use; radiological; infrastructure; and intentional destructive acts.

Implementation of the Proposed Action or No Action Alternative would result in minor impacts on the human and natural environment at KAFB. These environmental impacts are summarized in Table ES-1.

ES.7 Cumulative Impacts.

The effects of the Proposed Action, when combined with the effects resulting from actions taken by KAFB, would not result in cumulative impacts.

ES.8 Mitigation Responsibility

No mitigation measures are required for the Proposed Action because resulting impacts would not meet significance criteria.

ES.9 Findings and Conclusions

Direct, indirect, and cumulative impacts of the Proposed Action and the No Action Alternative have been considered. No significant impacts would occur. Therefore, the issuance of a Finding of No Significant Impact is warranted, and preparation of an environmental impact statement is not required.

Table ES-1. Environmental Impacts of Implementing the Proposed Action or No Action Alternative

Resource Area	Impacts of the Proposed Action	Impacts of the No Action Alternative
Air Quality	Under the Proposed Action, construction activities would result in emissions of approximately 4.2 tons (3.8 metric tons) of CO during a 1-year period of construction. The CO emissions during construction would be substantially below the 100 tons per year threshold; therefore, a conformity analysis is not required. It is anticipated that operations conducted under the Proposed Action would result in emissions slightly greater than current emissions due to additional diesel emergency generators. A decrease of approximately 6.8 metric tons of greenhouse gases would occur during operations under the Proposed Action due to elimination of the need to drive the vehicle fleet of 357 trucks between the existing AOWC/OTF and the VMF.	Under the No Action Alternative, NNSA would not construct the proposed buildings, which would result in the continuation of the existing condition. Therefore, no direct or indirect environmental effects are expected on local or regional air quality from implementation of the No Action Alternative. A reduction in greenhouse gas emissions would not be realized under the No Action Alternative as trucks would continue to travel between the AOWC and the VMF.
Geology, Topography, and Soil	Under the Proposed Action, minor impacts on geological resources or soils are expected. The construction of the Western Secure Transportation Center would occur predominantly on 27.5 acres of previously disturbed land. A portion of the munitions storage area (6.3 acres) would encompass land that has not been previously disturbed. Of the 104 acres permitted in the Driver Track Area, approximately 32% of the area would be disturbed during construction. Through the use of BMPs, the impacts of construction activities on soils would be localized and negligible.	Under the No Action Alternative, the buildings proposed for construction at the OST Driver Track would not be constructed and existing conditions would remain. No effects on geological resources or soils would occur.
Water Resources	Implementation of the Proposed Action would disturb over 33 acres of land with potential additional disturbance to land for staging and construction activities. Facility siting would avoid interrupting natural and existing surface water drainages. A construction permit, with the required erosion control plan and a SWPPP would be obtained prior to construction. The sediment and erosion control plan and SWPPP would identify BMPs to reduce erosion and runoff from construction of the proposed facility. In addition, construction personnel would be required to follow appropriate BMPs to protect against potential petroleum or hazardous material spills. Therefore, short-term and long-term, adverse effects on surface waters would be negligible.	Under the No Action Alternative, construction activities would not take place and there would be no changes to current water resources. Therefore, no new impacts on water resources would occur as a result of the No Action Alternative.

Resource Area	Impacts of the Proposed Action	Impacts of the No Action Alternative
Biological Resources	Minimal short-term impacts to wildlife would result from disturbance from construction of the new facilities under the Proposed Action. No Federal or state-listed threatened or endangered species are known to inhabit the project area. However, a biological survey would be conducted within 2 weeks prior to any clearing, grading, excavation, or other associated ground-disturbing activities to identify prairie dog colonies and burrowing owls. If burrowing owls are present, construction activities would only commence after the owls have migrated from the area (that is, October 15 to March 15). No wetlands are located on the proposed project sites. Therefore, impacts on biological resources would be negligible.	Under the No Action Alternative, the new Western Secure Transportation Center would not be constructed and no changes or impacts would occur to biological resources.
Noise	Noise generation from implementation of the Proposed Action would last only for the duration of construction activities and would be isolated to normal working hours. Consequently, construction activities at the OST Driver Track would result in short-term impacts on the noise environment; however, these impacts would be negligible.	Under the No Action Alternative, the Proposed Action would not be implemented. There would not be an increase in construction activities, or vehicle operations; consequently, the ambient noise environment would not change from existing conditions.
Hazardous Materials and Waste Management	No adverse impacts on hazardous materials and waste management are expected from implementation of the Proposed Action.	Under the No Action Alternative, no effects on hazardous materials or waste management are expected.
Transportation	Co-location of the VMF and the AOWC would provide beneficial impacts by eliminating the need for 357 vehicles traveling on the roadways, some of which are congested. Although there could be an increase of approximately 30 agents at the Western Secure Transportation Center, this impact to transportation would be minor.	Under the No Action Alternative, vehicles would continue to travel between the VMF and AOWC, and congestion of the roads would likely continue.
Safety and Occupational Health	Implementation of the Proposed Action would slightly increase the health and safety risk to contractors performing construction work at the project site. However, the use of the proposed Western Secure Transportation Center would improve the health and safety of OST personnel, resulting in long-term, beneficial impacts.	There would be no new or additional impact to safety or occupational health from the No Action Alternative.

AOWC/OTF Agent Operations Western Command/Operations and Training Facility
BMPs best management practices
CO carbon monoxide
NNSA National Nuclear Security Administration
OST Office of Secure Transportation
SWPPP Storm Water Pollution Prevention Plan
VMF Vehicle Maintenance Facility

TABLE OF CONTENTS

Section **Page**

1.0 PURPOSE AND NEED FOR AGENCY ACTION 1

1.1 Background 1
1.2 Purpose and Need 4
1.3 Environmental Laws, Regulations, and Executive Orders 4

2.0 PROPOSED ACTION AND ALTERNATIVES 6

2.1 Current Facilities and Operations 6
2.2 Proposed Action – Consolidation of Existing Western Command Operations 10
2.2.1 Proposed Action Construction Activities 11
2.2.2 Proposed Action Operations 13
2.3 No Action Alternative 15
2.4 Alternatives Considered But Not Analyzed In Detail 15
2.4.1 DOE Eubank South Plot 15
2.4.2 DOE Eubank North Plot 15
2.4.3 DOE Sandia National Laboratories Tech Area II 15

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES 16

3.1 Regional Setting 16
3.2 Resources Considered but not Analyzed in Detail 16
3.3 Air Quality 17
3.3.1 Affected Environment 17
3.3.2 Environmental Consequences 20
3.4 Geology, Topography, and Soils 21
3.4.1 Affected Environment 21
3.4.2 Environmental Consequences 22
3.5 Water Resources 23
3.5.1 Affected Environment 23
3.5.2 Environmental Consequences 24
3.6 Biological Resources 25
3.6.1 Affected Environment 25
3.7 Noise 29
3.7.1 Affected Environment 29
3.7.2 Environmental Consequences 30
3.8 Hazardous Materials and Waste Management 31
3.8.1 Affected Environment 31
3.8.2 Environmental Consequences 32
3.9 Transportation 33
3.9.1 Affected Environment 33
3.9.2 Environmental Consequences 33
3.10 Safety and Occupational Health 34
3.10.1 Affected Environment 34
3.10.2 Environmental Consequences 34

4.0 CUMULATIVE EFFECTS 36

4.1 Past and Current Actions 36
4.2 Reasonably Foreseeable Actions 36

4.3 Summary of Cumulative Impacts 39
4.3.1 Air Quality 39
4.3.2 Geology, Topography, and Soils 39
4.3.3 Water Resources 40
4.3.4 Biological Resources 40
4.3.5 Noise 40
4.3.6 Hazardous Materials and Waste Management 40
4.3.7 Transportation 41
4.3.8 Safety and Occupational Health 41
4.4 Irreversible and Irretrievable Commitment of Resources 41
4.5 Unavoidable Adverse Impacts 42
4.6 The Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-term Productivity 42

5.0 REFERENCES 43

APPENDIX A RESTORATION SITES
APPENDIX B AIR EMISSIONS CALCULATIONS

LIST OF TABLES

Table **Page**

Table 1-1. List of Coordination and Permits Associated with the Proposed Action 5
Table 2-1. Explosive Classification and Storage Compatibility of Munitions to be Stored under the Proposed Action[a] 8
Table 2-2. Potential Environmental Contributions from the Proposed Action Per Year 10
Table 3-1. Categories of Environmental Consequences Not Analyzed in Detail 16
Table 3-2. National Ambient Air Quality Standards 18
Table 3-3. Local and Regional Air Emissions Inventory 19
Table 3-4. Air Emissions from the Proposed Action (tons per year) 20
Table 3-5. KAFB Vegetation Communities 26
Table 3-6. Federally Threatened, Endangered, and Candidate Species in Bernalillo County, New Mexico 27
Table 3-7. Predicted Noise Levels for Construction and Demolition Equipment 30
Table 3-8. Predicted Noise Levels from Construction Activities 30
Table 4-1. Potential Construction and Demolition Projects on KAFB 37

LIST OF FIGURES

Figure **Page**

Figure 1-1. Western Command Operation, Kirtland Air Force Base, New Mexico 2
Figure 2-1. Current AOWC Location and Proposed Western Secure Transportation Center Location 7
Figure 2-2. VMF/MEMF and AOWC Current Site Locations 9
Figure 2-3. Proposed Western Secure Transportation Center Site Layout 12

ABBREVIATION and ACRONYM LIST

AMRGI	Albuquerque-Mid Rio Grande Intrastate
AOWC	Agent Operations Western Command
AOWC/OTF	Agent Operations Western Command/Operations and Training Facility
AQCR	Air Quality Control Region
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CO2e	Carbon Dioxide Equivalent
dB	decibels
dBA	A-weighted sound level measurements
DOD	Department of Defense
DOE	Department of Energy
EA	environmental assessment
EO	Executive Order
ES&H	Environmental, Safety and Health
GWP	Global Warming Potential
KAFB	Kirtland Air Force Base
lb	pound
MEMF	Mobile Electronic Maintenance Facility
NAAQS	National Ambient Air Quality Standards
NEPA	*National Environmental Policy Act*
NMAC	New Mexico Administrative Code
NNSA	National Nuclear Security Administration
NPDES	National Pollutant Discharge Elimination System
OTF	Operations and Training Facility
OST	Office of Secure Transportation
PM_{10}	particulate matter with an aerodynamic size less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic size less than or equal to 2.5 microns
PPE	personal protective equipment
PT/IUF	Physical Training and Defensive Intermediate Use of Force Training
SNL/NM	Sandia National Laboratories/New Mexico
STA	Secure Transportation Asset
SWPPP	Storm Water Pollution Prevention Plan
TPY	tons per year
USAF	United States Air Force
VMF	Vehicle Maintenance Facility

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1.0 PURPOSE AND NEED FOR AGENCY ACTION

This section establishes the purpose of the Proposed Action and the need to which the Department of Energy (DOE) National Nuclear Security Administration (NNSA) proposes to respond. Based on this purpose and need, reasonable alternatives (including the Proposed Action and No Action Alternative) are identified. These alternatives are described in Chapter 2, and their potential environmental effects are discussed in Chapter 3.

1.1 Background

The *National Environmental Policy Act* of 1969 (NEPA) requires Federal agency officials to consider the environmental consequences of their proposed actions before decisions are made. In complying with NEPA, the DOE and NNSA follow the Council on Environmental Quality (CEQ) regulations (40 *Code of Federal Regulations* [CFR] 1500 – 1508) and DOE's NEPA implementing procedures (10 CFR 1021). The purpose of an environmental assessment (EA) is to provide Federal decision makers with sufficient evidence and analysis to determine whether to prepare an environmental impact statement or issue a Finding of No Significant Impact.

DOE has statutory responsibilities for nuclear weapons research and design, development of other energy technologies, and basic scientific research. NNSA is responsible for the management and security of the nation's nuclear weapons, nuclear nonproliferation, and naval reactor programs. It also responds to nuclear and radiological emergencies in the United States and abroad. Additionally, NNSA Federal agents provide safe and secure transportation of nuclear weapons and components and special nuclear materials along with other missions supporting the national security. The Office of Secure Transportation (OST) is managed by the NNSA within the DOE. The mission of the OST is to provide safe and secure ground and air transportation of nuclear weapons, nuclear weapon components, and special nuclear materials, and also conduct other missions supporting the national security of the United States. OST operates a number of specialized vehicles and aircraft for safe and secure transportation of cargo. Highly trained OST Federal agents escort these cargo shipments. The Western Command Operations, a part of OST, is responsible for planning and conducting mission operations.

The NNSA's Strategic Planning Guidance outlines two key priorities directly affecting the OST: first, the agency's Complex Transformation initiative and its urgency to move forward with modern facilities that incorporate state of the art security built into the design, thus avoiding substantial long-term expenditures required to secure existing facilities; and second, to provide safe, secure transportation of special nuclear materials for DOE, Department of Defense (DOD), and others.

The Western Command Operations are currently located and conducted at several locations on Kirtland Air Force Base (KAFB) in Albuquerque, New Mexico (Figure 1-1). Western Command Operations include activities at the Agent Operations Western Command (AOWC), Vehicle Maintenance Facility (VMF), the Mobile Electronic Maintenance Facility (MEMF), and the OST communications depot.

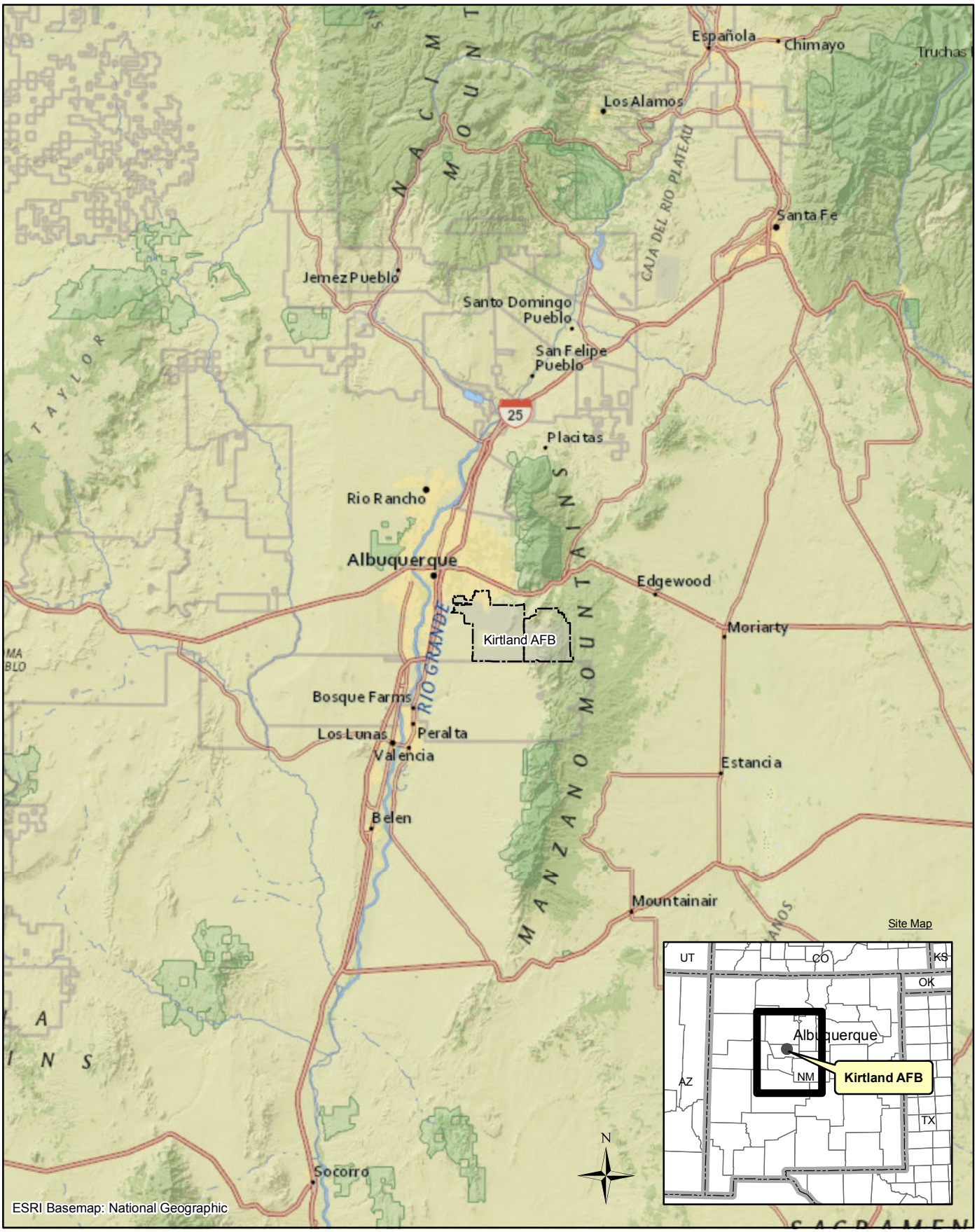


Figure 1-1. Western Command Operation, Kirtland Air Force Base, New Mexico

0 10 20 30 Miles

0 20 40 60 Kilometers

Activities associated with the AOWC are mainly administrative and training related, and include pre- and post- staging mission-related activities consisting of vehicles and munitions movements three to four times per month. General activities that are conducted at the AOWC which are in direct support of the OST's long-term mission goals include (DOE 2011):

- Staff meetings
- Classroom instruction
- Other Office of Secure Transportation Headquarters meetings
- General facility maintenance
- Classified discussions and data processing
- Video teleconferences
- Weapons training, cleaning, and maintenance
- Tactical team movements
- Munitions storage

The VMF and the MEMF are used in support of the AOWC activities. The VMF is used for routine and heavy maintenance as well as repair of all Secure Transportation Asset (STA) fleet vehicles. The activities performed at the VMF are similar to those activities performed at a local automotive service center or dealership. The MEMF provides technical support which includes: 1) maintain, repair and modify mobile electronics and ground communications equipment; and 2) test and initialize electronic systems installed in new OST vehicles. The OST communications depot provides administrative, logistic, and technical support to MEMF, relay stations, and control centers as well as serving as the consolidated depot for OST electronic equipment. The current site of the VMF and MEMF is physically constrained. The site does not have adequate parking and circulation for the highly specialized transport and escort vehicles nor does it have room for expansion. Most of the functions performed on the STAs are classified or sensitive and require controlled access.

To facilitate greater operational efficiency and cost-effectiveness and meet the NNSA strategic goal to increase OST agents and vehicles, the NNSA proposes to consolidate Western Command Operations into a new single complex, named the Western Secure Transportation Center. In addition, OST Munitions and OST Headquarter administrative functions would be combined at this site. The proposed site is administered by the United States Air Force (USAF) and permitted to NNSA for use by the OST.

This EA has been prepared to assess the potential environmental consequences of construction and operations at the new consolidated facility and a No Action Alternative. The objectives of this EA are to: 1) describe the underlying purpose and need for DOE/NNSA action; 2) describe the Proposed Action and identify and describe any reasonable alternatives that satisfy the purpose and need for agency action; 3) describe baseline environmental conditions at the existing AOWC; 4) analyze the potential indirect, direct, and cumulative effects to the existing environment from implementation of the Proposed Action; and 5) compare the effects of the Proposed Action with the No Action Alternative and other reasonable alternatives.

For the purposes of compliance with NEPA, reasonable alternatives are identified as being those that meet NNSA's purpose and need for action by virtue of timeliness, suitability, and

availability to OST. The EA process provides NNSA with environmental information that can be used in developing mitigation actions, if necessary, to minimize or avoid potential adverse effects to the quality of the human environment and natural ecosystems should NNSA decide to proceed with the Proposed Action of constructing and operating a consolidated Western Secure Transportation Center at KAFB. Ultimately, the goal of NEPA, and this EA, is to aid NNSA officials in making decisions based on an understanding of environmental consequences.

1.2 Purpose and Need

The purpose and need for agency action is to enhance efficiency and cost-effectiveness of Western Command Operations; minimize the need to drive trucks and support vehicles to multiple locations to support single transportation campaigns and overall maintenance activities; and integrate training operations and administrative responsibilities as effectively as practicable. The AOWC building currently being used for Federal agent operations is inadequate to support the operational mission of the OST. The building was never designed for a fully staffed operational agent facility; it was built as a temporary location for training and agent operations until Albuquerque Transportation and Technical Center at Mesa del Sol was completed. Since that time, the Albuquerque Transportation and Technical Center project was cancelled; thus creating a need for a new permanent facility.

The existingVMF and MEMF, collectively known as the Vehicle and Electronic Maintenance buildings, located on Sandia National Laboratories/New Mexico (SNL/NM) property are in poor condition and are not adequately sized for OST future growth. OST has an immediate mission need to increase its vehicle maintenance capabilities. The present site would not accommodate the expansion required to meet the Nation's current and future secure transportation requirements. The continued use of the existing VMF and MEMF, or extensive upgrades in their current location, cannot reasonably meet projected future needs associated with OST agents and vehicles. With all vehicle maintenance functions co-located at the proposed Western Secure Transportation Center and expanded to simultaneously handle multiple vehicles, the time needed to generate each convoy would be significantly reduced. The OST communications depot operations are currently conducted at the NC-135 site. Pursuant to USAF communications this property must be vacated and buildings demolished by 2014, and the land would then be returned to the USAF.

1.3 Environmental Laws, Regulations, and Executive Orders

To comply with NEPA (Public Law 91-190, 42 U.S.C. Section 4321 et seq.), the planning and decision making process involves a study of other relevant environmental laws, regulations, and Executive Orders (EOs). The NEPA process does not replace procedural or substantive requirements of other environmental laws; it addresses them collectively in an analysis, which enables decision makers to have a comprehensive view of major environmental issues and requirements associated with the Proposed Action. According to CEQ regulations, the requirements of NEPA must be integrated "with other planning and environmental review procedures required by law or by agency practice so that all such procedures run concurrently rather than consecutively" (40 CFR 11 1500.2).

As required in 40 CFR 1500.2(c), this EA contains a list of Federal permits, licenses, and coordination that might be required in implementing the Proposed Action or alternatives (Table 1-1).

Table 1-1. List of Coordination and Permits Associated with the Proposed Action

Agency	Permit/Approval/Condition
City of Albuquerque Environmental Health Department	• Fugitive Dust Permit • Sandia National Laboratories/New Mexico Title V air permit
U.S. Environmental Protection Agency	• General Permit for Construction Activities • National Pollutant Discharge Elimination System (NPDES) permit
Kirtland Air Force Base	• Digging permit • Coordination for threatened and endangered species • Coordination for cultural resources

2.0 PROPOSED ACTION AND ALTERNATIVES

NEPA and implementing regulations including those issued by the CEQ (40 CFR 1500 to 1508) and the DOE (10 CFR 1021) require that, as a Federal agency, DOE/NNSA assess the potential environmental impacts of proposed activities affecting the human environment, as well as those of reasonable alternatives. The Proposed Action and No Action Alternative were subjected to detailed analysis for the purpose of this EA. Several alternative site locations were also considered but not subjected to detailed analysis; these are discussed in Section 2.4.

2.1 Current Facilities and Operations

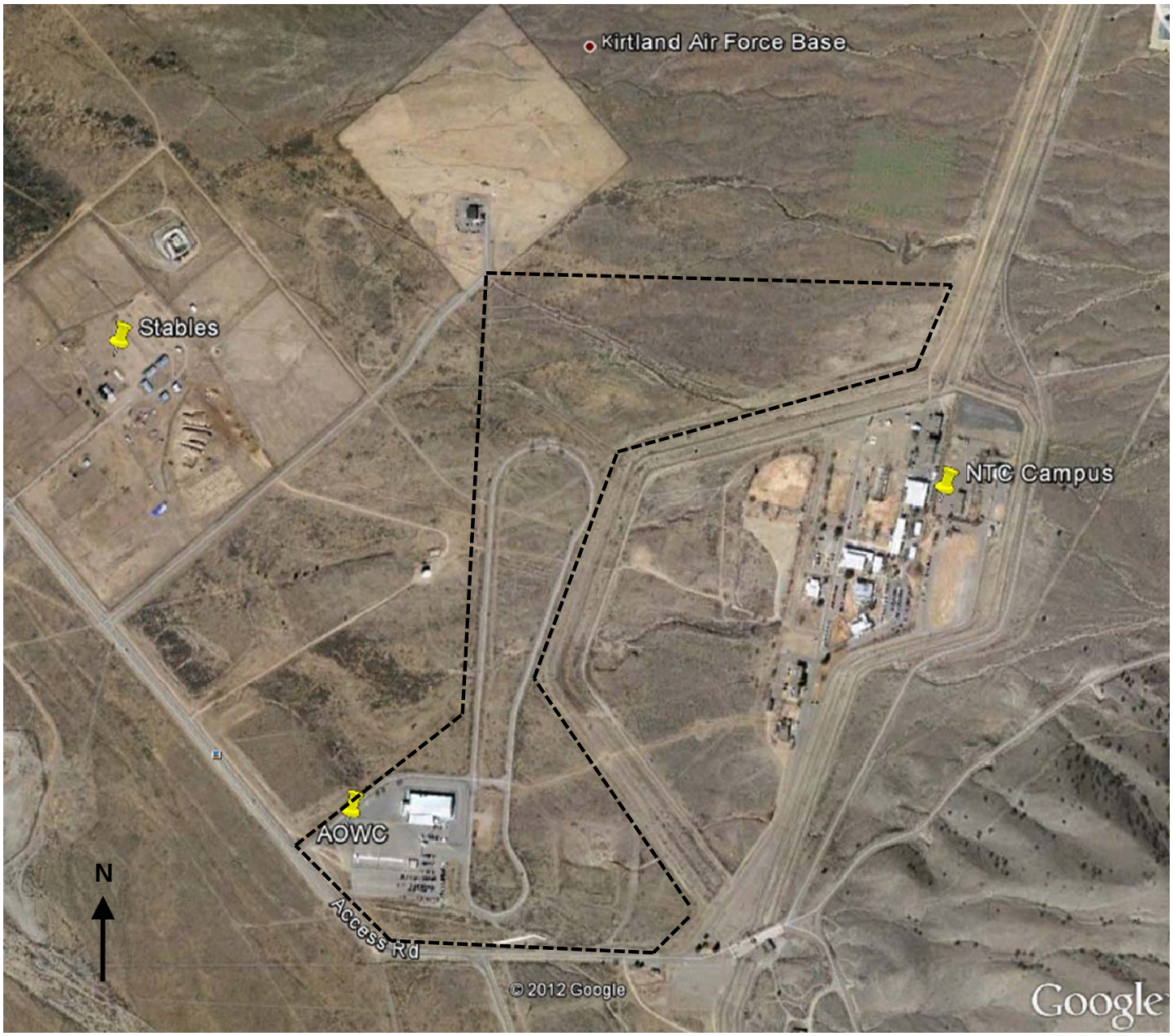
The OST Driver Track area, utilized by OST under a land use permit granted by KAFB in 1989, currently contains a 1-mile loop driver track and a 4-acre secured, limited access area for the AOWC. The 104-acre permitted area is fairly isolated and is located on the north side of Pennsylvania Street between the KAFB horse stables and the National Training Center (Figure 2-1).

The AOWC is used by OST to plan and conduct mission operations and consists of one administrative building (building 30968) and one Pro Force guard post building (building 30969). The current 25,000-square-foot, prefabricated AOWC provides an operational facility for a total of 110 Federal and contract personnel, including site security. Thirty of the 110 employees (Federal and contractor) reside at the facility full time. An additional 10-15 people can be expected to visit the facility throughout the week. There are two conference rooms which support weekly meetings with up to 100 personnel attending (DOE 2011). A weapons armory and a weapons cleaning room are utilized on a daily basis for the issuance of live fire weapons and/or training weapons, and for weapons cleaning. Building 30969 is a brick building with approximately 400 square feet of floor space.

The Federal agent staff at Western Command is typically on travel every other week. On a non-travel week 80 agents can arrive on site at approximately 0800 until 1300 at which time they travel off KAFB for physical training. During a 'travel week' the command may have 10 to 15 agents performing various types of training between the hours of 0800 and 1300. The remainder of the agent staff is on travel, but their personal vehicles stay parked at the command parking area until their return.

A total of 15 non-operational vehicles (passenger vans and light trucks) are currently onsite. There are 18 tractor/trailer parking spaces, referred to as the ready line, with 110 Watt/208 Volt connectors per space at the south end of the limited access area. The current AOWC generates minimal hazardous wastes and current activities do not require air or water discharge permits (DOE 2011).

The 4-acre secured, limited access area includes three small ammunitions magazines which accommodate approximately 750 pounds (lb) of net explosive weight consisting of 1.1E/D, 1.3G and 1.4G/S/D/C/B munitions. Explosives are classified based on their reactions to specific initiating influences and their storage compatibility and are discussed in Table 2-1.



Source: NNSA 2012

AOWC Agent Operations Western Command
NNSA National Nuclear Security Administration
NTC National Training Center

0 1000 2000

Scale in Feet
(approximate)

----- Driver Track Permitted Area

Figure 2-1. Current AOWC Location and Proposed Western Secure Transportation Center Location

Table 2-1. Explosive Classification and Storage Compatibility of Munitions to be Stored under the Proposed Action[a]

Explosive Classification		Storage Compatibility Classification	
1.1	Mass detonating	Group D	High explosives (HE) and devices containing explosives without their own means of initiation and without a propelling charge, or articles containing a primary explosives substance and containing two or more effective protective features.
		Group E	Explosives devices without their own means of initiation and with propelling charge
1.2.2	Non-mass explosion, fragment producing with NEWQD ≤ 1.6 lbs	Group G	Pyrotechnic materials and devices containing pyrotechnic materials.
1.3	Mass fire hazard; minor blast or fragment	Group G	Pyrotechnic materials and devices containing pyrotechnic materials.
1.4	Moderate fire, no significant blast or fragment	Group B	Detonators and similar initiating devices
		Group C	Bulk propellants, propellant charges, and devices containing propellant with or without their own means of initiation.
		Group D	HE and devices containing explosives without their own means of initiation and without a propelling charge, or articles containing a primary explosives substance and containing two or more effective protective features.
		Group G	Pyrotechnic materials and devices containing pyrotechnic materials.
		Group S	Explosives, explosive devices, or ammunition presenting no significant hazard.

[a] Source: DOE 2006

All vehicle and electronics maintenance is currently conducted offsite on SNL/NM property, 5 miles from the current AOWC (Figure 2-2). All OST convoys start with a full pre-trip mechanical and electronic inspection of each convoy vehicle. Specialized and secure maintenance and repair activities also include scheduled, pre/post-trip and emergency service to the OST's entire STA vehicle fleet. The MEMF provides electronic technical support to OST and currently has 7 employees. The VMF provides vehicle maintenance for the OST fleet with 14 technicians and 5 support staff. Approximately 357 vehicles are used during OST mission trips per year. Vehicles are staged at AOWC until they are scheduled for maintenance, at which time OST employees drive to AOWC to pick up the vehicles. Movement of vehicles between the VMF and AOWC are scheduled for periods of low traffic flow when practicable. However, traffic and pedestrian congestion often make it difficult to move vehicles in and out of the VMF facility on Frost Avenue.

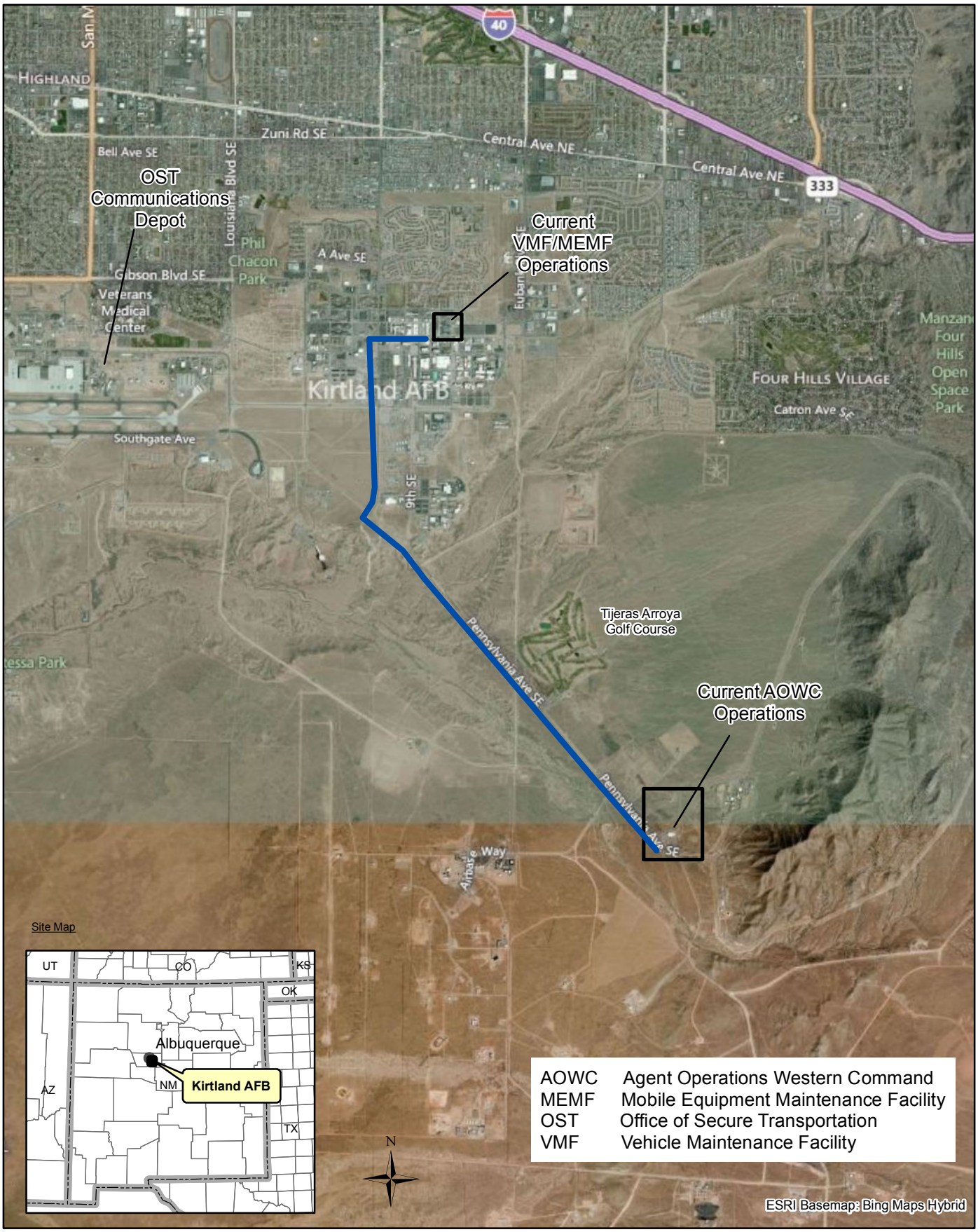


Figure 2-2. VMF/MEMF and AOWC Current Site Locations

0 3,000 6,000 9,000 Feet

Hazardous materials are stored and used at both sites. The VMF stores solvents, greases, break cleaners, paint, and lubes for conducting maintenance. Tanks located on the VMF site include, E85 fuel (2,000 gallons), bio diesel (500 gallons), new oil tank (500 gallons), and used oil tank (500 gallons). Approximately 500 gallons of oil is removed every 2 months from the site and recycled. An oil water separator for the truck wash area is emptied at the facility twice per year. The MEMF stores minimal hazardous waste substances which include: epoxy, glue sticks, batteries, ice melt, white board markers, solder and spray paint. Every 6 months to 1 year, aerosol cans and one 5-gallon pail of NiCad nickel hydride and lithium batteries are removed from the site as hazardous waste.

2.2 Proposed Action – Consolidation of Existing Western Command Operations

To facilitate greater operational efficiency and cost-effectiveness, the NNSA proposes to consolidate Western Command Operations, currently conducted at several locations on KAFB located in Albuquerque, New Mexico, into a single new complex near the existing AOWC, called the Western Secure Transportation Center. The buildings the NNSA are vacating would probably be reused for other purposes or demolished; however, no proposal has been made regarding the future disposition of these buildings. All OST convoys need a full pre- and post-trip mechanical and electronic inspection of each convoy vehicle. With all vehicle maintenance functions co-located within the new Western Secure Transportation Center and expanded to simultaneously handle multiple vehicles, the time needed to generate each convoy would be significantly reduced. Consolidating operations would eliminate redundant security requirements and would also greatly reduce traffic on Frost Avenue taking vehicles back and forth between maintenance and operations. Details of the Proposed Action construction, operations, and consolidation activities are described below. Environmental contributions from construction and operation activities associated with the Proposed Action are summarized in Table 2-2.

Table 2-2. Potential Environmental Contributions from the Proposed Action Per Year

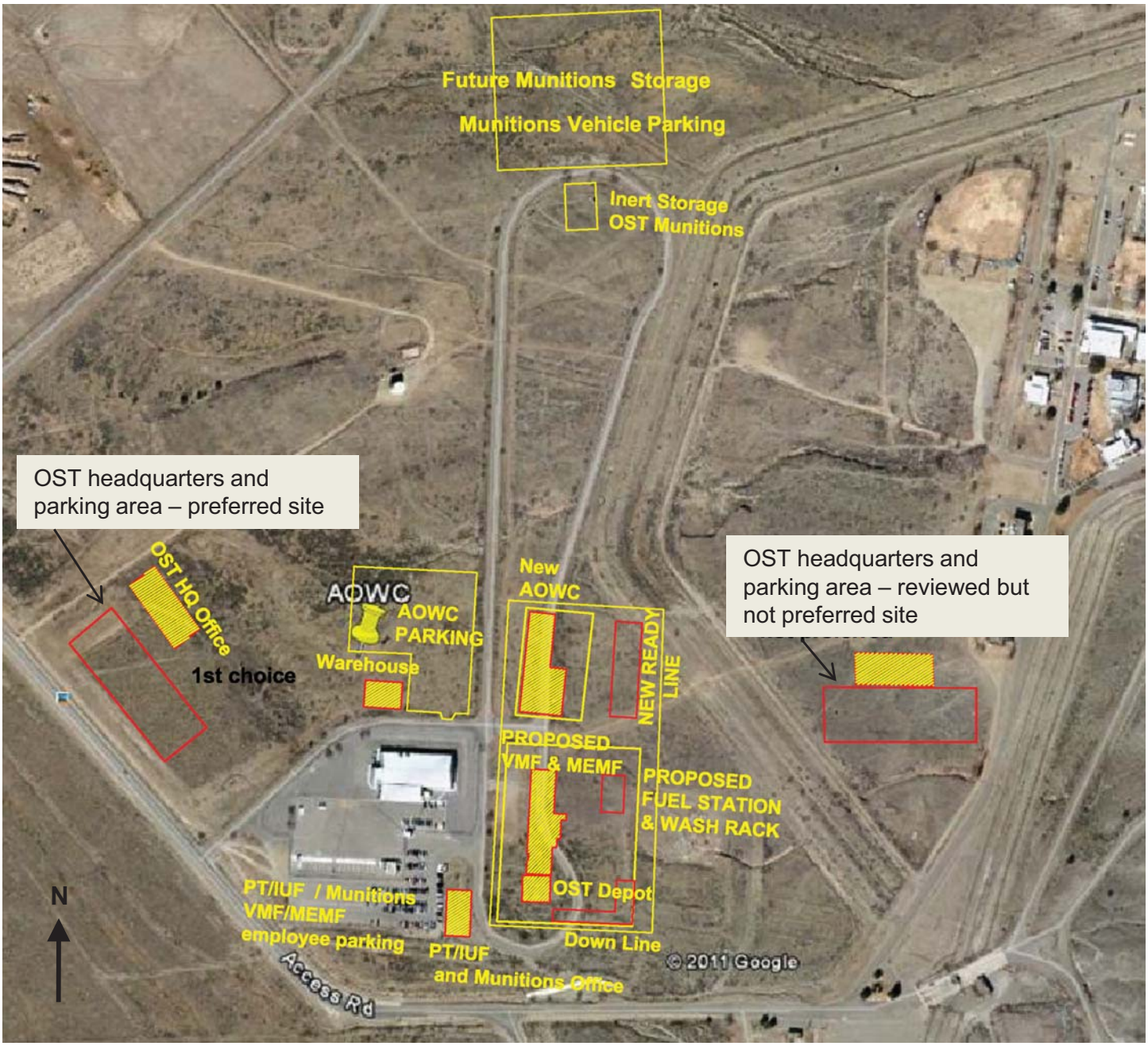
Resource Category	Construction Contribution	Operation Contribution
Air Quality	4.2 tons carbon monoxide	0.52 ton carbon monoxide (from additional diesel emergency generators)
Hazardous Waste	None	3,000 gallons petroleum products recycled 60 gallons of spent solvents 440 gallons of solvent contaminated solids
Small-Arms Ammunition Waste	None	10 pounds lead

2.2.1 Proposed Action Construction Activities

The proposed Western Secure Transportation Center would consolidate all agent operations, training, and vehicle maintenance in one location as well as provide space for the OST munitions organization, headquarters administrative functions, and emergency operations as needed. **Consolidation and facility construction on this permitted property is conditioned upon approval from the USAF through its realty process and funding through the NNSA budget process.** Implementation of the individual elements of the Proposed Action would be dependent upon the availability of funds. For purposes of analysis, all proposed construction takes place within a one-year time period. Construction of the entire Western Secure Transportation Center would mainly be limited to daylight hours, and would be phased over several years. Proposed new construction would include the following (Figure 2-3):

- Limited access area with an agent operations building, parking lot, VMF/MEMF with parking areas, OST communications depot, aboveground water tank, and fuel station with wash rack
- OST headquarters office and warehouse
- Munitions storage site
- Physical Training and Defensive Intermediate Use of Force Training (PT/IUF) or munitions office
- Visual screening wall

Limited access area. An area with controlled access east of the existing AOWC facility would be entirely fenced with 12-foot-high chainlink and paved with concrete. This limited access area would contain a single-story 27,000-square-foot agent operations facility, a 37,000-square foot VMF/MEMF, and a 5,000-square-foot communications depot. A new ready line and downline would also be contained within the limited access area for vehicle staging and would be equipped with 208-Volt electrical hookups. The expanded limited access area for agent operations and vehicle maintenance would require a total of approximately 12.5 acres of land to accommodate the buildings, wash rack, fuel station, vehicle parking, and vehicle circulation. The fuel station would contain one aboveground sectioned storage tank, double walled, which would contain 10,000 gallons of diesel fuel and 2,000 gallons of unleaded gasoline. Access to installation roads is required for OST convoys to travel to and from the site and would be available via Pennsylvania Street. Once a new agent operations facility is built, the existing AOWC/Operations and Training Facility (OTF) would be vacated for other operational uses. There is an existing classified office and conference space that can be used for emergency command operations when needed. OST munitions personnel that currently reside in Manzano Canyon would likely move to this vacated office space.



Source: NNSA 2012

AOWC	Agent Operations Western Command
HQ	Headquarters
MEMF	Mobile Equipment Maintenance Facility
NNSA	National Nuclear Security Administration
NTC	National Training Center
OST	Office of Secure Transportation
PT/IUF	Physical Training and Defensive Intermediate Use of Force Training
VMF	Vehicle Maintenance Facility

0 500 1000

Scale in Feet (approximate)

Figure 2-3. Proposed Western Secure Transportation Center Site Layout

OST headquarters office and warehouse. A new administrative OST headquarters office (three stories totaling 75,000 square feet with a 25,000-square-foot footprint) and 87,440 square feet of parking would be built to the northwest of the existing AOWC facility. To the north of the existing AOWC/OTF, a 10,500-square-foot warehouse would be constructed to store OST agent training materials, excess furniture and personal property, office supplies, and information technology supplies. The warehouse would also contain a small office area and conference room. A 3.4-acre parking area would be located east of the warehouse.

Munitions storage site. Increased munitions storage would be required and would consist of a fenced area up to 300,000 square feet. The munitions storage area would house six aboveground secured explosives storage magazines (five 20-foot by 8-foot magazines and one 11-foot by 7-foot), and a 100-foot by 200-foot government vehicle parking pad. A 100-foot by 150-foot inert equipment storage gravel pad may be constructed inside the Northern Loop of the driver track road. Lightning protection systems are required for the six secure explosive storage magazines and the explosives-loaded truck parking pad. All magazines must be alarmed, and area security lighting is required. To meet the minimum distance requirements from occupied buildings, the explosive storage magazines would be located north of the proposed new agent command facility (See Figure 2-3). The current paved driver track road could be used for access to the munitions storage area.

Physical Training and Defensive Intermediate Use of Force Training. OST is currently exploring options for building space to be used for Federal agent PT/IUF, so agents would no longer have to train off-site. If adequate space is not available at the current AOWC/OTF building after meeting the needs of the munitions department, an additional small one-story building may be built. Conceptual plans for this building are still being developed, but it is currently proposed as a 12,000-square-foot high bay one-story building which includes gym space for fitness equipment, physical training space with a mat for IUF training, and space for eleven closed door offices as well as a classroom.

Visual screening wall. If required by the USAF, visual screening may be used to limit the visibility of the trucks stationed at the ready line from Pennsylvania Street. The majority of the concrete wall (approximately 1,300 feet) would be 8-feet high; however, portions (305 feet) of the wall at the south west corner of the permit boundary would extend 9 to 10 feet in height.

2.2.2 Proposed Action Operations

The primary role of the agent operations facility is to support the operational duties of the Federal agents based at this facility. These Federal agents are responsible for the daily safeguard and transport of nuclear weapons, components, test assemblies, and strategic quantities of weapons grade special nuclear material up to and including Secret Restricted Data. The new agent command facility would consist of a suite of administrative offices, briefing rooms, an agent common area, supply storage, equipment issue, and agent locker area for storage of tactical gear as well as a covered drive through area for vehicle loading and unloading. In the near future, the facility could support an additional 30 Federal agents bringing the total agent capacity to 120, with a support staff of 30 personnel bringing the total occupancy to 150. Up to 15 security personnel would be employed at the site for monitoring and securing the limited access area 24 hours per day, 7 days per week. The nature of operations would remain the same as in the

current facility; however, the layout of the building would be more efficient, and would provide room for growth of personnel.

The new agent operations facility would have its own dedicated parking area north of the existing AOWC building. Agents conduct their operations 24 hours per day, 7 days per week and may come and go from the facility at any given time. Agent personal vehicles would be parked in a segregated area of the newly constructed parking lot. Up to 50 additional agents from other commands would visit the AOWC for a minimum of 1 day every 2 weeks.

During the typical work week, 36 daytime, administrative personnel and 2 to 4 maintenance personnel are expected at the agent operations facility site daily. An additional 10 to 15 people would typically visit the facility throughout the week. The headquarters building would serve up to 200 personnel, for administrative functions, working a standard Monday through Friday schedule. Approximately 20 personnel may work alternate shifts for operations 24 hours per day, 7 days per week.

The new VMF/MEMF would be used for specialized and secure maintenance and repair including scheduled, pre/post-trip and emergency service to the OST's entire STA vehicle fleet. The VMF/MEMF would house the high bay garage spaces, offices, storage facilities, and workspace needed to maintain and repair OST's specialized convoy vehicles. The project would also include a communications depot, vehicle wash facility, a fueling station, exterior space to accommodate secure vehicle parking, and storage. Both would have high bay work areas to accommodate the large tractor-trailers and specialized vehicles used by OST. The proposed ready line is where OST vehicles would be staged prior to mission use. The down line is where vehicles would be staged after use, awaiting maintenance. In addition to the current activities in the MEMF, work activities would include the OST communications depot and maintenance and testing.

The VMF/MEMF would have approximately 26 full-time employees working a standard workweek schedule with frequent overtime on weekends when needed. The communications depot would have nine full-time employees. VMF/MEMF employees would park in the existing OTF parking. At any given time, 15 to 20 vehicles may be parked at the ready line.

Operations at the PT/IUF building would require 11 full-time OST training personnel. These employees currently reside in the OTF building at Western Command and would relocate to the training building if a new building is constructed. All agents that are not on mission status would train at the PT/IUF building at least 3 hours daily (Monday through Friday) rather than using an off-site gym.

Nine full-time munitions personnel would work a Monday through Friday schedule with frequent overtime on weekends when needed. Munitions vehicles would park under the existing awning at the OTF building and transport munitions to the airport for OST missions when needed**.** Munitions would be stored in secured magazines at the north end of the existing driver track and are estimated to be 10,000 lbs total (see Figure 2-3).

2.3 No Action Alternative

The CEQ Regulations implementing NEPA require that a No Action alternative be evaluated (40 CFR 1502.14). The No Action Alternative is analyzed to provide a baseline of the existing conditions against which the potential environmental, social, and economic impacts of the Proposed Action and alternative actions can be compared. Under the No Action Alternative, the current Western Command Operations would not be consolidated, and the additional structures would not be constructed at the existing OTF.

2.4 Alternatives Considered But Not Analyzed In Detail

Three alternative sites were considered and eliminated from further analysis based on the sites failing to meet the project objectives. The alternative sites considered, but eliminated are discussed in more detail below.

2.4.1 DOE Eubank South Plot

This DOE-owned property is located off of KAFB, west of Eubank Boulevard and east of the KAFB housing area. The area is only 20 acres and has limited space for growth and has been under consideration for other DOE projects. Some logistical constraints would occur with munitions storage at this site. Consequently, this alternative would not meet the purpose or need for agency action and was not analyzed in detail.

2.4.2 DOE Eubank North Plot

The North Plot is a DOE-owned piece of property, with no current identified use. The property is located off-base, south of the National Museum of Nuclear Science and History, which is open to the public and could potentially pose operational security problems. The site is only 20 acres in size and would limit future growth and some logistical constraints would occur with munitions storage at this site. Consequently, this alternative would not meet the purpose or need for agency action and was not analyzed in detail.

2.4.3 DOE Sandia National Laboratories Tech Area II

This DOE-owned property is located on KAFB. The site is an environmental restoration site with long-term monitoring wells and SNL/NM is in the process of cleaning up the site. DOE currently has other future long-term growth plans for this area once the site is restored, including construction of the Mission Support Complex; therefore, this alternative would not meet the need for agency action and was not analyzed in detail.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter discusses the local environment that would be affected by the Proposed Action and alternatives and potential environmental consequences. For purposes of analysis only, all construction would occur within a one-year period. In reality, the Proposed Action would occur over time and under conditions set forth by KAFB as previously stated in Section 2.2.1.

3.1 Regional Setting

The region of influence is the land in and around the OST Driver Track contained within KAFB. KAFB is in the southwestern portion of Bernalillo County, New Mexico. It is bounded on the west and north by the city of Albuquerque, on the northeast and east by the Cibola National Forest, and on the south by Isleta Pueblo (KAFB 2010a).

3.2 Resources Considered but not Analyzed in Detail

Consistent with NEPA implementing regulations and guidance, DOE focuses the analysis in an EA on topics with the greatest potential for environmental impacts. This sliding-scale approach is consistent with NEPA [40 CFR 1502.2(b)], under which impacts, issues, and related regulatory requirements are investigated and addressed with a degree of effort commensurate with their importance. DOE concluded that the proposed project would result in no impacts or negligible impacts to the resource areas listed in Table 3-1 and did not carry them forward for detailed description and analysis.

Table 3-1. Categories of Environmental Consequences Not Analyzed in Detail

Category	Rationale
Cultural Resources	The entire permitted area has been previously surveyed for cultural resources, and no cultural resources or historical sites are located within or near the permitted area (Valerie Renner, KAFB Cultural Resource Specialist).
Aesthetics and Visual Resources	The Proposed Action area is located in a fairly isolated area of KAFB where OST operations are already being conducted.
Socioeconomics and Environmental Justice	Construction of the facilities would cause short-term beneficial impacts as workers are employed for the projects. Operations of the facilities are relocating within KAFB and only a minor increase in personnel numbers is expected. Disproportionate adverse impacts on minority, low-income, and youth populations would not be expected as a result of the Proposed Action.
Land Use	The land is permitted for DOE's use by the Air Force. The Proposed Action would not alter the current land use of the area and similar operations, on a smaller scale, are already conducted at the site.
Radiological	Construction and operation of the proposed facilities would not involve the transportation, storage, or use of radioactive materials.
Infrastructure	Utilities, consisting of natural gas, electricity, and water, are supplied to DOE facilities through the KAFB infrastructure. These same resources would be used under the Proposed Action; however, modern facilities would likely reduce infrastructure usage from the current levels as required by EO 13514.

Category	Rationale
Intentional Destructive Acts	The proposed project is contained within a secured installation and would employ additional security and would therefore not provide an opportunity for terrorists or saboteurs to inflict adverse impacts on human life, health, or safety.
Restoration Sites	The Proposed Action would not have an impact on any restoration sites. Appendix A contains a map of the KAFB restoration sites in the area.

3.3 Air Quality

3.3.1 Affected Environment

The mountains, canyons, and Rio Grande Valley significantly influence wind patterns in the Albuquerque Basin and interact to form a complex condition. The 13-mile escarpment, which forms the west face of the Sandia Mountains, greatly influences flow, creating diurnal up-slope and down-slope wind patterns. Mountain vegetation and elevations also create differences in ambient temperature and rainfall compared to the valley region. Tijeras Canyon is the largest canyon pass in the area, dividing the Sandia and Manzano Mountains. This canyon tends to create strong channeled or funneled winds. Dense, cold air sometimes creates temperature inversions during the winter months. These inversions, combined with low wind speed and basin geography, restrict the dispersion and dilution of air pollutants by trapping the pollution near the surface. Thus, the entire basin can be considered a single air shed when evaluating the emission, accumulation, and transportation of air pollutants (DOE 2008).

The ambient air quality in an area can be characterized in terms of whether it complies with the primary and secondary National Ambient Air Quality Standards (NAAQS). The *Clean Air Act* (42 U.S.C. 7401 et seq.) requires the U.S. Environmental Protection Agency to set NAAQS for pollutants considered harmful to public health and the environment. National primary ambient air quality standards define levels of air quality which the U.S. Environmental Protection Agency has determined as necessary to provide an adequate margin of safety to protect public health, including the health of "sensitive" populations such as children and the elderly. National secondary ambient air quality standards define levels of air quality which are deemed necessary to protect the public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. NAAQS have been established for six criteria pollutants: carbon monoxide; lead; nitrogen dioxide; ozone; particulate matter (which includes both particulate matter with an aerodynamic size less than or equal to 10 microns [PM_{10}] and less than or equal to 2.5 microns [$PM_{2.5}$]); and sulfur dioxide. Table 3-2 lists the NAAQS primary and secondary standards for each criteria pollutant. There are no ambient standards for volatile organic compounds, although volatile organic compounds and nitrogen oxides are considered to be precursor emissions responsible for the formation of ozone in the atmosphere.

Table 3-2. National Ambient Air Quality Standards

Pollutant	Primary standards	Secondary standards	Form
Carbon monoxide			
8-hour average	9 ppm	None	Not to be exceeded more
1-hour average	35 ppm	None	than once per year
Lead			
Rolling 3-month average	0.15 μg/m^3	Same as primary	Not to be exceeded
Nitrogen dioxide			
Annual arithmetic mean	0.053 ppm	Same as primary	Annual Mean
1-hour	0.10 ppm	None	98th percentile, averaged over 3 years
Ozone			
8-hour average (2008 standard)	0.075 ppm	Same as primary	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
PM10			
24-hour average	150 μg/m^3	Same as primary	Not to be exceeded more than once per year on average over 3 years
PM2.5			
Annual arithmetic mean	15.0 μg/m^3	Same as primary	Annual mean, averaged over 3 years
24-hour average	35 μg/m^3	Same as primary	98th percentile, averaged over 3 years
Sulfur dioxide			
3-hour average	None	0.5 ppm	Not to be exceeded more than once per year
1-hour average	0.075 ppm	None	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years

Source: 40 CFR Part 50 (as of October 2011)
ppm parts per million; μg/m^3 micrograms per cubic meter.

The Proposed Action area is located in the Albuquerque-Mid Rio Grande Intrastate (AMRGI) Air Quality Control Region (AQCR) 152 (40 CFR 81.83), which encompasses all of Bernalillo County and most of Sandoval and Valencia counties. Under the NAAQS, Bernalillo County is currently in maintenance status for carbon monoxide. In 1996, Bernalillo County was re-designated from a “nonattainment area” to a “maintenance area” for carbon monoxide. The maintenance area designation is for a 20-year period beginning 13 June 1996 and continuing until 13 June 2016. The Albuquerque Environmental Health Department is required to revise its Carbon Monoxide Maintenance Plan and incorporate the plan into the New Mexico State Implementation Plan to show Bernalillo County will maintain the NAAQS for carbon monoxide for the remainder of the 20-year maintenance period (the 10-year period beginning 13 June 2006). Because carbon monoxide has been steadily declining and the County has no recent violations, the Albuquerque Environmental Health Department submitted a Carbon Monoxide Limited Maintenance Plan, an option provided by the U.S. Environmental Protection Agency if

monitored carbon monoxide levels can remain below 85 percent of the NAAQS for carbon monoxide (KAFB 2011).

Depending on emission levels, modification to existing sources or construction of new sources emitting carbon monoxide may require a general or transportation conformity analysis as well as additional levels of controls to comply with the NAAQS. In addition, modification to existing sources or construction of new sources emitting the other criteria pollutants for which a preconstruction permit must be obtained are required to comply with the NAAQS (KAFB 2010a).

The most recent emissions inventories for Bernalillo County and the AMRGI AQCR are shown in Table 3-3. Bernalillo County is considered the local area of influence, and the AMRGI AQCR is considered the regional area of influence for the air quality analysis.

Table 3-3. Local and Regional Air Emissions Inventory

Location	Carbon monoxide (tpy)	Nitrogen oxides (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Sulfur dioxide (tpy)	VOC (tpy)
Bernalillo County, NM[a]	185,757	14,330	59,575	7,129	287	19,229
AMRGI AQCR[b]	245,346	36,778	137,376	16,676	2,619	31,651

[a]Data from 2008 emissions inventory (USEPA 2012)
[b]Data from the AMRGI AQCR 2002 emissions inventory (KAFB 2010a)
AMRGI = Albuquerque-Mid Rio Grande Intrastate
AQCR = Air Quality Control Region
PM_{10} particulate matter with an aerodynamic size less than or equal to 10 microns
$PM_{2.5}$ particulate matter with an aerodynamic size less than or equal to 2.5 microns
tpy = tons per year
VOC volatile organic compounds

The burning of fossil fuels such as coal, diesel, and gasoline emits carbon dioxide, which is a greenhouse gas. Greenhouse gases can trap heat in the atmosphere, similar to the glass walls of a greenhouse, and have been associated with global climate change. Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). The Intergovernmental Panel on Climate Change, in its Fourth Assessment Report, stated that warming of the Earth's climate system is unequivocal, and that most of the observed increase in globally averaged temperatures since the mid-20th Century is very likely due to the observed increase in concentrations of greenhouse gases from human activities (IPCC 2007). These gases are well mixed throughout the lower atmosphere, so emissions would add to cumulative regional and global concentrations of carbon dioxide. The effects from an individual source therefore cannot be determined quantitatively.

Each greenhouse gas has an estimated Global Warming Potential (GWP), which is a function of its atmospheric lifetime and its ability to absorb and radiate infrared energy emitted from the Earth's surface. A gas's GWP provides a relative basis for calculating its Carbon Dioxide Equivalent (CO2e), which is a metric measure used to compare the emissions from various greenhouse gases based upon their GWP. Carbon dioxide has a GWP of 1, and is therefore the standard to which all other greenhouse gases are measured.

3.3.2 Environmental Consequences

Potential impacts to air quality are considered significant if the Proposed Action would:

- Increase ambient air pollution above any NAAQS
- Contribute to an existing violation of any NAAQS
- Interfere with or delay timely attainment of NAAQS
- Impair visibility within any federally mandated Prevention of Significant Deterioration Class I area
- Cause direct emissions of 25,000 metric tons of CO2e or more

3.3.2.1 Proposed Action

The New Mexico Administrative Code (NMAC), Title 20, Part 11.04, (20 NMAC 11.04), titled *General Conformity*, implements Section 176(c) of the *Clean Air Act*, as amended (42 United States Code [U.S.C] 7401 et seq.), and regulations under 40 CFR 51, Subpart W, with respect to conformity of general Federal action in Bernalillo County. Regulation 20 NMAC Part 11.04.II.1.2, paragraph B, establishes the emission threshold of 100 tons per year (TPY) of carbon monoxide at SNL/NM that would trigger the requirement to conduct a conformity analysis. Table 3-4 provides estimates of the criteria pollutant and greenhouse gas emissions anticipated to be generated by diesel and gasoline engines during project construction and operation. The emissions created during operations would be from additional diesel emergency generators that would operate approximately 100 hours per year.

Table 3-4. Air Emissions from the Proposed Action (tons per year)

	Carbon monoxide	Nitrogen oxides	$PM_{2.5}$	PM_{10}	Sulfur dioxide	VOC	Carbon dioxide
Construction[a]	4.2	10.0	0.64	0.66	0.48	0.68	1,200
Operation	0.52	2.4	--	0.17	0.16	--	89

[a] Assume that all construction occurs during one year. This gives the most conservative emission estimates.
PM_{10} particulate matter with an aerodynamic size less than or equal to 10 microns
$PM_{2.5}$ particulate matter with an aerodynamic size less than or equal to 2.5 microns
VOC volatile organic compounds

It is anticipated that construction activities conducted under the Proposed Action would result in emissions of approximately 4.2 tons (3.8 metric tons) of carbon monoxide during a one-year period of construction. The carbon monoxide emissions during construction would be substantially below the 100 TPY threshold; therefore, a conformity analysis is not required. It is anticipated that operations conducted under the Proposed Action would result in emissions slightly greater than current emissions due to additional diesel emergency generators. No other new major sources of emissions would occur throughout the life of the project. Appendix B shows the air quality calculations and associated assumptions.

The CEQ has issued draft guidance (CEQ 2010) on how to consider the effects of climate change and greenhouse gases. The guidance includes the recommendation that if a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO2e greenhouse gases on an annual basis, than a quantitative and qualitative analysis may be

meaningful. The reference point of 25,000 metric tons is not a standard for indicating significant or insignificant effects. It is anticipated that an approximate annual decrease of 6.8 metric tons of greenhouse gases would occur during operations under the Proposed Action due to elimination of the need to drive the vehicle fleet of 357 trucks between the existing AOWC and the existing VMF. The 1,200 tons (1,100 metric tons) of greenhouse gases generated during construction and the 6.8 metric ton annual reduction during operations are both substantially below the 25,000 metric tons per year threshold. Consolidation of the Western Secure Transportation Center would assist NNSA in achieving their greenhouse gas reduction goals per EO 13514.

3.3.2.2 No Action Alternative

Under the No Action Alternative, the current Western Command Operations would not be consolidated, and the additional structures would not be constructed. As a result, no emissions would occur from construction of new facilities. Emissions from operations would not change from existing conditions. No reduction in greenhouse gases would occur; the need for the vehicle fleet to drive between the existing AOWC and the existing VMF would continue.

3.4 Geology, Topography, and Soils

3.4.1 Affected Environment

Geology. The KAFB area is situated in the eastern portion of the Albuquerque Basin. This basin is approximately 90 miles long and 40 miles wide, and is bound by the Sandia Mountains and the Manzano Uplift to the east, the Lucero Uplift and Puerco Plateau to the west, the Nacimiento Mountains and the Jemez Uplift to the north, and the Socorro Basin to the south (DOE 2008).

The Albuquerque Basin is bordered by major faults. Large-scale faulting, deepening of the basin, and uplift and tilting of the mountain areas occurred approximately 15 to 5.3 million years ago. Since then, basin deposits have been laid down in a complex sequence of sedimentary and volcanic rocks. Faults within and bordering the basin exhibit evidence of late Pleistocene and possibly Holocene displacement. A number of major regional faults intersect within the Proposed Action area, resulting in a diverse pattern of fault trends and displacements. Two major faults in the area of the Proposed Action include the Manzano Fault that trends southeast to northwest and the Tijeras Fault which trends roughly southwest to northeast (NNSA 2004). There is no record of movement on these faults in historic times and no evidence of movement during the last 10,000 years (DOE 1999).

Topography. The Proposed Action area is located within KAFB, approximately 7 miles southeast of downtown Albuquerque. The western portion of KAFB, including the project area, is located on gently-sloping alluvial fan deposits of the Albuquerque Basin. The eastern portion of KAFB is located in the Manzanita Mountains, an area characterized by steep slopes and canyons. The alluvial fan sediments slope gently to the west toward the Rio Grande (DOE 2008). The terrain at KAFB area is fairly level and ranges from 5,700 to 5,800 feet in elevation (KAFB 2010a). The OST Driver Track area ranges from 5,500 to 5,550 feet in elevation with a gentle western slope.

Soils. Surface soils at KAFB are developed in fluvial, alluvial-fan, colluvial, and eolian surficial deposits. The major soil series within the Proposed Action area are described in the following discussions. The information in this section was obtained from the soil survey for Bernalillo County (USDA SCS 1977) and specifically defined for the proposed area (USDA NRCS 2011). Neither series is considered prime farmland.

Tijeras gravelly fine sandy loam
The majority of the Proposed Action area consists of this soil series. This nearly level to gently sloping soil is on old alluvial fans. It has a profile similar to that described as representative of the series, but has a yellowish brown surface layer about 6 inches thick and less gravel. Slopes are 1 to 5 percent. Runoff is medium, and the hazard of water erosion is moderate.

Embudo gravelly fine sandy loam
The Embudo series consists of deep, well-drained soils that formed in alluvium derived from decomposed coarse grained, granitic rocks on old alluvial fans. Slopes are 0 to 5 percent. Runoff is medium, and the hazard of water erosion is moderate.

3.4.2 Environmental Consequences

Potential impacts to geology or soils are considered significant if the Proposed Action would:

- Expose people or structures to major geologic hazards;
- Cause substantial erosion or siltation;
- Cause substantial land sliding; or
- Cause substantial damage to project structures/facilities.

3.4.2.1 Proposed Action

Under the Proposed Action, minor impacts on geological resources or soils are expected. The Proposed Action would require construction of approximately 589,780 square feet of building and ready line space and 269,440 square feet of parking area. The construction of the Western Secure Transportation Center would involve excavation, clearing of vegetation, grading, and movement of heavy equipment in the Driver Track area and would occur predominantly on 27.5 acres of previously disturbed land. A portion of the munitions storage area (6.3 acres) would encompass land that has not been previously disturbed. In addition, trenching for water, electric, and gas lines would also cause disturbance to the soils. Of the 104 acres permitted in the Driver Track area, approximately 32 percent of the area would be disturbed during construction. Clearing of vegetation could increase erosion and sedimentation potential. However, the Driver Track area is only sparsely vegetated and has been previously disturbed; therefore, it is anticipated that clearing of any additional vegetation would result in minor impacts on soil erosion and sedimentation. Grading and excavation activities would disturb the surface soil, thereby increasing the potential for soil erosion by wind and runoff. In accordance with regulations under the *Clean Water Act*, NNSA would obtain a "General Permit for Construction Activities" prior to construction. The permit application requires the development of a storm water pollution prevention plan (SWPPP). Soil erosion and sediment production would be minimized for all construction operations as a result of following an approved sediment and erosion control plan. Additionally, wind and water erosion of soil can be mitigated by

implementing best management practices (BMPs). Xeriscaping with low water plants may be used to re-vegetate some of the areas around the buildings.

As a result of implementing the Proposed Action, soils would be compacted, and soil structure disturbed and modified. Compaction of soils from foot and vehicle traffic could result in the loss of soil structure and ultimately changes in drainage patterns. Facility design would avoid interrupting natural and existing surface water drainages where practicable to reduce the impact from soil compaction on drainage patterns.

Construction of the Western Secure Transportation Center would be in accordance with building code requirements for KAFB, which would ensure protection from earthquakes. No impacts from geologic hazards are expected.

3.4.2.2 No Action Alternative

Under the No Action Alternative, the Western Secure Transportation Center would not be constructed and existing conditions would remain. No effects on geological resources or soils would occur.

3.5 Water Resources

This section describes surface and groundwater resources on and in the area of the proposed project. Surface water includes lakes, rivers, and perennial, intermittent, or ephemeral streams, while groundwater comprises the subsurface hydrogeologic resources of the physical environment. This section also discusses wetlands and floodplains.

3.5.1 Affected Environment

Groundwater. KAFB is within the limits of the Rio Grande Underground Water Basin, which is defined as a natural resource area and is designated as a "declared underground water basin" by New Mexico. Currently, the Basin is regulated by the state as a sole source of potable water for the Albuquerque metropolitan area, including KAFB (DOE 2008). Two aquifers, a regional and a perched aquifer, underlie KAFB. The regional aquifer is present under all of KAFB and ranges in depth from near surface to depths of 200 feet below ground surface east of the major fault zones in the eastern portion of KAFB, and to depths of 350 to 500 feet below ground surface west of the fault zone. The regional aquifer is used for the installation's water supply. The perched aquifer is limited in area, straddling Tijeras Arroyo northeast of the confluence of Tijeras Arroyo and Arroyo del Coyote, and occurs at depths of 200 to 400 feet below ground surface. The perched aquifer is a result of infiltration of water from both man-made and natural origins, with a flow direction to the southeast, and is not used for any purpose. The presence of faults has a direct bearing on the movement and occurrence of groundwater in the vicinity of KAFB (KAFB 2010a). Groundwater flows in an approximate northwest direction at the Proposed Action site (NNSA 2004). Depth to groundwater under the track is approximately 500 feet.

Surface Water. The two main surface water drainage channels on KAFB are Tijeras Arroyo, located 5 miles west of the Proposed Action site, and the smaller Arroyo del Coyote, which is located 0.3 mile south of the Proposed Action site. Although Tijeras Arroyo and Arroyo del

Coyote are tributaries to the Rio Grande, these arroyos and their tributaries have not yet been classified as waters of the U.S. (KAFB 2010a). Both arroyos flow intermittently during heavy thunderstorms and spring snowmelt, but most of the water percolates into alluvial deposits or is lost to the atmosphere via evapotranspiration (KAFB 2010a). No perennial, surface water resources exist at or near the Driver Track (NNSA 2004). Three ephemeral drainage courses exist north of the current OTF building and traverse the driving course (NNSA 2004).

Storm water runoff on KAFB predominantly flows through the drainage patterns created by natural terrain and paved surfaces. In some areas, runoff is directed through ditches and culverts, with direct discharges into a receiving stream or surface water body. KAFB has a Storm Water Municipal Separate Storm Sewer System, which collects and conveys storm water from storm drains, pipes, and ditches, and discharges storm water into Tijeras Arroyo. Storm water in the developed areas of KAFB drains into small culverts (KAFB 2010b).

Floodplains and wetlands. A 100-year floodplain encompasses Tijeras Arroyo and Arroyo del Coyote. These are the only two arroyos with a floodplain on the installation. There are no wetlands located on or near the Proposed Action site (USFWS 2012a).

3.5.2 Environmental Consequences

Potential impacts to water resources, including surface water and groundwater are considered significant if the Proposed Action would:

- Irreversibly diminish water resource availability, quality, and beneficial uses;
- Result in an adverse effect on water quality or an endangerment to public health by creating or worsening adverse health hazard conditions;
- Result in a threat or damage to unique hydrological characteristics;
- Violate an established law or regulation that has been adopted to protect or manage water resources of an area; or
- Change the extent, elevation, or other features of the floodplain as a result of flood protection measures or other structures being silted in or removed from the floodplain.

3.5.2.1 Proposed Action

Implementation of the Proposed Action would disturb over 33 acres of land with potential additional disturbance to land for staging and construction activities. The localized ground disturbance could potentially increase erosion potential and runoff during heavy precipitation events. Facility design would avoid interrupting natural and existing surface water drainages to the maximum extent practicable. The Arroyo del Coyote is located 0.3 mile from the Proposed Action site, and if measures were not taken to limit the movement of debris and soil, sediment and/or construction debris could be transported to tributary drainages to the arroyo by wind or surface runoff. A sediment and erosion control plan and a SWPPP would also be implemented during construction through the state-issued construction permit. Adherence to proper storm water management procedures and BMPs during construction, as identified in the SWPPP, would minimize erosion and sediment impacts. In addition, construction personnel would be required to follow appropriate BMPs to protect against potential petroleum or hazardous material spills. The National Pollution Discharge Elimination System (NPDES) storm water program

requires construction site operators engaged in clearing, grading, and excavating activities that disturb 1 acre or more, to obtain coverage under an NPDES permit for their storm water discharges. Construction of the Western Secure Transportation Center would require a General Construction NPDES permit for storm water discharges. The selected contractor for the Proposed Action would also be required to implement the new storm water design requirements of Section 438 of the *Energy Independence and Security Act* that require Federal construction projects that disturb 5,000 square feet or more of land to maintain or restore predevelopment site hydrology to the maximum extent technically feasible with respect to temperature, rate, volume, and duration of flow. Therefore, only minor short-term and long-term, adverse impacts on water resources are expected from the Proposed Action.

The Western Secure Transportation Center would include storm water control. Storm water from the proposed Western Secure Transportation Center would be incorporated into KAFB's Storm Water Municipal Separate Storm Sewer System, which requires that all construction activities, regardless of size, implement BMPs to ensure that storm water pollutants do not enter the storm drainage system and that storm water pollutants are contained within the project area. Therefore, no long-term, adverse impacts on water resources from sheet runoff during storm events are expected from the operation of the Western Secure Transportation Center.

The Proposed Action site is outside of the Tijeras Arroyo and Arroyo del Coyote 100-year floodplains; therefore, no direct impacts on floodplains are expected.

3.5.2.2 No Action Alternative

Under the No Action Alternative, the Western Secure Transportation Center would not be constructed and existing conditions would remain. No changes or impacts would occur to water resources.

3.6 Biological Resources

3.6.1 Affected Environment

KAFB lies at the intersection of four major North American physiographic and biotic provinces: the Great Plains, Great Basin, Rocky Mountains, and Chihuahuan Desert. Vegetation and wildlife found within KAFB are influenced by each of these provinces, the Great Basin being the most dominant. Elevations at KAFB range from approximately 5,000 feet in the west to almost 8,000 feet in the Manzanita Mountains, providing a variety of ecosystems. Several canyons (Lurance, Sol se Mete, Bonito, Otero, and Madera) are on KAFB; a few smaller canyons occur on Manzano Base. The installation is located near three regional natural areas: Sandia Mountain Wilderness Area, Sandia Foothills Open Space, and the Rio Grande Valley State Park. The Sandia Mountain Wilderness Area, encompassing 37,877 acres, is approximately 5 miles north of the installation. This area is home to many plant and animal species and is also on an important raptor migration route (KAFB 2010a).

Four main plant communities are found on KAFB: grassland (includes sagebrush steppe and juniper woodlands), pinyon-juniper woodlands, ponderosa pine woodlands, and riparian/wetland/arroyo (Table 3-5). Grassland and pinyon-juniper woodlands are the dominant vegetative communities at KAFB and the vegetation found at the Proposed Action site. The

riparian/wetland/arroyo community is confined to drainages and isolated areas inundated by surface water during at least some part of the year. The ponderosa pine woodland community is found along the eastern boundary of KAFB (KAFB 2010a).

Table 3-5. KAFB Vegetation Communities

Vegetation Community Type	Elevation (feet)
Grassland (including sagebrush steppe and juniper woodlands)	5,200–5,700
Pinyon-Juniper Woodlands	6,300–7,500
Ponderosa Pine Woodlands	7,600–7,988
Riparian/Wetland/Arroyo	variable

Source: KAFB 2010a

Wildlife species present in the project area include those commonly associated with grassland habitat. Common birds associated with the grassland association include horned lark (*Eremophila alpestris*), scaled quail (*Callipepia squamata*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), American crow (*Cowus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), curved-billed thrasher (*Toxostoma curvirostre*), lark sparrow (*Chordestes grammacus*), black-throated sparrow (*Amphispiza bilineata*), western meadowlark (*Sturnella neglecta*), brown-headed cowbird (*Molothrus ater*), and house finch (*Carpodacus mexicanus*). The birds of prey, or raptors, most commonly found in the grassland association include northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), prairie falcon *(F. mexicanus*), long-eared owl (*Asio otus*), and great horned owl (*Bubo virginianus*) (KAFB 2010a).

The grassland association has a mammal community dominated by rodents, rabbits, and hares. These include the desert cottontail (*Sylvilagus audubonii*), Gunnison's prairie dog (*Cynomys gunnisoni*), whitefooted deer mouse (*Peromyscus maniculatus*), silky pocket mouse (*Perognathus flavus*), Merriam's kangaroo rat (*Dipodomys merriami*), and the northern grasshopper mouse (*Onychomys leucogaster*). Mammalian predators found in the grassland association include the coyote (*Canis latrans*), badger (*Taxidea taxus*), kit fox (*Vulpes macrotis*), striped skunk (*Mephitis mephitis*) and bobcat *(Lynx rufus*) (KAFB 2010a).

Amphibians and reptiles found on the grasslands at KAFB include the following: Woodhouse's toad (*Bufo woodhousii*), New Mexico spadefoot (*Spea multiplicata*), coachwhip snake (*Masticophis flagellum*), whiptail lizards (*Cnemidophorus* spp.), lesser earless lizard (*Holbrookia maculata*), and the western rattlesnake (*Crotalus viridis*). Many of these species have extensive periods of dormancy during dry conditions and rapid breeding cycles when temporary ponds occur after rains (KAFB 2010a).

Special Status Species. The *Endangered Species Act of 1973*, as amended, protects endangered species and the ecosystems upon which they depend. Endangered species are defined as: "any species which is in danger of extinction throughout all or a significant portion of its range," and is listed as endangered under the *Endangered Species Act*. A threatened species is "any species which is likely to become endangered in the foreseeable future throughout all or a significant portion of its range" and is listed as threatened under the *Endangered Species Act*. Candidate species are those that are eligible for listing as endangered or threatened. Candidate species have no protection under the Act, but are often considered for planning purposes.

The U.S. Fish and Wildlife Service maintains a list of protected species by county. Table 3-6 lists all federally-listed threatened, endangered, or candidate species which potentially occur in Bernalillo County (USFWS 2012b).

Table 3-6. Federally Threatened, Endangered, and Candidate Species in Bernalillo County, New Mexico

Species	Status	Group	Habitat
Rio Grande silvery minnow (*Hybognathus amarus*)	Endangered	Fish	Riverine with slow to moderate flow
Yellow-billed cuckoo (*Coccyzus americanus*)	Candidate	Bird	Open woodland parks, deciduous riparian woodland
Southwestern willow flycatcher (Empidonax traillii extimus)	Endangered	Bird	Thickets, scrubby and brushy areas, open second growth, swamps, and open woodland
Whooping crane (*Grus americana*)	Experimental, Nonessential Population	Bird	Marshes, shallow lakes, lagoons, wet prairies, salt flats, and grain fields
Mexican spotted owl (*Strix occidentalis lucida*)	Threatened	Bird	Mixed-conifer forests
Gunnison's prairie dog (*Cynomys gunnisoni*)	Candidate	Mammal	Open or slightly brushy country, scattered junipers and pines
New Mexican meadow jumping mouse (*Zapus hudsonius luteus*)	Candidate	Mammal	Riparian areas with tall, dense vegetation
Black-footed ferret (*Mustela nigripes*)	Endangered	Mammal	Open habitat, the same habitat used by prairie dogs: grasslands, steppe, and shrub steppe

Source: USFWS 2012b

Habitat for most these listed Federal species is not present on KAFB. While prairie dog colonies do exist on KAFB, the Gunnison's prairie dog current distribution is limited to the four corners area of Arizona, New Mexico, Utah, and Colorado. In addition to the federally listed species, one state threatened species and two Federal Species of Concern have the potential to occur on KAFB.

Three species protected by the New Mexico Department of Game and Fish that occur on KAFB are described below.

Gray vireo. The gray vireo (*Vireo vicinior*), a state threatened species as listed by the New Mexico Department of Game and Fish occurs on the installation. The U.S. Fish and Wildlife Service considers the gray vireo a sensitive species. In 2003, an installation-wide gray vireo survey was conducted in which 53 territories were mapped. Territories were found throughout the juniper woodland community in an elevational belt of 5,850 to 6,600 feet. Gray vireos occupied areas with an open canopy (that is, less than 25 percent canopy cover) with one seeded juniper as the dominant tree/shrub species (KAFB 2010b).

Western burrowing owl. The western burrowing owl (*Athene cunicularia hypugaea*), a Federal species of concern, is a common resident at KAFB. It is very closely associated with prairie dog colonies on the installation, as the owls use abandoned prairie dog burrows for nesting during

summer months. Burrowing owls generally occur on the installation from March through October before migrating south, although a few birds might occur on the installation during mild winters. Burrowing owl inventories have been conducted every year since 1994. In 2005, a migration study was initiated to identify where nesting owls at KAFB go to winter. Since burrowing owls use abandoned prairie dog burrows for nesting, a Prairie Dog Management Plan was developed for the installation, which takes into account burrowing owl habitat requirements (KAFB 2010b).

Mountain plover. The mountain plover (*Charadrius montanus*), a Federal species of concern, is not known to occur on the installation. However, in 2003, an adult with two chicks was observed just south of the installation on the Isleta Pueblo Indian Reservation. Appropriate nesting habitat for this species is limited on the installation; therefore, it is unlikely that the mountain plover uses KAFB during the nesting season. However, the southern grasslands of the installation might potentially be used as brood-rearing habitat or during migration (KAFB 2010b).

3.6.1.1 Proposed Action

Impacts to biological resources generally occur because of habitat modification, land disturbance, disturbance to or taking of rare, threatened, or endangered species, or exposure to environmental contaminants. The majority of the construction activities for the Proposed Action would occur on previously disturbed soil and vegetation removal would be minimal. Minimal short-term impacts to wildlife would result from disturbance from construction of the new facilities. Noise created during construction activities could potentially result in adverse impacts on nearby wildlife. These impacts would include an increase in the ambient noise levels, potentially resulting in reduced communication ranges, habitat avoidance, or interference with hunting detection. Impacts to wildlife from construction would be minimal and short-term.

Threatened and endangered species are not known to inhabit the Proposed Action site; however, black-tailed prairie dog colonies are known to exist approximately 0.4 mile west of the Proposed Action site. Burrowing owls have been known to use prairie dog burrows. The category of species of concern, which applies to the burrowing owl, carries no legal requirement, but identifies those species that deserve special consideration in management and planning. A biological survey would be conducted within 2 weeks prior to any clearing, grading, excavation, or other associated ground-disturbing activities to identify prairie dog colonies and burrowing owls. If burrowing owls are present, construction activities would only commence after the owls have migrated from the area (that is, October 15 to March 15) (KAFB 2010a). In addition, nesting burrows would be flagged and avoided during construction activities, so that the nesting sites could still be viable after activities are completed.

Operation of the new facilities would increase the amount of traffic in the rural area thus causing potential increase in wildlife-human conflicts. However species in the area are adapted to vehicular traffic and the surrounding habitat provides an expansive view. Therefore, impacts to wildlife from operation of the Western Secure Transportation Center are expected to be negligible.

3.6.1.2 No Action Alternative

Under the No Action Alternative, the Western Secure Transportation Center would not be constructed and no changes or impacts would occur to biological resources.

3.7 Noise

3.7.1 Affected Environment

Noise is generally defined as unwanted sound. Sound is all around us; it becomes noise when it interferes with normal activities such as speech, concentration, or sleep. Noise associated with military installations is a factor in land use planning both on- and off-post. Noise emanates from vehicular traffic associated with new facilities and from project sites during construction. Ambient noise (the existing background noise environment) can be generated by a number of noise sources, including mobile sources, such as automobiles and trucks, and stationary sources such as construction sites, machinery, or industrial operations. In addition, there is an existing and variable level of natural ambient noise from sources such as wind, streams and rivers, wildlife, and other sources.

Sound is measured with instruments that record instantaneous sound levels in decibels (dB). A-weighted sound level measurements (dBA) are used to characterize sound levels that can be sensed by the human ear. The typical measurement for quieter sounds, such as rustling leaves or a quiet room, is from 20 to 30 dBA. Conversational speech is commonly 60 dBA, and a home lawn mower measures approximately 98 dBA. Sound traveling over a distance can be affected by many factors. Temperature, humidity, wind direction, barriers such as walls, forests, hills, and absorbent materials, such as soft ground and light snow, are all factors in how sound is perceived at different distances. Noise attenuates from the divergence of sound waves with distance (attenuation by divergence). In general, this mechanism results in a 6-dBA decrease in the sound level with every doubling of distance from a point source (that is, the rate of dBA decrease from the source is based on a logarithmic scale). For example, the 84 dBA average sound level at 50 feet (for instance, the noise that might be associated with clearing and grading during construction) would be attenuated to 78 dBA at 100 feet, 72 dBA at 200 feet, and to 66 dBA at 400 feet.

The ambient noise environment at KAFB is affected mainly by USAF and civilian aircraft operations and military vehicles. The commercial and military aircraft operations at Albuquerque International Sunport are the primary source of noise in the northern and northwestern areas of the installation. The Proposed Action site is outside of the noise contours associated with the Albuquerque International Airport. It is not likely that land use at and immediately adjacent to the proposed site contributes substantially to the ambient noise environment in the general vicinity. Vehicle noise contributes the largest source of noise for the area as vehicles, including passenger vehicles, delivery trucks, and military off- and on-road vehicles travel along Pennsylvania Street. No residences are located near the Proposed Action site; however, potential receptors to construction and operation noise can include golfers at the Tijeras Arroyo Golf Course located less than 1 mile west of the Proposed Action site.

Building construction and demolition work can cause an increase in sound that is well above the ambient level. A variety of sounds are emitted from graders, loaders, trucks, pavers, and other

work activities and processes. Table 3-7 lists noise levels associated with common types of construction equipment. Construction and demolition equipment usually exceeds the ambient sound levels by 20 to 25 dBA in an urban environment and up to 30 to 35 dBA in a quiet suburban area.

Table 3-7. Predicted Noise Levels for Construction and Demolition Equipment

Construction Category and Equipment	Predicted Noise Level at 50 Feet (A-weighted decibels)
Bulldozer	80
Dump Truck	83–94
Backhoe	72–93
Front-End Loaders	72–82
Pavers	87–88

Source: USEPA 1971

3.7.2 Environmental Consequences

Potential noise impacts resulting from the Proposed Action are evaluated with respect to the potential for:

- Annoyance – noise can impact the performance of various every day activities such as communication and watching television in residential areas. Sound levels that cause annoyance vary greatly by individual and background conditions.
- Hearing loss – one-time exposure to an intense "impulse" sound such as an explosion or by long or repeated exposure to sounds at or above 85 dBA can cause hearing loss (NIDCD 2007).

3.7.2.1 Proposed Action

Construction noise would be consistent with industrial-level construction and would be localized, intermittent, and temporary. Typical noise levels are expected to occur in the range of 60 to 90 dBA. All construction noise activities would be limited to normal working hours (approximately 7:00 a.m. to 5:00 p.m.) over several years. Construction noise would include sounds generated by construction vehicles, employee vehicles, and construction equipment. Under the Proposed Action, the cumulative noise from the construction equipment, during the busiest day, was estimated to determine the total impact of noise from construction activities at a given distance (Table 3-8).

Table 3-8. Predicted Noise Levels from Construction Activities

Distance from Noise Source (feet)	Predicted Noise Level (A-weighted decibels)
100	86
200	80
400	74
800	68
1,600	60
3,200	54

Source: KAFB 2010b

The Proposed Action site consists of open recreation space and industrial areas. Populations potentially affected by increased noise levels would include mainly USAF personnel in the Military Working Dog facility and surrounding facilities within an approximate 2,200-foot radius. At this distance predicted noise levels from construction would be less than 54 dBA. Construction activities at KAFB would result in impacts on the noise environment; however, these impacts would be temporary and minor.

Operational noise from the Proposed Action would occur from personal vehicles traveling to and from the facilities and the OST trucks entering and leaving the facility. In addition, noise from the operation of the VMF would be similar to noise produced by a local automotive center. This noise is expected to be minor and localized to the area, and with limited receptors in the area, the impacts from operation are expected to be negligible.

3.7.2.2 No Action Alternative

Under the No Action Alternative, the Western Secure Transportation Center would not be constructed and existing conditions would remain. The NNSA would continue to use the AOWC and VMF/MEMF at their current locations, and no new sources of noise or increases in noise levels from construction would result at the OST Driver Track.

3.8 Hazardous Materials and Waste Management

3.8.1 Affected Environment

Hazardous materials are defined by 49 CFR 171.8 as "hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions" in 49 CFR Part 173. Transportation of hazardous materials is regulated by the U.S. Department of Transportation regulations within 49 CFR Parts 105–180.

Certain types of hazardous wastes are subject to special management provisions intended to ease the management burden and facilitate the recycling of such materials. These are called universal wastes and their associated regulatory requirements are specified in 40 CFR Part 273. Four types of waste are currently covered under the universal waste regulations: hazardous waste batteries, hazardous waste pesticides that are either recalled or collected in waste pesticide collection programs, hazardous waste thermostats, and hazardous waste lamps.

Hazardous wastes at the existing VMF are handled through SNL/NM's waste management system. This process would continue if SNL/NM is contracted to run the new maintenance facility. Otherwise, a commercial service provider would be contracted.

Hazardous Materials and Petroleum Products. Hazardous materials stored at the VMF include: solvents, greases, break cleaners, paint, and lubes for conducting maintenance. In addition, several fuel and oil tanks are located at the VMF site for maintenance operations and include: E85 fuel (2,000 gallons), bio diesel (500 gallons), new oil tank (500 gallons) and used oil tank (500 gallons). The MEMF stores minimal hazardous materials which include: epoxy, glue sticks, batteries, ice melt, white board markers, solder and spray paint.

Hazardous and Petroleum Wastes. Five hundred gallons of oil are recycled and removed every 2 months from the VMF. An oil water separator for the truck wash area is emptied at the facility twice per year. Every 6 months to 1 year, aerosol cans and one 5-gallon pail of NiCad nickel hydride and lithium batteries (about 50 batteries) are removed from the site as hazardous waste. In addition, 15 gallons of spent solvents and 110 gallons of solvent-contaminated solids (for example, paper towels, cotton swabs, gun patches, and personal protective equipment [PPE]) are removed quarterly from the facility.

3.8.2 Environmental Consequences

Potential impacts to hazardous materials and waste management are considered significant if the Proposed Action would:

- Result in noncompliance with applicable Federal and state regulations; or
- Increase the amounts generated or procured hazardous materials beyond current permitted capacities or management capabilities.

3.8.2.1 Proposed Action

Non-hazardous construction wastes would consist of solid waste such as packaging material, such as wooden crates, cardboard, and plastic; scrap material such as electrical wire, insulation, gypsum drywall, floor tiles, carpet, scrap metal, and empty adhesive and paint containers; as well as concrete debris. These wastes would be recycled through agreements with local contractors, or collected in roll-off bins located onsite, and transported to the KAFB landfill, as appropriate.

Hazardous Materials and Petroleum Products. No impacts from hazardous materials and petroleum products during construction would be expected. Contractors would be responsible for the management of hazardous materials and petroleum product usage, which would be handled in accordance with Federal, state, and USAF regulations.

No hazardous materials or petroleum products that are not currently being used would be used during operation of the new facility; therefore, no impacts from hazardous materials and petroleum products during operations are expected.

Hazardous and Petroleum Waste. Minimal impacts would be expected from the generation of hazardous wastes during construction activities. It is anticipated that the quantity of hazardous wastes generated from proposed construction activities would be negligible and would not result in substantial impacts on the installation's hazardous waste management program. Contractors would be responsible for the disposal of hazardous wastes in accordance with Federal and state laws and regulations, and the installation's Hazardous Waste Management Plan.

The operation and maintenance of the new facility would not result in a substantial increase in the type or quantity of hazardous and petroleum wastes. It is anticipated that the waste generation would increase only slightly, due to greater capacity of the facility, above the current 500 gallons of oil that are recycled and removed every 2 months from the VMF and the 50 batteries that are recycled per year. The new VMF would meet modern criteria for protection and use a newer technology for screening oil rather than an oil water separator. Therefore, no impacts on hazardous and petroleum waste management are expected.

3.8.2.2 No Action Alternative

Under the No Action Alternative, the Western Secure Transportation Center would not be constructed and existing conditions would remain. The NNSA would continue to use the AOWC and VMF/MEMF at their current locations, and no new sources of hazardous materials or petroleum products would occur. No construction waste would be generated.

3.9 Transportation

3.9.1 Affected Environment

Currently the VMF/MEMF is located on 12th Street SE between H Avenue SE and Frost Avenue SE, 5 miles north of the current AOWC facility. Trucks leaving the VMF/MEMF for the AOWC travel north on 12th Street SE, west on Frost Avenue SE, and then south on Wyoming Blvd to Pennsylvania Street. The AOWC is accessed by traveling south on Pennsylvania Street. These roads are all paved, two-lane roads maintained by KAFB. Approximately 357 vehicles are serviced annually at the VMF, which is equivalent to two trips per day. All OST convoys start with a full pre-trip mechanical and electronic inspection of each convoy vehicle; therefore, each vehicle travels 10 miles round-trip between the VMF and AOWC under the current operating conditions.

3.9.2 Environmental Consequences

Potential impacts to transportation are evaluated with respect to the potential for the Proposed Action to:

- Disrupt or improve current transportation patterns and systems; and
- Change existing levels of safety.

3.9.2.1 Proposed Action

Construction impacts to existing transportation resources would be temporary and mainly localized (that is, impacts would be limited to the proximity of the project site areas under construction at any point in time). The temporary increase of construction employees at KAFB would represent a small increase in the total number of persons working on KAFB. Construction and worker vehicles would add to existing local traffic and would potentially cause higher traffic noise along the routes. The Western Secure Transportation Center is located in a more remote area of KAFB; therefore, impacts to the existing traffic flow are expected to be minimal due to the low volume of traffic currently in the area.

Co-location of the VMF and the AOWC would provide beneficial impacts by eliminating the need for 357 vehicles traveling on the roadways, some of which are congested. Although there could be an increase of approximately 30 agents at the Western Secure Transportation Center, this impact to transportation would be minor. With the relocation of headquarters personnel there would be an increase in traffic along the southern portion of Pennsylvania Street but the impact would be minor due to the low traffic flow currently in the area.

3.9.2.2 No Action Alternative

Under the No Action Alternative, the Western Secure Transportation Center would not be constructed and existing conditions would remain. Vehicles would continue to travel between the VMF and AOWC, and congestion of the roads would likely continue.

3.10 Safety and Occupational Health

3.10.1 Affected Environment

The OST performs all activities in accordance with the DOE, state and Federal Environmental, Safety and Health (ES&H) regulations and requirements. Storage of explosives and munitions are part of the OST mission and training programs. The DOE applies the same quantity-distance criteria as the USAF for storage of explosives and munitions. The DOE's Explosives and Safety Manual (DOE 2006) requires that quantity-distance be in accordance with the DOD 6055.9 STD, *DoD Ammunition and Explosives Safety Standards* (NNSA 2004). In addition, secure aboveground magazines should be ventilated and resistant to water, fire, and, theft and shall be sited per DoD 6055.9-STD as above ground magazines (DOE 2006).

3.10.2 Environmental Consequences

Potential impacts to safety and occupational health are considered significant if the Proposed Action would:

- Substantially increase risks associated with the safety of construction personnel, contractors, OST personnel, or the local community;
- Substantially hinder the ability to respond to an emergency; or
- Introduce a new health or safety risk for which the installation is not prepared or does not have adequate management and response plans in place.

3.10.2.1 Proposed Action

The NNSA would be responsible for all ES&H review and regulatory compliance requirements related to activities conducted at the Proposed Action site. All construction activities would be performed in accordance with all Occupational Safety and Health Administration requirements. The Proposed Action is not expected to result in an adverse effect on the health of construction workers. Exposure to various hazards or injuries is possible during construction and can range from relatively minor adverse effects (for example, bruises, sprains, and cuts) to major (for example, broken bone or fatalities). To prevent serious injuries, construction contractors are required to submit and adhere to a contractor safety plan. Appropriate PPE programs would be incorporated into the contractor safety plan and would involve the use of such PPE as gloves, hard hats, hard-toed boots, and hearing and eye protection.

A relatively low health risk to the agents and support staff in an office environment exists under normal operating conditions for the AOWC. The secure explosive storage containers would be used for storage of Hazard Class 1, Division 1, 3, and 4 materials. The 1.1 materials represent a mass detonation risk. The 1.2.2 materials present primarily a fragment hazard. The effects of initiation of the 1.3 materials are a mass fire of the contents, whereas 1.4 materials are listed as

having a moderate fire effect (DOE 2006). The quantity-distance for storage of these materials is well characterized and siting would be in accordance with that criteria. The effects on an individual from burning of 1.3 and 1.4 materials are primarily thermal, with no blast or fragmentation exposure. The thermal effects are limited by the application of the prescribed distance (NNSA 2004).

The maximum amount of explosives permitted to be stored in a location is determined by the application of the quantity-distance mathematical formula. Operation requirements may dictate a lower amount, but the maximum permitted is determined by the tried and true methods employed within the DOD and the DOE communities (NNSA 2004). Approximately 10,000 lbs of explosive are expected to be stored at the site and fall within the permitted maximum.

The construction and use of the proposed Western Secure Transportation Center would improve the health and safety of OST personnel, resulting in long-term, beneficial impacts. OST personnel would no longer be subject to inadequate space and outdated buildings. The newer VMF/MEMF would have lifts for working on vehicles which could reduce potential injuries. In addition, consolidating the activities into one location would reduce the amount of traffic and movement of vehicles between the facilities thus reducing potential vehicular accidents.

The proposed location for the Western Secure Transportation Center is a remote location within KAFB; therefore, no effect on public health and safety from implementation of the Proposed Action is expected.

3.10.2.2 No Action Alternative

Under the No Action Alternative, the Western Secure Transportation Center would not be constructed and existing conditions would remain. No new or additional impact to safety or occupational health would occur.

4.0 CUMULATIVE EFFECTS

Cumulative impacts are those potential environmental impacts that result "from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). Informed decision-making is served by consideration of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future. Reasonably foreseeable future actions consist of activities that have been approved and can be evaluated with respect to their effects.

This section briefly summarizes past, current, and reasonably foreseeable future projects within the same general geographic time and space as the Proposed Action. The impacts of the proposed project are generally minor and localized [Chapter 3]. There are no State or private holdings in the area. The closest operations to the current AOWC are the DOE National Training Center, KAFB Military Working Dog Facility, and KAFB Fire Station #3 all of which are located within a radius of one half mile. Other activities, such as the Kirtland golf course, are isolated and scattered more than a mile from the proposed facility. The DOE National Training Center provides classroom like training and professional development to the security personnel throughout DOE. The KAFB operations are self explanatory. These activities have negligible effects on the environment beyond their site boundaries and therefore would have little contribution, if any, to cumulative impacts associated with the Proposed Action. The past, current, and reasonably foreseeable projects identified below, make up the cumulative impacts scenario for the Proposed Action.

4.1 Past and Current Actions

KAFB has been used for military missions since the 1930s and has continuously been developed as DOD missions, needs, organization, and strategies have evolved. DOE facilities within the base include Sandia National Laboratories, Albuquerque Operations office (presently called the Albuquerque Complex), Office of Secure Transportation and Aviation Operations, National Training Center, Lovelace Respiratory Research Institute, and Kirtland Operations. Development and operation of the installation has impacted thousands of acres with synergistic and cumulative impacts on soil, wildlife habitats, water quality, and noise. Beneficial effects, too, have resulted from the operation and management of KAFB including increased employment and income for Bernalillo County, the City of Albuquerque, and its surrounding communities; restoration and enhancement of sensitive resources such as the Coyote Springs wetland area; consumptive and nonconsumptive recreation opportunities; and increased knowledge of the history and pre-history of the region through numerous cultural resources surveys and studies (KAFB 2010b). Management and operation of the DOE facilities has also provided numerous beneficial effects for socioeconomics and cultural resources.

4.2 Reasonably Foreseeable Actions

KAFB plans to construct a new Military Working Dog Facility next to the current facility just north and east of the proposed site for the Western Secure Transportation Center. Besides this

facility, no other KAFB activities are planned in the area. In 2004, DOE prepared an EA for KAFB to analyze the impacts from the construction and operation of the current OTF. No construction activities other than the Western Secure Transportation Center are planned by DOE to take place in the next few years in the immediate vicinity of the proposed project.

KAFB has provided DOE with a list of other construction and demolition projects scoped to take place in other areas of the installation (Table 4-1). The installation-wide look is to examine the potential cumulative impacts to infrastructure capacities in KAFB NEPA documents.

Table 4-1. Potential Construction and Demolition Projects on KAFB

Project Name	Description
Construct New Fire Station	KAFB proposes to replace Fire Station 3 within the Manzano Base area. The proposed structure would be approximately 7,300 square feet, one-story, with three high-bay, drive-through apparatus stalls. The new structure would be constructed south of the intersection of Pennsylvania Street and Power Line Road. The action also includes the demolition of an approximate 4,300-square-foot fire station (Building 30116) within the Manzano Base area. This would result in an increase of 3,000 square feet of building space on the installation.
Construct New Military Working Dog Facility	KAFB proposes to construct a new Military Working Dog facility. The proposed facility would consist of 14 indoor/outdoor kennels, 4 isolation kennels, storage and staff space, restrooms, food storage room, a covered walkway, and a veterinarian examining room totaling 8,000 square feet. A parking area with 25 spaces and new access roads would also be constructed as part of the project. Demolition of facilities totaling 2,500 square feet would also be included in this project, resulting in an increase of 5,480 square feet of building space on the installation.
Heavy Weapons Range	The 377 Air Base Wing (ABW) is proposing to establish and use a heavy weapons range in the southeastern section of KAFB, approximately 0.25 mile east of the Starfire Optical Range facilities along Mount Washington Road. The proposed range would encompass the existing M60 range. It would include two firing positions and firing lines and would use the existing targets at the M60 range. Firing distance would be approximately 7,300 feet. Firing position two would be used for sniper heavy weapons (0.50 caliber) and would fire in a more southerly direction to the existing target area, approximately 3,800 feet.
Construct New Hot Cargo Pad	The 377 ABW proposes to construct, operate, and maintain a hot cargo pad at KAFB to ensure reliable support and backup for the existing hot cargo pad (Pad 5). Other components include construction of a new taxiway to the proposed hot cargo pad; replacement of the deteriorating taxiway to Pad 5; addition of new and relocation of existing anti-ram barriers, defensive fighting positions, and personal shelters surrounding the proposed hot cargo pad and Pad 5; addition of new lighting at the proposed hot cargo pad and Pad 5; and removal of existing lighting at Pad 5. The new pad would consist of 18-inch Portland cement concrete and would add an additional 6-inch asphalt taxiway to the existing taxiway at Pad 5. The new pad would adjoin the existing Pad 5 to minimize enlargement of the clear zone and impacts on other critical facilities.
Construction and Demolition of Military Support Facilities	KAFB proposes to demolish and construct several military personnel support facilities in the developed area in the northwestern portion of the installation. The areas include the Visiting Officer Quarters Complex, the Main Enlisted Dormitory Campus, the Noncommissioned Officer Academy, and Dormitory Campus 2. Approximately 36 acres would be included in the construction and demolition activities. KAFB currently has a surplus of old substandard dormitory spaces that this project would help eliminate.

Project Name	Description
Army and Air Force Exchange Service (AAFES) Base Exchange Shopping Center	AAFES proposes to construct and operate a new 95,421-square-foot Shopping Center on an approximately 2.3-acre developed site between the existing Commissary (Building 20180) and existing Base Exchange (Building 20170) on Pennsylvania Street. The project also includes demolition of the 1,540-square-foot existing satellite pharmacy (Building 20167), closure of a portion (approximately 345 feet) of Pennsylvania Street, and construction of approximately 492 feet of new road to connect Texas Street with Pennsylvania Street north of the new Shopping Center. The new Shopping Center would include a new Base Exchange, pharmacy, retail laundry/dry cleaning, a beauty/barber shop, concession kiosks, five food concepts with a food court, and other similar services.
498th Nuclear Systems Wing Facility	KAFB proposes to construct a 32,400-square-foot facility to house the newly formed 498th Nuclear Systems Wing. This facility would be a two-story, steel framed structure with reinforced concrete foundation, floors, and reinforced masonry walls. The construction further includes tying in to utilities and communications and parking for 120 vehicles. The facility would accommodate approximately 200 personnel. The new facility location is proposed between “G” and “H” avenues west of Wyoming Blvd directly behind the Nuclear Weapons Center (Building 20325).
Air Force Nuclear Weapons Center Sustainment Center	KAFB proposes to construct a 15,946-square-foot sustainment center for the Nuclear Weapons Center. This facility would be a two-story, steel-framed structure built as a Sensitive Compartmented Information Facility with reinforced concrete foundation, floors, and reinforced masonry walls. The construction further includes tying in to utilities and communications and parking for vehicles. The facility would accommodate approximately 36 personnel. The new facility location is proposed between “G” and “H” avenues west of Wyoming Blvd directly behind the Nuclear Weapons Center (Building 20325) and south of the proposed 498th Nuclear Systems Wing facility.
Building Demolition at KAFB	The 377 ABW proposes to demolish 23 buildings (approximately 105,000 square feet) on KAFB to make space available for future construction and to fulfill its mission as installation host through better site utilization. None of the buildings proposed for demolition are currently occupied or used by installation personnel. General demolition activities would include removal of foundations, floor, wall, ceiling, and roofing materials; removing electrical substations providing power to these facilities; and removing, capping and rerouting sewer, gas, water, and steam lines outside of the work areas. Equipment such as bulldozers, backhoes, front-end loaders, dump trucks, tractor-trailers, and generators would be required to support the proposed demolition activities.
Security Forces Complex	The 377 ABW proposes to construct, operate, and maintain a security forces complex at KAFB to provide adequate space and modern facilities to house all 377 security forces squadron administrative and support functions in a consolidated location. The 377 security forces squadron functions that would be transferred to the new 377 security forces complex include a base operations center with command and control facility, administration and office space, training rooms, auditorium or assembly room, guard mount, hardened armory for weapons and ammunition storage, confinement facilities, law enforcement, logistics warehouse, general storage, vehicle garage with maintenance area, and associated communications functions. One existing building within the proposed footprint of the 377 security forces complex would be demolished.

Project Name	Description
21st Explosive Ordnance Division Expansion	The 21st Explosive Ordnance Division proposes to construct a facility expansion and site improvements for the 21st Explosive Ordnance Division Weapons of Mass Destruction Company Complex at KAFB. The 21st Explosive Ordnance Division currently operates from a 90-acre property leased by the Army within KAFB. The current site has seven structures, six of which are substandard and do not have adequate fire protection. The 21st Explosive Ordnance Division proposes to expand this site to a total of 280 acres, add three permanent structures, demolish five of the six substandard structures, add two temporary storage containers, tie in to nearby utilities, construct water tanks for fire suppression, and construct several concrete pads for training tasks.
Spacecraft Component Integration Lab	This proposed lease action would convert underutilized space, including a former military family housing area and a recreational use area, to use for office, commercial, and senior continuum care space at KAFB.
Hercules Tanker Recapitalization	The 58th Special Operations Wing proposed to recapitalize existing Special Operations Force (SOF) tanker aircraft and flight simulators and increase the number of their training fleet. Existing HC/MC-130P/N fixed-wing tanker planes and flight simulators are approaching their service life limits and need to be replaced. The SOF training force would increase by 171 and the average daily student population would increase by 37. As part of this project, six military construction projects are planned for the installation totaling 146,440 square feet.

4.3 Summary of Cumulative Impacts

The Western Secure Transportation Center is a phased construction project that may take years to complete pending budgets and USAF approvals. The site is relatively isolated within KAFB with only the current Military Working Dog Facility, the NNSA National Training Center, and Fire Station # 3 within 0.5 mile of the proposed construction project. The other foreseeable projects in Table 4-1 would not occur temporally with the Proposed Action and would not have cumulative impacts. The Proposed Action, when combined with three potential projects within the area, may have minor, short-term cumulative effects on the following resources.

4.3.1 Air Quality

The Proposed Action would result in low levels of air emissions below regulatory thresholds and would not be regionally significant, and the consolidation of the AOWC and VMF/MEMF would reduce greenhouse gas emissions. Construction of the Western Secure Transportation Center would cause short-term cumulative impacts if construction activities for the Military Working Dog Facility and Fire Station #3 occurred simultaneously. A temporary increase in vehicle traffic, and the resulting increase in vehicle emissions, would occur during construction due to truck traffic and the private vehicles of construction workers. However, the construction activities would not be expected to produce a cumulative degradation of ambient air quality and are likely to be temporally segregated.

4.3.2 Geology, Topography, and Soils

Minor cumulative impacts to soils would occur from the construction of the Western Secure Transportation Center, Fire Station #3, and Military Working Dog Facility as land is converted to impervious surfaces. Onsite soil erosion may occur; however, implementation of a SWPPP and

standard BMPs would minimize erosion and potential cumulative impacts to soil. Facility designs would avoid interrupting natural and existing surface water drainages where practicable to reduce the impact from soil compaction on topography and drainage patterns. No impacts from geologic hazards would be expected. The Proposed Action, when combined with other past, present, and reasonably foreseeable projects at KAFB, would not result in adverse cumulative impacts on geology and soils.

4.3.3 Water Resources

The Proposed Action and future actions would create ground disturbance on a small scale, which could increase storm water runoff and erosion potential during heavy precipitation events. Implementation of BMPs and post construction restabilization and revegetation would reduce storm water runoff and erosion potential; therefore, adverse impacts on surface waters would be minor. Storm water runoff from the Proposed Action and other projects would be incorporated into KAFB's Municipal Separate Storm Sewer System; therefore, minor, long-term, adverse impacts on water resources from storm water runoff due to increased impervious surfaces would be expected.

4.3.4 Biological Resources

The Proposed Action and future actions all occur in areas that have either been previously disturbed or areas that do not contain much vegetation or important biological habitats; therefore, these actions would not be expected to adversely impact vegetation or wildlife habitats. No federally listed species occur in the area, and measures would be taken prior to construction to survey for burrowing owls, flag nests, and relocate owls if necessary to minimize impacts. Overall, cumulative impacts of implementation of the Proposed Action and other past, present, and reasonably foreseeable actions at KAFB on the biological resources of the area would be negligible.

4.3.5 Noise

Short-term cumulative impacts from noise could occur if the construction of the fire station and Working Dog Facility occur simultaneously with the construction of the Western Secure Transportation Center. Cumulative impacts from operation of the Western Secure Transportation Center and the new Military Working Dog Facility would not occur since the projects would be separated temporally and minimal increases from ambient noise from either project are likely to occur.

4.3.6 Hazardous Materials and Waste Management

Implementation of the Proposed Action and other reasonably foreseeable projects would not be expected to result in adverse cumulative impacts on hazardous materials and waste management. The Proposed Action would result in an increase in the use and generation of hazardous materials and wastes; however, all materials would be handled and disposed of appropriately. Future projects would incorporate measures to limit or control hazardous materials and waste into their design and operation plans. Therefore, the impacts from the Proposed Action, when combined with other ongoing and proposed projects on KAFB, would not be considered a significant cumulative impact.

4.3.7 Transportation

Short-term cumulative impacts to traffic could occur during construction of the Proposed Action and future projects if construction was conducted during the same time period. However, temporal separation of the projects would likely minimize these impacts. In addition, the Proposed Action would result in a long-term, beneficial impact to OST agents and public safety with the reduction in truck traffic to and from the VMF/MEMF. Therefore, the impacts from the Proposed Action, when combined with other ongoing and proposed projects on KAFB, would not be considered a significant cumulative impact.

4.3.8 Safety and Occupational Health

The Proposed Action would result in a long-term, beneficial impact to OST agents and public safety with the reduction in truck traffic to and from the VMF/MEMF. In addition, modernized facilities would also increase VMF/MEMF personnel safety. No cumulative impacts on health and safety would be expected. The implementation of effective health and safety plans, which follow Federal, state, and local occupational safety and health policies, at the project site during construction and during facility operation would reduce or eliminate cumulative health and safety impacts on contractors, OST agents, and the general public.

The effects of the Proposed Action, when combined with the effects resulting from actions taken by KAFB, would not result in cumulatively significant effects.

4.4 Irreversible and Irretrievable Commitment of Resources

A commitment of resources is irreversible when its primary or secondary impacts limit the future options for a resource or limit those factors that are renewable only over long periods of time. Examples of nonrenewable resources are minerals, including petroleum. An irretrievable commitment of resources refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations. An example of an irretrievable resource is the loss of a recreational use of an area. While an action may result in the loss of a resource that is irretrievable, the action may be reversible. Irreversible and irretrievable commitments of resources are primarily related to construction activities.

For the proposed project, resources consumed during construction of the project, including labor, fossil fuels, and construction materials, would be committed for the life of the project. Nonrenewable fossil fuels would be irretrievably lost through the use of gasoline- and diesel-powered construction equipment during construction. The proposed project would commit 12 acres for the construction of the Western Secure Transportation Center. Site preparation would include the grading of land to provide a developable site plan, which would impact the soils, as described in Section 3.4.2.1 of this EA. Although these resources could be reclaimed in the future, it is unlikely that they would be restored to their original conditions and functionality. Therefore, these commitments are considered irreversible.

4.5 Unavoidable Adverse Impacts

Unavoidable adverse impacts associated with the Western Secure Transportation Center include:

- A minimal increase in noise and air emissions during construction;
- Generation of waste during construction and operation of the facilities;
- Increased storm water run-off during construction and operations at the proposed facility location; and
- Soil disturbance during construction of the site.

Construction of the Western Secure Transportation Center would cause unavoidable temporary noise and air emissions; however, during construction, particulate emissions would be controlled by using standard dust mitigation techniques (for example, spraying of water over exposed soils). An increase in air emissions during the use of the emergency generators would be unavoidable, but the use of the generators would be limited and is expected to result in minor impacts. Impacts from storm water run-off during construction would be mitigated through State-implemented NPDES requirements, and impacts from the increases in storm water runoff and water pollutants due to additional impervious areas would be reduced from adherence to storm water management controls. The use and generation of hazardous materials and wastes during construction and operation activities, and small arms ammunition waste during operations, would be unavoidable; however, these materials and wastes would be handled in accordance with Federal, state, and local policies and are not expected to result in significant impacts. Overall, impacts of the proposed facility on the environment and human health would be minimal.

4.6 The Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-term Productivity

The CEQ regulations require consideration of “the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity” (40 CFR 1502.16). Short-term use of the environment, as used in this EA, is that used during the life of the project, whereas long-term productivity refers to the period of time after the project has been decommissioned, the equipment removed, and the land reclaimed and stabilized. Construction and operation of the Western Secure Transportation Center would require short-term uses of soils and other resources. These pertain to the activities that have been described throughout Chapter 3 and include impacts on air quality from fugitive dust emissions during construction, and erosion and sedimentation impacts on surface waters, which generally would be mitigated through the use of required control measures. The short-term use of the project site for the proposed facility would not affect the long-term productivity of the area. If it is decided at some time in the future that the project has reached its useful life, the facility and foundations could be decommissioned and removed, and the site reclaimed and revegetated to resemble a similar habitat to the pre-disturbance conditions. However, it is unlikely that the habitat would be fully restored to its original condition. In addition, since the site is located within KAFB, the buildings could also be reclaimed for the USAF mission allowing for continual productivity of the area.

5.0 REFERENCES

CEQ (Council on Environmental Quality). 2010. "Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions." Memorandum for Heads of Federal Departments and Agencies. February 18, 2010.

DOE (Department of Energy). 1999. Sandia National Laboratories/New Mexico Final Site-Wide Environmental Impact Statement (DOE/EIS-0281). Department of Energy Albuquerque Operations Office, Albuquerque, NM.

DOE. 2006. DOE Explosive Safety Manual. DOE M 440.1-1A. Availabe at http://www.hss.doe.gov/enforce/docs/manuals/DOE_Manual_440_1_1A_Explosives_Safety_Manual.pdf. . Accessed January 10, 2012.

DOE. 2008. Final Environmental Assessment for the Expansion of Permitted Land and Operations at the 9940 Complex and Thunder Range at Sandia National Laboratories/New Mexico. DOE/EA-1603

DOE. 2011. Source document- Other Department of Energy Facilities and Operations in the Albuquerque, New Mexico Area.

IPCC (Intergovernmental Panel on Climate Change). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp. Available online at: http://www.ipcc.ch/ipccreports/ar4-wg1.htm. Accessed December 8, 2011.

KAFB (Kirtland Air Force Base). 2010a. Environmental Assessment. Assessing Building Demolition at Kirtland Air Force Base, Albuquerque, New Mexico.

KAFB. 2010b. Draft- Environmental Assessment Addressing Construction, Operation, and Maintenance of a Military Working Dog Facility at Kirtland Air Force Base, New Mexico.

KAFB. 2011. Environmental Assessment. Addressing 21st Explosive Ordnance Disposal Weapons of Mass Destruction Facilities Demolition and Expansion at Kirtland Air Force Base, New Mexico.

NIDCD (National Institute on Deafness and Other Communicative Disorders). 2007. NIDCD Fact Sheet: Noise Induced Hearing Loss. U.S. Department of Health and Human Services, National Institutes of Health. NIH Publication No. 97-4233, April 2007.

NNSA (National Nuclear Security Administration). 2004. Environmental Assessment. Proposed Construction of an Operations and Training Facility at Kirtland Air Force Base, Albuquerque, New Mexico.

NNSA. 2012. Current AOWC, VMF/MEMF and Proposed Action site figures from Lisa Swift. Sent to W. Arjo on 14 and 15 February 2012.

USEPA (U.S. Environmental Protection Agency). 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. Available at http://www.doeal.gov/laso/DraftSERFEA/EPA1971NoiseFromConstructionEquipmentAndOperationsBuildingEquipmentAndHomeAppliances.pdf. Accessed February 6, 2012.

USEPA. 2012. Geographic Emission Summary Report 2008 for Bernalillo County, New Mexico. Available at http://neibrowser.epa.gov/eis-public-web/geo/summary.html?jurisdictionId=1926&inventoryYear=2008. Accessed January 17, 2012.

USDA SCS (U.S. Department of Agriculture, Soil Conservation Service). 1977. "Soil Survey of Bernalillo County and Parts of Valencia Counties, New Mexico," U.S. Department of Agriculture, Soil Conservation Service, Forest Service, U.S. Department of Interior Bureau of Indian Affairs, and Bureau of Land Management, in cooperation with New Mexico Agricultural Experimental Station, 101 pp. Available at http://soildatamart.nrcs.usda.gov/manuscripts/NM600/0/bernalillo.pdf. Accessed December 30, 2011.

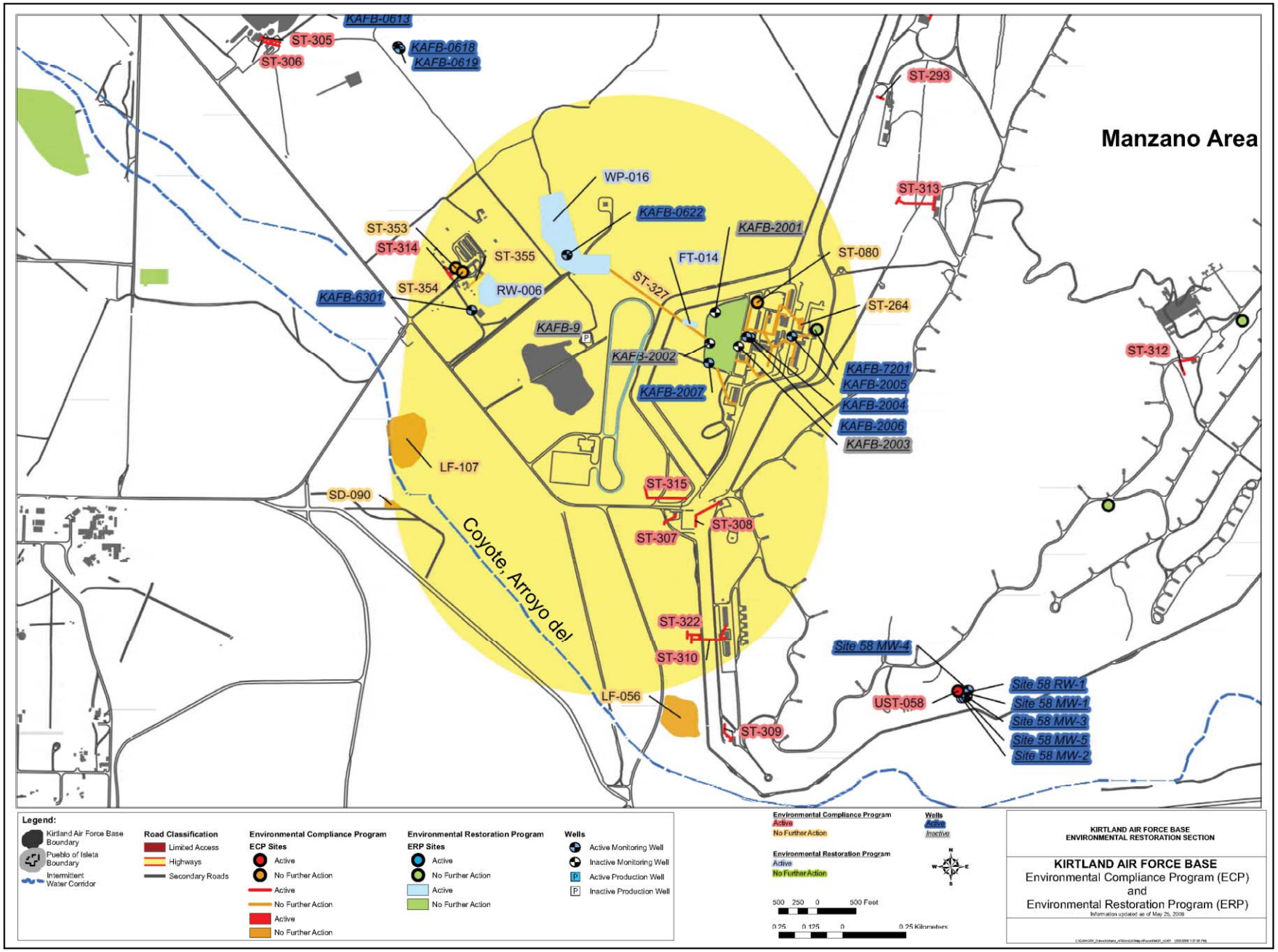
USDA NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service). 2011. USDA Soil Survey for Proposed Action Area. Available at http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.asp. Accessed December 30, 2011.

USFWS (U.S. Fish and Wildlife Service). 2012a. National Wetlands Inventory Mapper. Available at http://www.fws.gov/wetlands/Data/Mapper.html. Accessed January 10, 2012.

USFWS. 2012b. Listed and Sensitive species in Bernalillo County. Available at http://www.fws.gov/southwest/es/EndangeredSpecies/EndangeredSpecies_Main.cfm. Accessed January 16, 2012.

APPENDIX A. RESTORATION SITES

This appendix contains a map of the restoration sites located in the area of the Proposed Action.



Source: Kirtland AFB

Appendix A-1. Kirtland Air Force Base restoration sites near the Proposed Action Site

APPENDIX B. AIR EMISSIONS CALCULATIONS

This appendix contains air emission calculations performed for this environmental assessment.

OPERATIONS, UPGRADES, AND CONSOLIDATION AT THE WESTERN COMMAND SITE, NEW MEXICO

Air Quality Emissions from Proposed Action

Construction

Air Emissions (pounds)

(Assume construction emissions occur during one year)

	NO_x	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Grading Equipment	3,279	203	1,237	66	200	194	389,145
Paving Equipment	7,164	411	2,934	143	438	425	888,050
Building Construction	9,455	751	4,172	760	679	659	1,071,483
Total Emissions	19,898	1,366	8,342	969	1,318	1,278	2,348,678

Air Emissions (tons)

	NO_x	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Grading Equipment	1.64	0.10	0.62	0.03	0.10	0.10	194.57
Paving Equipment	3.58	0.21	1.47	0.07	0.22	0.21	444.02
Building Construction	4.73	0.38	2.09	0.38	0.34	0.33	535.74
Total Emissions	9.95	0.68	4.17	0.48	0.66	0.64	1,174.34

	PM_{10} Uncontrolled	PM_{10} Controlled	$PM_{2.5}$ Uncontrolled	$PM_{2.5}$ Controlled
Fugitive Dust Emissions (tons)	4.36	2.18	0.44	0.22

Assume that fugitive dust emissions occur during grading operations.

Criteria Pollutant Emission Factors:

The assumptions used for calculating air emissions from construction activities are those used in the "Draft Environmental Assessment addressing Construction, Operation, and Maintenance of a Military Working Dog Facility at Kirtland Air Force Base, New Mexico". The assumptions include the air emission factors used in that document.

Emission Factors used for Construction Equipment

References: Draft Environmental Assessment addressing Construction, Operation, and Maintenance of a Military Working Dog Facility at Kirtland Air Force Base, New Mexico

Source	Equipment Multiplier*	Project Emission Factors (pounds/day)						
		NO_x	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Grading Equipment	3	41.641	2.577	15.710	0.833	2.546	2.469	4941.526
Paving Equipment	2	45.367	2.606	18.578	0.907	2.776	2.693	5623.957
Building Construction	1	39.396	3.130	17.382	3.166	2.829	2.744	4464.512

* The equipment multiplier is an integer that represents units of 10 acres for purposes of estimating the number of equipment required for the project.

Construction Fugitive Dust Emission Factors

References: Draft Environmental Assessment addressing Construction, Operation, and Maintenance of a Military Working Dog Facility at Kirtland Air Force Base, New Mexico

General Construction Activities

0.19 tons PM_{10} /acre-month (Emission Factor)

0.10 $PM_{2.5}$ multiplier (10% of PM_{10} emissions assumed to be $PM_{2.5}$)

0.50 Contol Efficiency (Assume 50% control efficiency for PM_{10} and $PM_{2.5}$ emissions)

Summary of Input Parameters

		Area (acres)	Area (ft^2)	Today Days
Grading				
	OST HQ	5.15	224,349	5.2[a]
	AOWC, warehouse, VMF/MEMF	20.30	884,329	20.3
	Munitions	0.8	34,850	0.8
	TOTAL	26.25	1,143,529	26.3
Paving				
	AOWC parking	2.08	90,611	9.9[b]
	OST HQ parking	2.0	87,126	9.5
	Concrete area	12.5	544,538	59.5
	TOTAL	16.58	722,275	79
Construction				
	Warehouse	0.24	10,542	240[c]
	PT/IUF or Munitions bldg	0.275	11,980	240
	OST HQ Office	0.60	26,138	240
	TOTAL	1.12	48,660	240[d]

[a] Estimate for grading is calculated by assuming 1 acre graded per day

[b] Estimate for paving is calculated by dividing the total number of acres by 0.21 acres/day (Working Dog EA)

[c] Assume 12 months, 4 weeks per month, 5 days per week (Working Dog EA)

[d] Assume construction on all projects happens concurrently.

Operations

Commuter Emissions (Should be similar to existing conditions)

Air Emissions (pounds per year)

	NO_x	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Passenger Vehicle	2,199	2,257	21,694	30	254	163	3,121,723

Air Emissions (tons per year)

	NO_x	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Passenger Vehicle	1.10	1.13	10.85	0.02	0.13	0.08	1,560.86

Commuter Emissions: Emission Factors

Source: http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html

Scenario Year: **2012**

All model years in the range 1968 to 2012

Passenger Vehicles (pounds/mile)	
CO	**0.00765475**
NOx	**0.00077583**
ROG	**0.00079628**
SOx	**0.00001073**
PM10	**0.00008979**
PM2.5	**0.00005750**
CO2	**1.10152540**
CH4	**0.00007169**

Commuter Emissions: Summary of Input Parameters

Number of people at facility:			
		Number of man-days per week:	
Total agent capacity (5 days/week)	150		750
Support staff (5 days/week)	30		150
Security personnel (7 days/week)	15		105
Additional agents (1 day/week)	50		50
Maintenace personnel (5 days/week)	4		20
Visitors (1 day/week)	15		15
TOTAL	264	TOTAL:	1,090

Assumed average number of miles driven by commuter vehicle during one man-day	50
Total vehicle miles driven per week	54,500
Total vehicle miles per year (assume 52 weeks per year)	2,834,000

Operations (Continued)

Truck Emissions (decrease from existing conditions)

Air Emissions (pounds per year)

	NO_x	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Heavy-Duty Diesel Truck	110	9.0	36	0.14	5.3	4.6	15,051

Air Emissions (tons per year)

	NO_x	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Heavy-Duty Diesel Truck	0.055	0.0045	0.018	0.000072	0.0027	0.0023	7.53

Truck Emissions: Emission Factors

Source: http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html

Vehicle Class:

Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

Scenario Year: **2012**

All model years in the range 1968 to 2012

HHDT-DSL (pounds/mile)	
CO	**0.01021519**
NOx	**0.03092379**
ROG	**0.00252764**
SOx	**0.00004042**
PM10	**0.00149566**
PM2.5	**0.00129354**
CO2	**4.21590774**
CH4	**0.00011651**

Truck Emissions: Summary of Input Parameters

Number of trucks	357
Number of annual roundtrips to maintenance eliminated.	357
Mileage per round trip	10
Total miles	3,570

Operations (Continued)

Emergency Generator Emissions

Air Emissions (pounds per year)

	NO_x	CO	SO_x	PM_{10}	CO_2
New HQ building	661	142	43.7	46.9	24,509
New command	2,078	448	137	147	77,073
Current AOWC	2,078	448	137	147	77,073
TOTAL	4,816	1,038	318	342	178,655

Air Emissions (tons per year)

	NO_x	CO	SO_x	PM_{10}	CO_2
New HQ building	0.33	0.071	0.022	0.023	12.3
New command	1.0	0.224	0.069	0.074	38.5
Current AOWC	1.0	0.224	0.069	0.074	38.5
TOTAL	2.4	0.52	0.16	0.17	89.3

Emergency Generator Emission Factors

Source: from AP-42, Section 3.3, Gasoline and Diesel Industrial Engines, Table 3.3-1

Diesel Fuel

	lb/hp-hr	kg/kw-hr	lb/kw-hr
NO_x	0.031	0.01885	0.04155
CO	0.00668	0.004061	0.008954
SO_x	0.00205	0.001246	0.002748
PM_{10}	0.0022	0.001338	0.002949
CO_2	1.15	0.6992	1.541

Emergency Generators: Summary of Input Parameters

Generators:

Location	Size (kw)	Fuel Type	
New HQ building	159	"likely" natural gas (but assume diesel for conservative estimate)	
New command	500	Diesel	
Current AOWC	500	Diesel	("Likely" installed even under the No Action Alternative)

Usage per generator:

Events per year	Hours per event	Hours per year
10	10	100