Growdon Gate/Road Relocation and Property Acquisition Environmental Assessment Volume I

United States Air Force
Air Education and Training Command
802nd Civil Engineering Squadron
Joint Base San Antonio - Lackland, Texas

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14. ABSTRACT

The 802 CES at JBSA-Lackland is proposing to acquire approximately 232 acres of City- and privately-owned property in order to provide a future location for expansion planning needs (e.g. relocation of leaseback facilities or other components of the JBSA-Lackland ―Go West‖ Plan, if cleared under NEPA and implemented). These future components could include relocating airfield operations from the Port San Antonio (PSA) property to the west side of the runway, and relocating administrative and warehouse space from PSA to JBSA-Lackland property. Currently there is a shortage of suitable Anti-Terrorism/Force Protection compliant buildings/facilities and a shortage of land for new construction on JBSA-Lackland. NOTE: The word ―acquire‖ when used in this document in terms of a real estate transaction shall also mean ―gain access to‖. The word ―acquisition‖ when used in this document in terms of a real estate transaction shall also mean ―use of‖. The 802 CES is also proposing to relocate Growdon Road further west and relocate the existing CVIA/ECP gate to the newly acquired property. This relocation would allow for more efficient and effective screening of commercial vehicles to avoid the congestion and extended wait times currently experienced at the existing CVIA/ECP gate. The relocation would also help to reduce conflicts between commercial traffic at the existing CVIA/ECP gate and traffic related to the 433rd Airlift Wing?s mission-critical training operations. The upgrade and relocation of the CVIA/ECP gate would also serve to meet Unified Facilities Criteria, provide efficient application of force protection measures, and provide an increased level of security. Under the No-action Alternative, the existing Growdon Road and CVIA/ECP gate would continue to be used. The 433rd Airlift Wing?s mission-critical operations would continue to be impacted by commercial traffic through Growdon Road. Additionally, JBSA-Lackland would not acquire any additional acreage, resulting in delaying implementation of expansion planning efforts including the ―Go West‖ Plan. Use of the existing CVIA/ECP gate would also result in continued congestion and wait times for commercial vehicles, thus limiting the efficiency and security of that CVIA/ECP.

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FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT
GROWDON GATE/ROAD RELOCATION AND PROPERTY ACQUISITION

JOINT BASE SAN ANTONIO-LACKLAND, TEXAS

AGENCY: 802nd Civil Engineering Squadron (CES), Joint Base San Antonio-Lackland (JBSA-Lackland), Texas

BACKGROUND: The 1995 Base Realignment and Closure (BRAC) requirements realigned approximately half of Kelly Air Force Base (AFB) to JBSA-Lackland and transferred the remainder to what is now known as Port San Antonio (PSA), managed by a local redevelopment authority. PSA currently retains many government-maintained facilities referred to as "leaseback" facilities. More Air Force missions have been moved into PSA leaseback facilities because JBSA-Lackland has outgrown its existing buildings and infrastructure and does not have suitable Anti-Terrorism/Force Protection (AT/FP) compliant buildings/facilities.

JBSA-Lackland is preparing a long range master plan, known as the "Go West" Plan, under which missions currently at PSA would relocate to JBSA-Lackland proper over a 40 year period. At the present time, the "Go West" Plan has three independent components: (1) constructing a new entry control point and connecting road, (2) relocating airfield operations from the PSA property to the west side of the runway, and (3) relocating administrative and warehouse space from PSA to JBSA-Lackland property. Because all three components are located in the same geographical area, this proposal to implement the first component includes acquisition of the land for all three components. The purpose of this project is to implement the first component of the "Go West" Plan by upgrading and relocating the current Growdon Road Commercial Vehicle Inspection Area and Entry Control Point (CVIA/ECP) and relocating Growdon Road further west from its existing location. The upgrade and relocation of the CVIA/ECP and Growdon Road are needed to allow for more efficient and effective screening of commercial vehicles thereby avoiding congestion and extended wait times resulting from the current configuration. The relocation will also help to reduce conflicts between commercial traffic at the existing Growdon Gate and traffic related to the 433rd Airlift Wing's mission-critical training operations. Finally, the upgrade and relocation of the CVIA/ECP is also needed to meet Unified Facilities Criteria (UFC), to provide efficient application of force protection measures, and provide an increased level of security.

A secondary purpose of this project is for JBSA-Lackland to acquire approximately 232 acres of City- and privately-owned land just north of JBSA-Lackland Main Base. Approximately 80 acres of this property is needed immediately to accommodate the relocation of the CVIA/ECP and Growdon Road. The remaining property would be used to accommodate expansion planning needs (e.g. relocation of leaseback facilities or other components of the "Go West" Plan, if cleared under the National Environmental Policy Act [NEPA] and implemented).

Pursuant to NEPA, 32 Code of Federal Regulations (CFR) 989 (*Air Force Environmental Impact Analysis Process*) (EIAP), and other applicable regulations, JBSA-Lackland completed an environmental assessment (EA) of the potential environmental consequences of property acquisition, new CVIA/ECP gate construction, and Growdon Road relocation. The attached EA, which is incorporated by reference and supports this Finding of No Significant Impact, evaluated the No-action Alternative and Proposed Action.

PROPOSED ACTION: 802nd CES proposes to acquire approximately 232 acres of land located northwest of the existing Growdon Road CVIA/ECP. A new CVIA/ECP will be constructed by the Air Force and operated on 80 acres on the western edge of the property, and the existing Growdon Road CVIA/ECP will be demolished. Demolition includes several buildings and structures for a total of approximately 4,230 square feet (sf). The Air Force will construct a new 9,000 foot long road from US Highway 90 at the Callaghan overpass, routed along the eastern edge of the Leon Creek floodplain buffer zone to the new gate location. A portion of this road will be concurrent with the existing Growdon Road. Approximately 249,033 sf of Growdon Road from the existing CVIA/ECP to the location of the new Growdon Road concurrence will be demolished; however, the Air Force will maintain access to any residences remaining along the existing Growdon Road. The remaining 152 acres of acquired land would be used to accommodate expansion planning needs (e.g. relocation of leaseback facilities or other components of the "Go West" Plan, if cleared under NEPA and implemented).

NO-ACTION ALTERNATIVE: Under the No-action Alternative, the Air Force would not acquire any additional acreage, and JSBA-Lackland would continue to use the existing Growdon Road and CVIA/ECP.

SUMMARY OF FINDINGS FOR THE PROPOSED ACTION:

Noise. There will be short-term increases in noise levels from construction and demolition noise; however, those increased noise levels would be at or below baseline noise levels at noise-sensitive receptors. There will be no long-term increase in noise levels.

Land Use. There will be a change in land use classifications; however, the changes will be compatible with existing land uses. Long-term losses of land available for farming, as well as a long-term, minor reduction in prime farmland available for agricultural use would result from implementation of the Proposed Action.

Air Quality. There will be a short-term increase in emissions during construction and demolition activities, resulting in minimal ambient air impacts. These impacts would be less than the 10 percent level considered regionally significant by the United States Environmental Protection Agency. There will be no long-term increases in air emissions, but rather a long-term decrease in engine emissions due to reduced engine idling times.

Earth Resources. There will be a short-term increase in soil disturbance and dust generated due to construction and demolition activities. Additionally, removal of the existing Growdon Road will increase potential for erosion, but best management practices will minimize the impacts to soils. There will be no long-term or permanent effects to earth resources and no change to lithology, stratigraphy, geological structures, soil composition, structure, or function.

Biological Resources. There will be no adverse impacts to vegetation, wetlands, federally-listed threatened or endangered species, and no introduction of invasive species. Short-term increases in noise will result in temporary impacts to wildlife. Potential impacts from noise and disturbance from construction could cause nesting migratory birds to abandon their nests; however, implementation of mitigation techniques and best management practices would minimize potential loss of migratory bird nests during construction. Road construction clearing activities would be conducted during the non-breeding season for most migratory birds (August through January) to ensure compliance with the Migratory Bird Treaty Act. This mitigation measure would reduce the potential adverse impacts on biological resources, especially protected species.

Cultural and Traditional Resources. There will be a no impacts to archaeological or historic resources.

Water Resources. There will be no impacts to groundwater, drainage patterns, or flood carrying capacities of water courses. Exposed soils from construction and excavation activities could create the temporary potential for erosion and increased sediment runoff into Leon Creek; however, these impacts would be minimized through the use of best management practices. There will be no adverse health hazard conditions or violation of established laws or regulations that have been adopted to protect or manage water resources in the area.

Hazardous Materials and Wastes. Asbestos and lead-based paint surveys will be required prior to demolition of buildings. There will be no collection, storage, or improper disposal of hazardous substances, including asbestos. No hazardous wastes will be generated and there will be no impacts to or from Environmental Restoration Program sites. JBSA-Lackland will realize long-term beneficial impacts from the removal of pesticide contaminated soils, if any should be found during construction and demolition activities.

Infrastructure and Utilities. There will be no change in electrical, natural gas, or potable water demand, and no increase in wastewater generation. Infrastructure upgrades will occur for electrical, potable water, storm sewer, and wastewater systems. Solid, non-hazardous waste increases resulting from construction and demolition activities can be accommodated by the local landfill. Increases in potential soil erosion from construction and demolition will be minimized through use of best management practices. There will be no security impacts.

Transportation. There will be slightly longer delay times and increased utilization of some intersections; however, no creation of major traffic hazards or increases in traffic such that there would be an adverse impact to the level of service.

Socioeconomic Resources. There will be no change to population, housing, education, or employment. Purchase of construction materials and goods will result in an increase in regional economic activity.

Environmental Justice. There will be no disproportionate and adverse impacts to minority or low-income populations.

SUMMARY OF FINDINGS FOR NO-ACTION ALTERNATIVE: 433rd Airlift Wing's mission-critical operations would continue to be impacted by commercial traffic through Growdon Road. Additionally, JBSA-Lackland assets and personnel would remain located in leaseback facilities at PSA delaying implementation of the "Go West" Plan. Use of the existing Growdon Road CVIA/ECP would also result in continued congestion and wait times for commercial vehicles limiting the efficiency and security of that ECP. Daily traffic volumes in the area would likely increase significantly under the No-action Alternative due to the number of installation development activities projected within the next few years; however, the traffic increase would not be expected to result in a change in the level of service at any intersection considered for analysis. The conditions and characteristics anticipated under the No-action Alternative for other resource areas would continue at levels equal to those occurring under the existing, baseline conditions.

SUMMARY OF CUMULATIVE EFFECTS: The cumulative impact of implementing these actions along with other past, present, and reasonably foreseeable future projects at JSBA-Lackland were assessed in the attached EA and no significant cumulative impacts were identified.

SUMMARY OF PUBLIC REVIEW AND INTERAGENCY COORDINATION: Comment letters were received from the Alamo Area Council of Governments (AACOG), Texas Commission on Environmental Quality (TCEQ), Texas Historical Commission (THC), Texas Water Development Board (TWDB), and City of San Antonio (COSA) during the public comment period. The AACOG had no additional questions or comments on the EA and recommended a "Consensus to Proceed" for this project. The TCEQ agreed that a FONSI is appropriate for the action and

recommended inclusion of several best management practices (BMPs) for minimization of impacts. These BMPs are included in the EA. The THC concurred with the finding that Buildings 1213 and 1217 are not eligible for inclusion on the National Register of Historic Places. The TWDB recommended coordination with the City of San Antonio on this action. Copies of the Public Draft EA were provided to the City of San Antonio Floodplain Administrator, as well as the Bexar County Floodplain Administrator, and neither provided a comment response. Comments received from COSA included questions regarding wetlands survey methodology, the Texas Parks and Wildlife Department Annotated List of Rare Species for Bexar County, and the archaeological area of potential effect for this project. A response to the COSA comments is included in a comment matrix in Appendix A of the EA, as well as the other four comments received during the public comment period.

FINDING OF NO SIGNIFICANT IMPACT: Based upon my review of the EA, I conclude that the Proposed Action will not have a significant direct, indirect, or cumulative impact upon the environment. Accordingly, the requirements of the NEPA, regulations promulgated by the President's Council on Environmental Quality, and 32 CFR Part 989 are fulfilled and an Environmental Impact Statement is not required at this time.

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ROBERT D. LABRUTTA
Brigadier General, USAF
Commander

Date

Cover Sheet

Responsible Agency: 802nd Civil Engineering Squadron, Joint Base San Antonio-Lackland (JBSA-Lackland), Texas

Proposed Action: Acquire approximately 232 acres of land northwest of the Growdon Road Commercial Vehicle Inspection Area and Entry Control Point (CVIA/ECP). Demolish the existing CVIA/ECP and construct and operate a new CVIA/ECP on 80 acres of the newly acquired property. Relocate Growdon Road further west from its existing location.

Points of Contact: JBSA-Lackland Asset Optimization Planning: Mr. Andrew Riley, 802 Civil Engineering Squadron/Civil Engineering Asset Optimization Planning (CES/CEAOP), 1555 Gott Street, Building 5595, Joint Base San Antonio-Lackland, TX 78236, (210) 671-5339; United States

Report Designation: Environmental Assessment

Abstract: The 802 CES at JBSA-Lackland is proposing to acquire approximately 232 acres of City- and privately-owned property in order to provide a future location for expansion planning needs (e.g. relocation of leaseback facilities or other components of the JBSA-Lackland "Go West" Plan, if cleared under NEPA and implemented). These future components could include relocating airfield operations from the Port San Antonio (PSA) property to the west side of the runway, and relocating administrative and warehouse space from PSA to JBSA-Lackland property. Currently there is a shortage of suitable Anti-Terrorism/Force Protection compliant buildings/facilities and a shortage of land for new construction on JBSA-Lackland. NOTE: The word "acquire" when used in this document in terms of a real estate transaction shall also mean "gain access to". The word "acquisition" when used in this document in terms of a real estate transaction shall also mean "use of".

The 802 CES is also proposing to relocate Growdon Road further west and relocate the existing CVIA/ECP gate to the newly acquired property. This relocation would allow for more efficient and effective screening of commercial vehicles to avoid the congestion and extended wait times currently experienced at the existing CVIA/ECP gate. The relocation would also help to reduce conflicts between commercial traffic at the existing CVIA/ECP gate and traffic related to the 433rd Airlift Wing's mission-critical training operations. The upgrade and relocation of the CVIA/ECP gate would also serve to meet Unified Facilities Criteria, provide efficient application of force protection measures, and provide an increased level of security.

Under the No-action Alternative, the existing Growdon Road and CVIA/ECP gate would continue to be used. The 433rd Airlift Wing's mission-critical operations would continue to be impacted by commercial traffic through Growdon Road. Additionally, JBSA-Lackland would not acquire any additional acreage, resulting in delaying implementation of expansion planning efforts including the "Go West" Plan. Use of the existing CVIA/ECP gate would also result in continued congestion and wait times for commercial vehicles, thus limiting the efficiency and security of that CVIA/ECP.

PRIVACY ADVISORY NOTICE

Letters or other written comments provided may be published in the Final EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided will be kept confidential. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the names of the individuals making comments and their specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

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APPENDICES (VOLUME II)

ACRONYMS AND ABBREVIATIONS

ACC	Ambulatory Care Center
ACM	asbestos containing material
ADP	Area Development Plan
AICUZ	Air Installation Compatible Use Zone
AIRFA	American Indian Religious Freedom Act
AFI	Air Force Instruction
a.m.	*ante meridiem* (morning)
AOC	Area of Concern
APE	Area of Potential Effect
AQCR	Air Quality Control Region
ARPA	Archaeological Resources Protection Act
ASTs	aboveground storage tanks
AT/FP	Anti-Terrorism/Force Protection
bgs	below ground surface
BMPs	Best Management Practices
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAR	Center for Archaeological Research
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CES/CEAOP	Civil Engineering Squadron/Civil Engineering Asset Optimization Planning
CFR	Code of Federal Regulations
CGP	construction general permit
CH_4	methane
CIP	Capital Improvements Program
cmbs	centimeters below surface
CO	carbon monoxide
CO_2	carbon dioxide
CO_{2eq}	CO_2 equivalents
COC	Community of Comparison
COSA	City of San Antonio
CVIA/ECP	Commercial Vehicle Inspection Area and Entry Control Point
CWA	Clean Water Act
dB	decibel
dBA	"A-weighted" decibel
DLIELC	Defense Language Institute English Language Center
DNL	Day-Night Average Sound Level
DoD	Department of Defense
EA	Environmental Assessment
EAC	Early Action Compact
EB	eastbound

ACRONYMS AND ABBREVIATIONS (CONTINUED)

EBS	Environmental Baseline Study
ECF	Entry Control Facility
EIAP	Environmental Impact Analysis Process
EO	Executive Order
ERP	Environmental Restoration Program
ESA	Endangered Species Act
F	Fahrenheit
FEMA	Federal Emergency Management Association
FONSI	Finding of No Significant Impact
ft	feet
FY	fiscal year
GWP	global warming potential
HFC	hydrofluorocarbon
IAAFA	Inter-American Air Forces Academy
IICEP	Intergovernmental and Interagency Coordination for Environmental Planning
JBSA-Lackland	Joint Base San Antonio-Lackland
KAFB	Former Kelly Air Force Base
KCF	thousand cubic feet
kgal	kilo-gallon
LA	Louisiana
LBP	lead-based paint
LTA	Lackland Training Annex
LOS	level of service
MBTA	Migratory Bird Treaty Act
MCF/d	million cubic feet per day
$\mu g/m^3$	micrograms per cubic meter
MGD	million gallons per day
MMRP	military munitions response program
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MSA	Metropolitan Statistical Area
MSDSs	material safety data sheets
MW	mega watts
MWD	Military Working Dog
MWH	mega watt hours
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEI	National Emissions Inventory
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_x	nitrogen oxides

ACRONYMS AND ABBREVIATIONS (CONTINUED)

NOI	Notice of Intent
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	ozone
OSHA	Occupational Safety and Health Administration
OWS	oil water separator
PAH	polycyclic aromatic hydrocarbons
PCLs	Protective Concentration Levels
PFC	perfluorocarbon
p.m.	*post meridiem* (evening)
$PM_{2.5}$	particulate matter ≤ 2.5 micrometers in aerodynamic diameter
PM_{10}	particulate matter ≤ 10 micrometers in aerodynamic diameter
PPE	personal protective equipment
ppm	parts per million
PSA	Port San Antonio
psi	pounds per square inch
RCRA	Resource Conservation and Recovery Act
ROI	region of influence
SAACC	San Antonio Aviation Cadet Center
SAWS	San Antonio Water System
sf	square feet
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
SPCCP	Spill Prevention, Control and Countermeasures Plan
SPL	sound pressure level
SVOC	semi-volatile organic compounds
SWMU	Solid Waste Management Unit
SWPPP	storm water pollution prevention plan
TCEQ	Texas Commission for Environmental Quality
TPDES	Texas Pollutant Discharge Elimination System
TPH	total petroleum hydrocarbons
tpy	tons per year
TRRP	Texas Risk Reduction Program
TSCA	Toxic Substance Control Act
TWDB	Texas Water Development Board
UFC	United Facilities Criteria
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USC	United States Code
USEPA	United States Environmental Protection Agency
UXO	unexploded ordnance

ACRONYMS AND ABBREVIATIONS (CONTINUED)

v/c	volume-to-capacity
VOC	volatile organic compound
WB	westbound
WHMC	Wilford Hall Medical Center

CHAPTER 1
PURPOSE OF AND NEED FOR ACTION

This chapter has six parts: a statement of the purpose of and need for action, a description of the location of the proposed and alternative actions, identification of the decision to be made, a description of the scope of the environmental review, identification of applicable regulatory requirements, and an introduction to the organization of the document.

1.1 PURPOSE OF AND NEED FOR ACTION

Joint Base San Antonio-Lackland (JBSA-Lackland) is home to 14 major mission partners and over 70 hosted military organizational units with a population of 42,000 military, trainees, civilians, and on-base military dependents that work, receive training or utilize JBSA-Lackland's services. The 1995 Base Realignment and Closure (BRAC) requirements realigned approximately half of Kelly Air Force Base (AFB) to JBSA-Lackland and transferred the remainder to a local redevelopment authority for the City of San Antonio. The local redevelopment authority is Port Authority of San Antonio (originally the Greater Kelly Development Authority) and the development area is Port San Antonio (originally known as KellyUSA). Many units originally hosted by Kelly AFB were not moved by BRAC 1995 and remained on Port San Antonio (PSA) as government-maintained facilities referred to as "leaseback" facilities. The situation has been compounded as a result of BRAC 2005, as more Air Force missions have been moved into PSA leaseback facilities because JBSA-Lackland has outgrown its existing buildings and infrastructure.

The Air Force maintains a substantial presence at PSA. The Air Force occupies 39 buildings with over two million square feet (sf) of space. The Air Force is unable to move missions onto JBSA-Lackland proper because of the lack of suitable Anti-Terrorism/Force Protection (AT/FP) compliant buildings/facilities and because of a shortage of land for new construction. Maintenance and operation of the PSA leaseback facilities is costly and inefficient.

JBSA-Lackland is preparing a long range master plan, known as the "Go West" Plan, under which missions currently at PSA would relocate to JBSA-Lackland proper over a 40 year period. At the present time, the "Go West" Plan has three independent components: (1) constructing a new entry control point and connecting road, (2) relocating airfield operations from the PSA property to the west side of the runway, and (3) relocating administrative and warehouse space from PSA to JBSA-Lackland property. Because all three components are located in the same geographical area, this proposal to implement the first component includes acquisition of the land for all three components. Thus, this Environmental Assessment (EA) analyzes the first component and the entire land acquisition. If JBSA-Lackland decides in the future to implement the second component, third component, or both components, additional NEPA analysis will be required and will reflect environmental conditions at the time the component is implemented.

The purpose of this project is to implement the first component of the "Go West" Plan by upgrading and relocating the current Growdon Road Commercial Vehicle Inspection Area and Entry Control Point (CVIA/ECP), also known as Growdon Gate, and relocating Growdon Road

further west from its existing location. The CVIA and ECP are components of an Entry Control Facility (ECF). The objective of an ECF is to ensure the proper level of access control for all Department of Defense (DoD) personnel, visitors, and truck traffic to an installation. An ECF needs to secure the installation from unauthorized access and intercept contraband while maximizing vehicular traffic flow (SDDCTEA 2009).

The upgrade and relocation of Growdon Gate and Growdon Road are needed for multiple reasons. First, it will allow for more efficient and effective screening of commercial vehicles to avoid congestion and extended wait times resulting from the current configuration. The relocation will help to reduce conflicts between commercial traffic at the existing Growdon Gate and traffic related to the 433rd Airlift Wing's training operations. The mission of the 433rd Airlift Wing is to manage, maintain and train Air Force Reserve personnel to achieve combat readiness, to perform peacetime missions compatible with Air Force Reserve Command training requirements, and perform maintenance of mobilization readiness (USAF 2011a). Relocation of Growdon Gate would reduce commercial traffic in the area, thereby reducing the impact on the 433rd Airlift Wing's mission critical operations.

Additionally, the upgrade and relocation of Growdon Gate is needed to meet Unified Facilities Criteria (UFC) and to provide efficient application of force protection measures and provide an increased level of security. In May 2005, UFC 4-022-01, *Security Engineering: Entry Control Facilities/Access Control Point*, was released. The UFC identifies design features necessary to ensure that infrastructure constructed today will have the flexibility to support future technologies, a changing threat environment, and changes in operation (SDDCTEA 2009). UFC is a program initiated by the DoD and the military services to unify all technical criteria and standards pertaining to planning, design, construction, operation and maintenance of real property facilities (WBDG 2011).

A secondary purpose of this project is for JBSA-Lackland to acquire approximately 232 acres of City- and privately-owned land just north of JBSA-Lackland Main Base. Approximately 80 acres of this property is needed immediately to accommodate the relocation of Growdon Gate and Growdon Road. The remaining property would be used to accommodate expansion planning needs (e.g. relocation of leaseback facilities or other components of the "Go West" Plan, if cleared under NEPA and implemented).

1.2 LOCATION OF THE PROPOSED ACTION

JBSA-Lackland encompasses approximately 8,800 acres and is located in Bexar County, Texas, 12.8 miles southwest of downtown San Antonio (see Figure 1-1). JBSA-Lackland is divided into three (3) distinct areas: 1) the Kelly Field Annex (consisting of approximately 3,600 acres), 2) the Main Base (consisting of approximately 1,200 acres), and 3) the Lackland Training Annex (LTA) (consisting of approximately 4,000 acres). JBSA-Lackland acquired portions of Kelly AFB in 2001 as part of Kelly AFB's Base Realignment and Closure requirements.

JBSA-Lackland has identified approximately 232 acres located adjacent to the installation and the northwest corner of Kelly Field Annex which could be used to mitigate the above stated needs and could be used for both existing and new missions. The 232 acres are owned by the City of San Antonio and private individuals (see Figure 1-2).

1.3 DECISION TO BE MADE

This analysis evaluates the potential environmental consequences from the acquisition of land, the relocation of the CVIA/ECP including construction, demolition, and operation, and the relocation and demolition of a portion of Growdon Road. Based on this analysis, JBSA-Lackland will determine whether to allow implementation of the Proposed Action or take no action ("No-action Alternative"). As required by the National Environmental Policy Act (NEPA) and its implementing regulations, preparation of an environmental document must precede final decisions regarding the proposed project, and must be available to inform decision-makers of the potential environmental impacts of selecting the Proposed Action or the No-action Alternative.

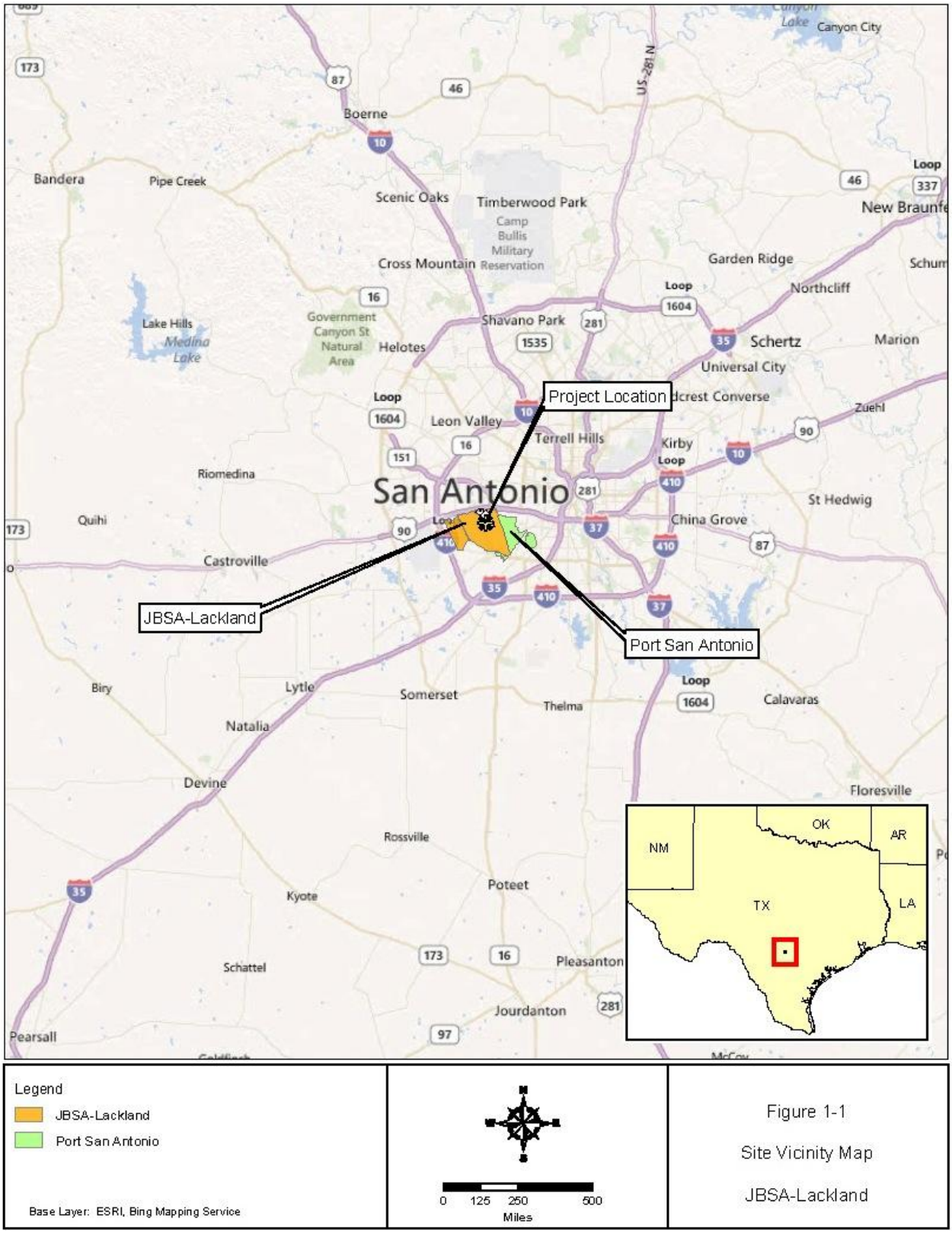
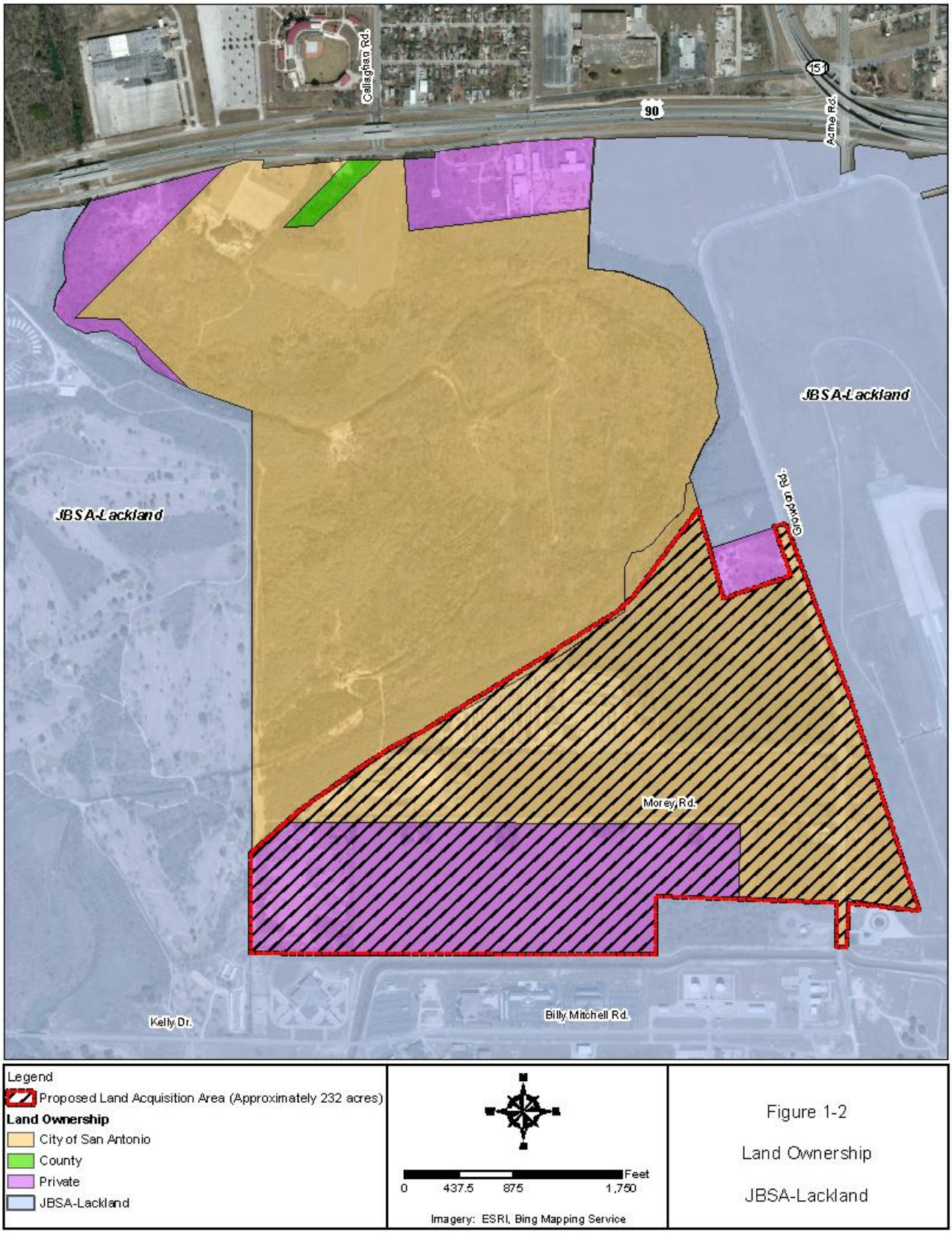


Figure 1-1

Site Vicinity Map

JBSA-Lackland


Gallaghan Rd.
90
151
Acme Rd.
JBSA-Lackland
JBSA-Lackland
Growdon Rd.
Morey Rd.
Kelly Dr.
Billy Mitchell Rd.
Legend
Proposed Land Acquisition Area (Approximately 232 acres)
Land Ownership
City of San Antonio
County
Private
JBSA-Lackland
Feet
0
437.5
875
1,750
Imagery: ESRI, Bing Mapping Service
Figure 1-2
Land Ownership
JBSA-Lackland

1.4 SCOPE OF THE ENVIRONMENTAL REVIEW

The NEPA requires Federal agencies to consider environmental consequences in their decision-making process. The President's Council on Environmental Quality (CEQ) has issued regulations to implement NEPA that include provisions for both the content and procedural aspects of the required environmental impact analysis. The Air Force *Environmental Impact Analysis Process* (EIAP) is accomplished through adherence to the procedures set forth in CEQ regulations (40 Code of Federal Regulations [CFR] Sections 1500-1508), DoD Instruction 4715.9 *Environmental Planning and Analysis*, and 32 CFR Part 989 (Environmental Impact Analysis Process), 15 July 1999, as amended. These Federal regulations establish both the administrative process and substantive scope of the environmental impact evaluation designed to ensure that deciding authorities have a proper understanding of the potential environmental consequences of a contemplated course of action.

This EA identifies, describes and evaluates the potential environmental impacts that are associated with the upgrade and relocation of JBSA-Lackland's primary commercial ECP and the acquisition of additional contiguous property for potential future development. The potential environmental effects of taking no action are also described. As appropriate, the affected environment and environmental consequences of the action may be described in terms of a regional overview or a site-specific description. Fiscal year (FY) 2010 or the most current information is used as the baseline condition.

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued by the President on 11 February 1994. In the EO, the President instructed each Federal agency to make "achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." 'Adverse' is defined by the Federal Interagency Working Group on Environmental Justice as "having a deleterious effect on human health or the environment that is significant, unacceptable, or above generally accepted norms." This EA will determine if the proposed or alternative actions would result in adverse effects to low-income or minority populations.

Through Intergovernmental and Interagency Coordination for Environmental Planning (IICEP), requests have been made for information on planned actions in the surrounding community. If any concurrent actions are identified during the EA process, they will be examined only in the context of potential cumulative impacts. A cumulative impact, as defined by the CEQ (40 CFR 1508.7), is the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which 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."

1.4.1 Resource Areas Addressed in Detail

Resource areas that could be affected by the Proposed Action or No-action Alternative have been selected to allow for a comprehensive analysis of potential impacts. The intent of this EA is to

meet the NEPA requirements established in 32 CFR Part 989. The following resource areas are discussed in detail in the EA:

- Noise
- Land Use
- Air Quality
- Earth Resources
- Biological Resources
- Cultural and Traditional Resources
- Water Resources
- Hazardous Materials and Wastes
- Utilities and Infrastructure
- Transportation
- Socioeconomic Resources
- Environmental Justice

1.4.2 Resource Topics Eliminated from Detailed Analysis

All resources would be affected by the proposed or alternative actions; therefore, no resources have been eliminated from further study in this document.

1.5 APPLICABLE REGULATORY REQUIREMENTS

This EA is part of the EIAP for the proposed project and was prepared in compliance with NEPA regulations. The following paragraphs describe the laws and regulations that apply or may apply to the proposed and alternative actions.

1.5.1 Interagency and Intergovernmental Coordination

Federal, state, and local agencies with jurisdiction that could be affected by the proposed or alternative actions have been notified and consulted. A complete listing of the agencies consulted may be found in Chapter 6 and IICEP correspondence and responses are included in Appendix A. This coordination fulfills the Interagency Coordination Act and EO 12372 *Intergovernmental Review of Federal Programs* (14 July 1982), which requires Federal agencies to cooperate with and consider state and local views in implementing a Federal proposal. EO 12372 is implemented by the Air Force in accordance with Air Force Instruction (AFI) 32-7060, *Interagency and Intergovernmental Coordination for Environmental Planning*.

1.5.2 Permits

All underground utility locations would need to be identified prior to any construction activities. The contractor would also ensure that a storm water pollution prevention plan (SWPPP) was completed and approved before initiating construction activities. During the impacts analysis process, other permits determined to be necessary will be added upon identification .

1.5.3 Other Regulatory Requirements

The EA considers all applicable laws and regulations, including but not limited to the following:

- *Clean Air Act*, as amended (CAA) (42 United States Code [USC] § 7401 *et seq.*)
- EO 11990, *Protection of Wetlands (*24 May *1977*)
- *Clean Water Act* (CWA) (33 USC § 1251 *et seq.*), including Section 404 (33 USC § 1344)

- Section 10 of the *Rivers and Harbors Act of 1899* (33 USC § 403)
- EO 11988, *Floodplain Management* (24 May 1977)
- *Endangered Species Act* (ESA) (16 USC § 1531-1544)
- *Pollution Prevention Act* (42 USC §§ 13101-13102 *et seq.*)
- *Archaeological Resources Protection Act* (ARPA) (16 USC § 470aa-mm)
- *National Historic Preservation Act* (NHPA) (16 USC § 470 *et seq.*)
- *American Indian Religious Freedom Act* (AIRFA) (42 USC § 1996)
- *Protection of Historic Properties* (36 CFR Part 800)
- *Native American Graves Protection and Repatriation Act of 1991* (25 USC § 3001 *et seq.*)
- *Resource Conservation and Recovery Act* (RCRA) (42 USC § 6901 *et seq.*)
- *Toxic Substance Control Act* (TSCA) (15 USC § 2601 *et seq.*)
- *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) (42 USC § 9610)
- *Superfund Amendments and Reauthorization Act* (42 USC § 9601 *et seq.*)
- *Emergency Planning and Community Right-to-Know Act* (42 USC § 11000 *et seq.*)
- EO 12580, *Superfund Implementation* (23 January 1987)
- *Occupation Safety and Health Act* (29 USC 651 *et seq.*)
- *Energy Independence and Security Act* (Public Law 110-140)
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (11 February 1994)

1.6 INTRODUCTION TO THE ORGANIZATION OF THE DOCUMENT

This EA is organized into seven chapters.

Chapter 1 Contains a statement of the purpose of and need for action, the location of the proposed and alternative actions, identification of the decision to be made, a summary of the scope of the environmental review, identification of applicable regulatory requirements, and a description of the organization of the document.

Chapter 2 Describes the history of the formulation of alternatives, identifies alternatives eliminated from further consideration, provides a detailed description of the Proposed Action, describes the No-action Alternative, summarizes other actions announced for the project sites and the surrounding community, provides a comparison matrix of environmental effects for all alternatives, identifies the preferred alternative, and describes measures to minimize or reduce impacts.

Chapter 3 Contains a general description of the current conditions of the resources that could potentially be affected by the proposed or alternative actions.

Chapter 4 Provides an analysis of the environmental consequences of the proposed and alternative actions.

Chapter 5 Lists preparers of this document.

Chapter 6 Lists persons and agencies consulted in the preparation of this EA.

Chapter 7 Lists source documents relevant to the preparation of this EA.

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CHAPTER 2
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This chapter has eight parts: a brief history of the formulation of alternatives, identification of alternatives eliminated from further consideration, a description of the Proposed Action, a description of the No-action Alternative, identification of other proposed actions planned for the communities surrounding the proposed training areas, a summary of environmental impacts of all alternatives, identification of the preferred alternative, and a table of measures to minimize impacts.

2.1 HISTORY OF THE FORMULATION OF ALTERNATIVES

BRAC 1995 realigned approximately half of Kelly AFB to JBSA-Lackland and transferred the remainder to a local redevelopment authority for the City of San Antonio. The local redevelopment authority is Port Authority of San Antonio (originally the Greater Kelly Development Authority) and the development area is Port San Antonio (originally known as KellyUSA). Many units originally hosted by Kelly AFB were not moved by BRAC 1995 and remained on PSA as government-maintained facilities referred to as "leaseback" facilities.

The situation has been compounded as a result of BRAC 2005, as more Air Force missions have been moved into PSA leaseback facilities because JBSA-Lackland has outgrown its existing buildings and infrastructure. The Air Force occupies 39 buildings with over 2.0 million sf of space at PSA. The Air Force is unable to move missions onto JBSA-Lackland proper because of the lack of suitable AT/FP compliant buildings/facilities and because of a shortage of land for new construction.

Initial activities, such as the relocation of the CVIA/ECP, must be taken in order to secure the opportunity to implement the "Go West" Plan. In addition to meeting UFC and reducing the impact on the 433rd's training operations, relocating the CVIA/ECP will allow for more efficient and effective screening of commercial vehicles to avoid congestion and extended wait times resulting from the current configuration. However, JBSA-Lackland will have to acquire additional property in order to relocate the CVIA/ECP.

The Air Force seeks to acquire approximately 232 acres of land which includes a city impound lot, a portion of City of San Antonio (COSA) property south of Leon Creek, and four private properties. Several scenarios for gate relocation were considered with all but one eliminated due to a failure of meeting the necessary criteria. The alternatives eliminated from further consideration are discussed in more detail in Section 2.3.

2.2 SELECTION CRITERIA FOR ALTERNATIVES

To meet requirements, the new gate and road would require at least 80 acres of land and the chosen alternative must:

- Be located on JBSA-Lackland Main Base to serve as commercial traffic entry point. (LTA has its own commercial gate.)
- Comply with AT/FP requirements (AT/FP requirements dictates that all commercial

traffic enters through one gate.)

- Meet UFC
- Provide efficient application of force protection measures
- Provide an increased level of security
- Allow for more efficient and effective screening of commercial vehicles to avoid congestion
- Not be located in a floodplain
- Be designed to allow tractor-trailer rigs to easily access and maneuver within the gate area
- Allow sufficient traffic queuing area to keep commercial traffic off the main thoroughfare
- Provide areas for vehicle inspection
- Have at least 500 feet of clearance between the vehicles and the gate area boundary to serve as an explosive quantity distance arc that would protect personnel against possible serious injury or equipment destruction from possible fires or explosions
- Not impact mission critical facilities or operations

2.3 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

JBSA-Lackland considered two possible alternatives in addition to the Proposed Action.

- **B-52 Gate Alternative**
  Relocate the CVIA/ECP to the location of the old Kelly AFB B-52 Gate. This alternative was eliminated because the area is located within the inhabited building line of the aircraft munitions arm/de-arm pad. The munitions arming pad would have to be moved north and 250 acres of land would be needed for the new arming pad site. Sufficient open space is not currently available to support the munitions arming pad. Construction of the munitions arming pad on the 232 acres proposed for acquisition under the Proposed Action would result in a portion of the pad extending off of the acquired land into a floodplain. Therefore, this alternative was eliminated due to AT/FP requirements and limitations for construction in a floodplain.

- **Selfridge West Gate Alternative**
  The other action alternative would be to relocate the CVIA/ECP to the site of the current Selfridge West gate. The current Selfridge West gate area is heavily developed, and constructing an 80-acre commercial gate on this site is not possible unless existing mission-critical facilities located on the site are relocated. Current facilities at this site do not meet AT/FP setback distances; therefore, approximately 120 acres would be needed to house the new facilities. Due to the limited open space on JBSA-Lackland, there is no site available for the relocation of these mission-critical facilities. Therefore, this alternative was eliminated because of its impact on mission critical operations.

2.4 DETAILED DESCRIPTION OF THE PROPOSED ACTION

- **Relocate Growdon Road and CVIA/ECP on a new site west of the current location**
  The Proposed Action would involve the acquisition of approximately 232 acres of land located northwest of the existing Growdon Road CVIA/ECP. A new CVIA/ECP would be constructed by the Air Force and operated on 80 acres on the western edge of the property, and the existing Growdon Road CVIA/ECP would be demolished as part of the project. Demolition would include Building 1213 and associated canopy, Building 1217, and the Vehicle Inspection Canopy for a total of approximately 4,230 sf. The Air Force would construct a new 9,000 foot long, road from US Highway 90 at the Callaghan overpass, and the new road would be routed along the eastern edge of the Leon Creek floodplain buffer zone around to the new gate location (See Figure 2-1). The new road would consist of two lanes in each direction, and a portion of this road would be concurrent with the existing Growdon Road. The northern and southern portions of the proposed road would be constructed first, and then any planned upgrades to the portion of Growdon Road that intersects with the new road would be initiated. The proposed road would traverse property that is not available for acquisition; therefore, the Air Force would acquire an easement from the COSA to accommodate that section of the new road. Approximately 249,033 sf of Growdon Road from the existing CVIA/ECP to the location of the new Growdon Road concurrence would be demolished; however, the Air Force would maintain access to any residences remaining along the existing Growdon Road.

  The remaining 152 acres of acquired land would be used to accommodate expansion planning needs (e.g. relocation of leaseback facilities or other components of the "Go West" Plan, if cleared under NEPA and implemented). These relocation activities would be assessed under a future NEPA document. The new CVIA/ECP would support approximately 3,500 inbound vehicles daily and approximately 3,600 outbound vehicles daily. From the beginning of construction to the end of demolition, the projected timetable is two years. At the earliest, construction would begin in FY 2016 and demolition would begin in the second half of FY 2017. Construction of the proposed CVIA/ECP would occur before demolition of the existing gate, in order to reduce impacts to traffic flow at the existing gate.

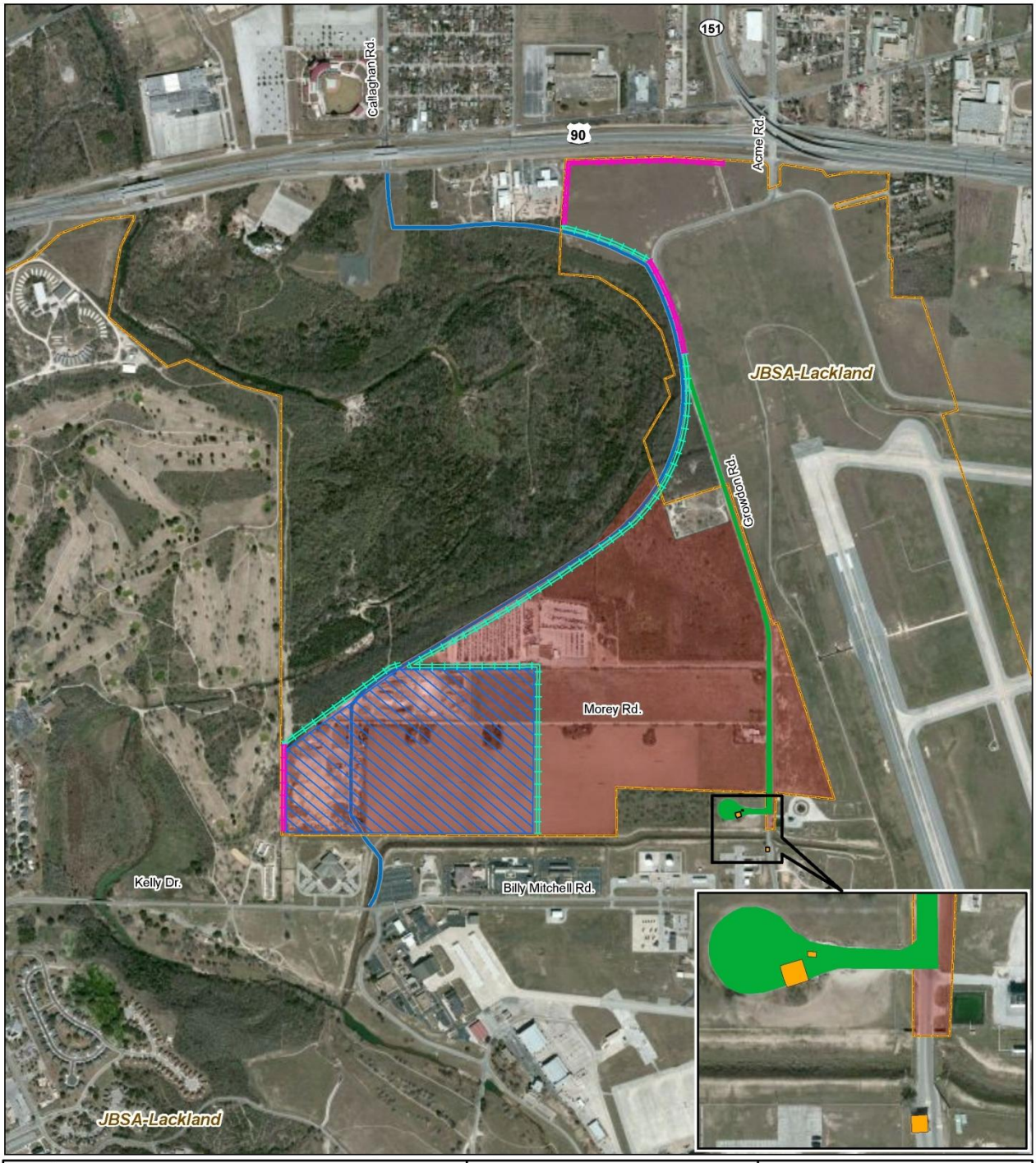

Figure 2-1

Proposed Action

JBSA-Lackland

2.5 DESCRIPTION OF THE NO-ACTION ALTERNATIVE

The No-action Alternative would involve the continued use of the existing Growdon Road CVIA/ECP. If the CVIA/ECP is not relocated, the 433rd Airlift Wing's mission-critical operations would continue to be impacted by commercial traffic through Growdon Road. Additionally, JBSA-Lackland would not acquire any additional acreage, resulting in assets and personnel remaining located in leaseback facilities at PSA delaying implementation of the "Go West" Plan. Use of the existing Growdon Road CVIA/ECP would also result in continued congestion and wait times for commercial vehicles limiting the efficiency and security of that ECP.

2.6 OTHER ACTIONS ANNOUNCED FOR THE PROJECT AREAS AND SURROUNDING COMMUNITY

This EA also considers the direct and indirect effects of cumulative impacts (40 CFR 1508.7) and concurrent actions (40 CFR 1508.25[1]). A cumulative impact, as defined by the CEQ (40 CFR 1508.7), is the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which 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."

Other actions announced for JBSA-Lackland and the surrounding area that could occur during the same time period as the proposed or alternative actions are identified below.

- **San Antonio Water System (SAWS) Western Watershed Sewer Relief Line C Environmental Assessment**
  SAWS proposes to construct approximately 22,100 linear feet of a new 54-, 84-, and 90-inch diameter gravity sewer line extending through JBSA-Lackland between US Highway 90 and SW Military Drive, to include the abandonment of the existing 54-inch wastewater pipeline and its 50-foot wide easement. A portion of the line would transverse the CVIA/ECP gate site identified in the Proposed Action; however, the new SAWS sewer relief line would not receive wastewater from the existing CVIA/ECP, nor the new CVIA/ECP. The new sewer relief line would be installed in a new easement with enough clearance for the existing line to minimize the possibility of collapse or further damage to the existing sewer during the construction phase. A new 75-foot wide permanent utility easement and a 25-foot wide temporary construction easement are recommended for the proposed Western Watershed Sewer Relief Line C. The temporary easement would remain in-place only during the construction phase of the installation to allow additional space for construction-related activities. The utility easement would continue to provide ingress and egress for conducting maintenance on the sanitary sewer relief line after the conclusion of construction. An EA is currently being prepared for this project.

- **Re-vitalize Military Working Dog Campus**
  JBSA-Lackland proposes to revitalize the Military Working Dog (MWD) Campus which consists of twelve projects intended to increase the effectiveness of the MWD mission. This revitalization would serve to correct deficiencies in the existing campus and allow for future expansion of the MWD mission as determined by increases in world-wide security threats against the US Armed Forces and its allies. The Proposed Action includes the construction of a new central latrine partitioned for male and female MWD staff and students; construction of a MWD headquarters building that would include classroom training space, storage space, office space, other administrative areas, and a parking area suitable for 180 vehicles. The project also proposes the construction of four MWD training labs on JBSA-Lackland Main Base used for specialized dog training and evaluation; a Hospital Recovery Kennel; a vehicle washrack on JBSA-Lackland Main Base; a Drug Vehicle Training Lot; a MWD lab on the LTA; a parking lot along Craw Avenue; and a grooming station on JBSA-Lackland Main Base and on LTA. Additionally, the project involves moving the entire MWD campus outside of the floodplain on the LTA. An EA is currently being prepared for this project.

- **Ambulatory Care Center**
  JBSA-Lackland is constructing an Ambulatory Care Center (ACC) complex and associated infrastructure at the San Antonio Military Medical Center – South Campus location and will demolish the existing Wilford Hall Medical Center (WHMC) complex and associated infrastructure. The ACC will have the capacity to provide care for more than 57,000 patients annually, and there will be no change in the number of civilian or military personnel assigned to JBSA-Lackland. The construction of the ACC is being implemented in four phases over a period of approximately 4 years (2010 to 2014), and will ultimately replace the WHMC complex. An EA has been prepared for this project and a Finding of No Significant Impact (FONSI) has been signed.

- **Installation Development at JBSA-Lackland**
  JBSA-Lackland is implementing the requirements of the BRAC program and performing other installation development activities based on the current JBSA-Lackland Capital Improvements Program (CIP) to upgrade, replace, or supplement facilities. According to the EA prepared for this action, the implementation of the BRAC program consisted of the construction of 486,800 sf of new space and the construction of 100,000 sf of pavement. 30,700 sf of facilities were planned for demolition, and 323,350 sf of existing space was to be vacated. The components of the CIP assessed in the EA include the construction of 3,275,922 sf of new space and the construction or upgrade of 1,141,970 sf of pavement. Approximately 824,332 sf of facilities were planned for demolition and 174,100 sf of existing space would be vacated. Approximately 365,120 sf of pavement was also planned for demolition. An EA was prepared for this action in 2006 and a FONSI was signed. Since the EA was prepared, several of the BRAC/CIP projects in the vicinity of the Growdon Gate/Road Relocation Proposed Action have been completed or cancelled. Additionally, construction of the Headquarters Administrative Center is located over a mile away from the project site and is in the long-range base plan (beyond five years). Currently,

administrative functions are housed in Building 171 at Port San Antonio and operate under a lease with the Port. It is unknown how long the Port will keep renewing the lease and whether future BRAC recommendations could accelerate or decelerate movement of these organizations off the Port. Therefore, this project is not considered reasonably foreseeable. One project, construction/replacement of two elevated bridges at Leon Creek, is not yet programmed due to lack of funding. None of the Installation Development projects nearest the Growdon Gate/Road Relocation would be expected to occur during the gate construction or road relocation project. As a result, none of the projects analyzed in the Installation Development EA are being carried forward for analysis for cumulative effects in this EA.

- **Defense Language Institute English Language Center (DLIELC) and Inter-American Air Forces Academy (IAAFA) Area Development Plan (ADP)**
  JBSA-Lackland plans to implement the ADP for the DLIELC and IAAFA academic campus. Implementing the ADP will include the construction of new facilities and infrastructure, facility demolition, the installation of temporary modular trailers, and an increase in student and administrative population. The new facilities and academic campus footprint will accommodate approximately 4,600 students and 1,675 administrative staff, which is an increase of 3,705 students and 1,096 staff upon full implementation. The proposed construction and demolition began in 2012 and will occur in phases over the next 20 years until 2032. Temporary facilities will be installed immediately and removed upon completion of the facilities that will permanently accommodate the additional students and staff. An EA has been prepared for this project and the FONSI was signed on 28 May 2012.

- **36th Street Project – US Highway 90 to Growdon Road**
  Between Fall of 2010 and mid 2012 the City of San Antonio extended 36th Street as a four-lane divided road from the intersection of Growdon Road and Frank Luke Road south to Billy Mitchell Boulevard. In mid-late 2012, the City of San Antonio will continue construction on the northern section of 36th Street from Growdon Road north to US Highway 90. The entire project is approximately 2,300 linear feet and will include curbs, sidewalks, necessary drainage and utility relocation (Port San Antonio 2012). Phase IIIb is currently under design and construction is expected to start in the summer of 2013 with expected completion by the end of 2013 (Raymond 2012). Once completed, the extension will increase connectivity to Port San Antonio and will open 150 acres to the development of new facilities for Port San Antonio's aerospace and air cargo customers (Port San Antonio 2012). An EA has been prepared for this project and a FONSI has been signed.

For this analysis, the actions identified above are addressed from a cumulative perspective and are analyzed in Chapter 4. Given that the actions above would be funded separately from the Proposed Action and implementation would not be dependent upon one another, the actions would not be incorporated into the baseline. All of the actions identified above have been, or are

in the process of being evaluated under separate NEPA cover and were incorporated in this analysis for their potential cumulative effect.

2.7 COMPARISON OF ENVIRONMENTAL EFFECTS OF ALL ALTERNATIVES

Table 2-1 summarizes the impacts of the Proposed Action and the No-action Alternative. This table provides a comparison of the effects of the alternatives to assist in the decision-making process.

2.8 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

The Air Force has evaluated each alternative to identify which one best complies with the mission, meets the operational goals of JBSA-Lackland, and accomplishes the purpose and need of the action. By relocating the existing CVIA/ECP and Growdon Road, the Proposed Action would provide the force protection measures specified in UFC 4-022-01, as well as more efficient and effective screening of commercial vehicles. The Proposed Action would also allow for accommodation of future JBSA-Lackland expansion through the acquisition of 232-acres of City- and privately-owned land. The No-action Alternative does not meet the purpose and need of the action. Therefore, the preferred alternative is the Proposed Action. Section 2.3 describes other alternatives eliminated from further consideration. The B-52 Gate Alternative would have resulted in impacts to Lower Leon Creek and the floodplain. The Selfridge West Gate Alternative would have resulted in impacts to mission critical operations. The Preferred Alternative avoids those direct impacts while meeting the mission, operational goals of JBSA-Lackland, and the purpose and need of the action.

2.9 MEASURES TO MINIMIZE IMPACTS

Analysis of environmental impacts has determined that some mitigation measures would be necessary to prevent significant adverse effects. Additionally, best management practices (BMPs) are proposed to help minimize impacts. Table 2-2 presents a summary of these mitigation measures and BMPs proposed under the Proposed Action and the No-action Alternative.

Table 2-1 Summary of Environmental Impacts

Resource	Proposed Action Relocate Growdon Road and Gate	No-action Alternative
Noise	• Short-term increase in noise levels from construction and demolition noise. • Construction/Demolition and traffic noise levels within or below baseline conditions at potential noise-sensitive receptors. • Long-term decrease in traffic engine noise due to reduced engine idling time. • No long-term increase in noise levels.	• No change from baseline conditions.
Land Use	• Land use designation change that is compatible with the existing land use. • Long-term, minor reduction in land available for farming. • Long-term, minor reduction in prime farmland available for agricultural use. • No conflict with existing land uses or master planning efforts undertaken by the installation or the COSA.	• No change from baseline conditions.
Air Quality	• No increase in long-term emissions. • Temporary increase in emissions of criteria pollutants. These minor emissions would be eliminated after the activity is completed. • Long-term decrease in engine emissions due to reduced engine idling time. • All emissions would fall well below the 10 percent level that would be considered regionally significant by the United States Environmental Protection Agency. • Temporary increase in emissions would not contribute significantly to climate change, but any emission of greenhouse gases represents an incremental increase in global greenhouse gas concentrations.	• No change from baseline air emissions.
Earth Resources	• Short-term increase in soil disturbance and dust generated, limited to those areas on or near construction operations and occurring only during the duration of construction. • Long-term, minor reduction in prime farmland available for agricultural use. • Areas where the existing Growdon Road is removed would be susceptible to increased erosion, but erosion would be minimized through use of best management practices. • No change to lithology, stratigraphy, geological structures, soil composition, structure, or function.	• No change from baseline conditions.
Biological Resources	• No adverse impacts to vegetation. • No anticipated introduction of invasive species to areas where they do not presently exist. • Short-term noise impacts on wildlife but no adverse effects to animals living in or adjacent to the project area. • Indirect, minor impacts to wetlands associated with riparian habitat along Leon Creek • No impacts to federally-listed endangered bird species. • Potential impacts from noise and disturbance from construction could cause nesting migratory birds to abandon their nests; however, implementation of mitigation techniques and best management practices would minimize potential loss of migratory bird nests during construction.	• No change from baseline conditions.
Cultural and Traditional Resources	• The Proposed Action would have no effect on archaeological resources or historic properties.	• No change from baseline conditions.
Water Resources	• No anticipated impacts to groundwater. • No long-term impacts on surface water quality and quantity at the project location or downstream surface water bodies. • Temporary potential for erosion and increased sediment runoff into Leon Creek would be managed with best management practices. • No adverse health hazard conditions, or violation of established laws or regulations that have been adopted to protect or manage water resources in the area • No major alterations to drainage patterns or flood carrying capacities of water courses.	• No change from baseline conditions for groundwater, surface water, or floodplains.
Hazardous Materials and Wastes	• Asbestos and lead-based paint surveys required prior to demolition of buildings. • No collection, storage, or improper disposal of hazardous substances, including asbestos. • The potential to encounter previously unidentified lead-based paint (other than the buildings on JBSA-Lackland that are scheduled for demolition) is minimal. • Long-term beneficial impacts from removal of pesticide contaminated soils, if found. • No hazardous wastes generated. • No impacts to or from Environmental Restoration Program sites.	• No change from baseline conditions.

Table 2-1 Summary of Environmental Impacts (Continued)

Resource	Proposed Action Relocate Growdon Road and Gate	No-action Alternative
Utilities and Infrastructure	• No change in electrical or natural gas demand. • Upgrades to electrical infrastructure. • Increase in solid, non-hazardous waste generated during from demolition and construction; however, sufficient capacity exists at landfill to accommodate the increase. • No change to the volume of annual potable water consumed or wastewater generated. • Expansion of some potable water and wastewater distribution systems during the relocation of the Growdon Road CVIA/ECP. • Short-term increases in soil erosion and sediment loadings in storm water runoff would be managed by best management practices. • Long-term increase in storm water runoff due to total increased impervious cover. • Construction of storm sewers in the vicinity of the new CVIA/ECP gate to handle runoff from paved areas. • No security impacts.	• No change from baseline conditions.
Transportation	• Slightly longer delay times and increased utilization at some intersections. • No creation of major traffic hazards or increase in traffic to level of service E or worse.	• Long-term increase in area daily traffic volumes due to future installation development activities, off-installation development, or traffic growth trends • No level of service E or worse on intersections considered for analysis due to traffic increases from installation development.
Socioeconomic Resources	• Benefit from expenditures incurred from the relocation of Growdon Gate and Growdon Road. • No change to long-term employment rates or local business function.	• No change from baseline conditions.
Environmental Justice	• No disproportionate and adverse impacts to minority or low-income populations.	• No change from baseline conditions.

Table 2-2 Summary of Measures to Minimize Impacts

Resource	Measures to Minimize or Reduce Impacts and BMPs
Noise	• No mitigation is proposed. BMPs to reduce construction-associated noise and disturbances include equipping noise-generating heavy equipment with the manufacturer's standard noise control devices (mufflers, baffling, and/or engine enclosures), properly operating and maintained equipment, and reducing occupational exposure by requiring workers to wear appropriate hearing protection. Additionally, construction activities would be limited to between 0700 and 1900 hours.
Land Use	• No mitigation or BMPs are proposed.
Air Quality	• No mitigation is proposed. BMPs would include watering the disturbed area of the construction, covering dirt and aggregate trucks and/or piles, prevention of dirt carryover to paved roads, the use of erosion barriers and wind breaks, and the use of low sulfur and bio-diesel fuel in construction/transport vehicles.
Earth Resources	• No mitigation is proposed. Construction/demolition activities would include site-specific sediment and erosion control plans with BMPs to prevent soil disturbance, capture and contain loose soil, and slow the movement of storm water during heavy rains. Fugitive dust from construction and demolition activities would be minimized by watering of the soil, and areas where the existing Growdon Road is removed would be re-vegetated to prevent erosion.
Biological Resources	• Road construction clearing activities would be conducted during the non-breeding season for most migratory birds (August through January) to ensure compliance with the Migratory Bird Treaty Act. This mitigation measure would be included in the Proposed Action to reduce the potential adverse impacts on biological resources, especially protected species. Standard construction BMPs (e.g., rock filter dams/silt fences along the west edge of the right-of-way, drip pans under construction vehicles, hazardous waste/spill response plan, daily collection of human trash, portable toilets) for runoff control and hazardous material spill control and clean up would also be implemented to prevent adverse impacts to wildlife habitat and waterways.
Cultural and Traditional Resources	• No mitigation or BMPs are proposed.
Water Resources	• No mitigation measures are proposed. The Storm Water Pollution Prevention Plan (SWPPP) would include the implementation of appropriate BMPs, such as silt fencing and rock filter dams, during construction activities. Additionally, any Federal Emergency Management Agency stipulated permit conditions would be followed during Proposed Action activities.
Hazardous Materials and Wastes	• No mitigation or BMPs are proposed.
Utilities and Infrastructure	• No mitigation is proposed. To minimize potential for increased sediment loading of drainage areas and downstream surface waterbodies, a SWPPP would be implemented that would include appropriate BMPs, such as use of silt fencing and rock filter dams during construction activities. All solid wastes generated during construction and operation phases would be disposed of properly.
Transportation	• No mitigation is proposed. Some potential may exist for improvement of level of service at other gates if existing or future classes of traffic (e.g. commercial truck traffic) are redirected to the proposed Growdon Road Commercial Vehicle Inspection Area and Entry Control Point.
Socioeconomic Resources	• No mitigation or BMPs are proposed.
Environmental Justice	• No mitigation is proposed. BMPs to reduce noise impacts would include utilization of standard noise control devices on equipment and limitation of hours of construction. Additionally, noise level reduction properties of building's construction materials would serve to lessen noise impacts.

Notes:
BMP – Best Management Practices SWPPP – Storm Water Pollution Prevention Plan

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CHAPTER 3
AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter describes the current conditions of the environmental resources, either man-made or natural, that would be affected by implementation of the Proposed Action or No-action Alternative. Section 3.3 focuses on the conditions at the proposed project site and surrounding area. The baseline conditions presented in this chapter are described to the level of detail necessary to support analysis of potential impacts presented in Chapter 4, Environmental Consequences.

3.2 INSTALLATION LOCATION, HISTORY, AND CURRENT MISSION

JBSA-Lackland is the United States Air Force's only site for enlisted Basic Military Training, and also offers professional, technical skills, and English language training for members of the U.S. Air Force, other military services, government agencies, and allies. JBSA-Lackland hosts numerous tenants including the Air Reserve Command's 433rd Airlift Wing, the Texas Air National Guard 149th Fighter Wing, the 59th Medical Wing, the Air Force Intelligence, Surveillance and Reconnaissance Agency, and the 67th Network Warfare Wing. JBSA-Lackland is located within the City of San Antonio and unincorporated Bexar County Texas.

In 1942, Lackland AFB began as the San Antonio Aviation Cadet Center (SAACC). An increased demand for Airmen arose during America's mobilization after Pearl Harbor, and aviation cadets quickly mobilized at Kelly Field for pilot, navigator, or bombardier training. To ensure the demand for pilots was met, the SAACC facility received designation as an independent military installation with a preflight school, classification center, station hospital, and several other units (Lackland AFB). Approximately 90,000 candidates for flying training passed through the preflight school before the need diminished. The school was closed in 1945 and the installation's new mission became receiving veterans from the combat theaters and either reassigning them or separating them. In 1946, the mission of the installation changed again when the base was redesignated as the Army Air Force Military Training Center, becoming the sole basic military training mission for the Army Air Force. In 1947, the War Department named the base for Brigadier General Frank D. Lackland. In 2010, in accordance with congressional legislation implementing the recommendations of the 2005 Base Realignment and Closure Commission, Fort Sam Houston, Lackland AFB, Randolph AFB, and the 502d Air Base Wing merged to form Joint Base San Antonio.

Currently, JBSA-Lackland, known as the "Gateway to the Air Force," is home to the 37th Training Wing, which is the largest training wing in the U.S. Air Force. The 37th Training Wing is responsible for four primary training missions which graduates more than 80,000 students annually and provides base operations and support to 45,000 people (Bexar County 2010).

3.3 DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.3.1 Noise

3.3.1.1 Definition of the Resource

Noise is sound that, if loud enough, can induce hearing loss and can be undesirable if it annoys people due to interference with ordinary daily activities, such as communication or sleep. A person's reaction to noise varies according to the duration, type, and characteristics of the source, distance between the source and receiver, receiver's sensitivity, background noise level and time of day.

Sound is a series of vibrations (energy) transmitted through a medium that are perceived by a receiver. Sound varies in intensity and frequency. It is measured by accounting for the energy level represented by the amplitude (volume) and frequency (pitch) of those vibrations and comparing that to a baseline standard. Sound pressure level (SPL) described in decibels (dB) is used to quantify sound intensity. It is a measure of the maximum sound pressure at a given instant and known distance. The dB is a logarithmic unit that expresses the ratio of the SPL to a standard reference level. When using decibels to depict airborne SPLs, zero dB is the threshold of human hearing and exponential increases occur every ten dB. An event that generates 60 dB of sound is ten times louder than one that generates 50 dB.

The Day-Night Average Sound Level (DNL) is one of the most common ways to describe ambient noise exposure over an extended period of time. DNL is the metric recognized by the U.S. government for measuring noise and its impacts on humans (USAF 2010a). It describes a receiver's cumulative noise exposure from all events occurring during a 24-hour period; events occurring between 10:00 p.m. and 7:00 a.m. ("environmental night") are increased by 10 dB to account for greater nighttime sensitivity to noise events. The SPL represented by a given decibel value is usually adjusted to make it more relevant to sound that the human ear hears especially well; for example, an "A-weighted" decibel (dBA) is derived from emphasizing mid-range frequencies to which the human ear responds especially well and de-emphasizing the lower and higher range frequencies.

Federal and local governments have established noise guidelines and regulations for the purpose of protecting citizens from potential hearing damage and from various other adverse physiological, psychological, and social effects associated with noise.

Hearing Loss. The potential for permanent hearing loss arises from direct exposure to noise on a regular, continuing long-term basis to levels about 75 dBA DNL. Hearing loss is not expected in people exposed to 75 dBA DNL or less for eight hours per day, as long as noise exposure over the remaining 16 hours per day is low enough to not substantially contribute to the 24-hour average (USEPA 1974).

Construction Noise. Building construction and demolition work can cause an increase in sound that is well above the ambient level. Table 3-1 lists noise levels associated with the types of construction equipment expected to be utilized during demolition, site preparation, construction, and finishing work associated with the Proposed Action. As shown in Table 3-1 the construction

equipment produces peak SPLs ranging from 75 to 85 dBA at 50 feet (ft) from the source; which decreases by six dBA with every doubling of the distance from the source. It should also be noted that this table includes the level generated, but does not account for the ability of sound to be reflected/absorbed by nearby objects, which could further reduce noise levels.

Table 3-1 Construction Equipment Peak Sound Pressure Levels

Equipment	Generated Noise[1] dBA				
	50 ft	100 ft	200 ft	400 ft	800 ft
Backhoe	78	72	66	60	54
Compactor	83	77	71	65	59
Crane	81	75	69	63	57
Dump Truck	76	70	64	58	52
Excavator	81	75	69	63	57
Front-end Loader	79	73	67	61	55
Grader	85	79	73	67	61
Paver	77	71	65	59	53
Pickup Truck	75	69	63	57	51
Roller	80	74	68	62	56
Scraper	84	78	72	66	60

Source: USDOT 2006
Notes:
[1] Noise from a single source.
dBA - "A-weighted" decibel
ft - feet

Noise Zones

To assist the surrounding communities in land use decisions, the DoD uses decibel noise contours to illustrate the exposure to noise associated with aviation activities. Below is a general definition of these zones (Bexar County 2010):

- Noise Zone I: This area, considered to have minimal noise exposure, includes areas in which DNL is less than 65 dBA and is acceptable for all types of land uses.
- Noise Zone II: This area is considered to have significant noise exposure and is normally unacceptable for noise-sensitive land uses. It consists of an area where the DNL is between 65 and 75 dBA.
- Noise Zone III: This is an area around the source of noise in which the DNL is greater than 75 dBA. This zone is considered an area of severe noise exposure and is deemed unacceptable for noise sensitive activities.

3.3.1.2 Affected Environment

The military noise environment generally consists of three types of noise: transportation noise from aircraft and vehicles, noise from firing at small-arms ranges, and impulsive noise from large-caliber weapons firing and demolition operations. Noise associated with activities at JBSA-Lackland is characteristic of that associated with most Air Force installations with a flying mission. Since JBSA-Lackland is primarily a training base, most operations are conducted during daylight hours and on weekdays.

The subject property is located along the northern boundary of Kelly Annex, where the primary source of noise is military aircraft operations (USAF 2010a). The Proposed Action is located in close proximity to an active runway. The existing Growdon Gate is approximately 1,438 ft from the runway. The proposed CVIA/ECP is approximately 5,128 ft, and the proposed Growdon Road at US Highway 90 is approximately 4,524 from the runway.

JBSA-Lackland controls and schedules missions to keep noise levels low, especially at night, and aircraft maintenance engine run-up locations have been established in areas to minimize noise for the surrounding areas. The Air Force engages in a program of extensive local community outreach to facilitate land use planning to foster the establishment of compatible uses in the vicinity of its installations. The Air Installation Compatible Use Zone (AICUZ) program at JBSA-Lackland is an ongoing process. AICUZ provides guidance to air bases and local communities in planning land uses compatible with airfield operations by describing existing aircraft noise and flight safety zones on and near USAF installations.

Transportation noise in the area is from vehicle use on Growdon Road and consists of passenger vehicles, delivery and fuel trucks, and military vehicles. Passenger vehicles compose most of the vehicles present on base and the surrounding roadways. Construction vehicles associated with a materials staging area on the western edge of the COSA-owned segment of the 232-acre parcel likely generates additional noise in the area; however, this noise is short term and sporadic.

The existing CVIA/ECP located on base is within the 75-79 dB noise contour, and the location for the proposed CVIA/ECP lies within the 65-69 dB noise contour. The 232-acre subject property that would be acquired under the Proposed Action ranges from 65-69 dB to 80+ dB noise contours. Of the 232-acres, 193.2-acres of land are considered to be in Noise Zone II, and 56.5-acres are considered to be Noise Zone III. Figure 3-1 shows the existing noise contours and their relationship to the project site.

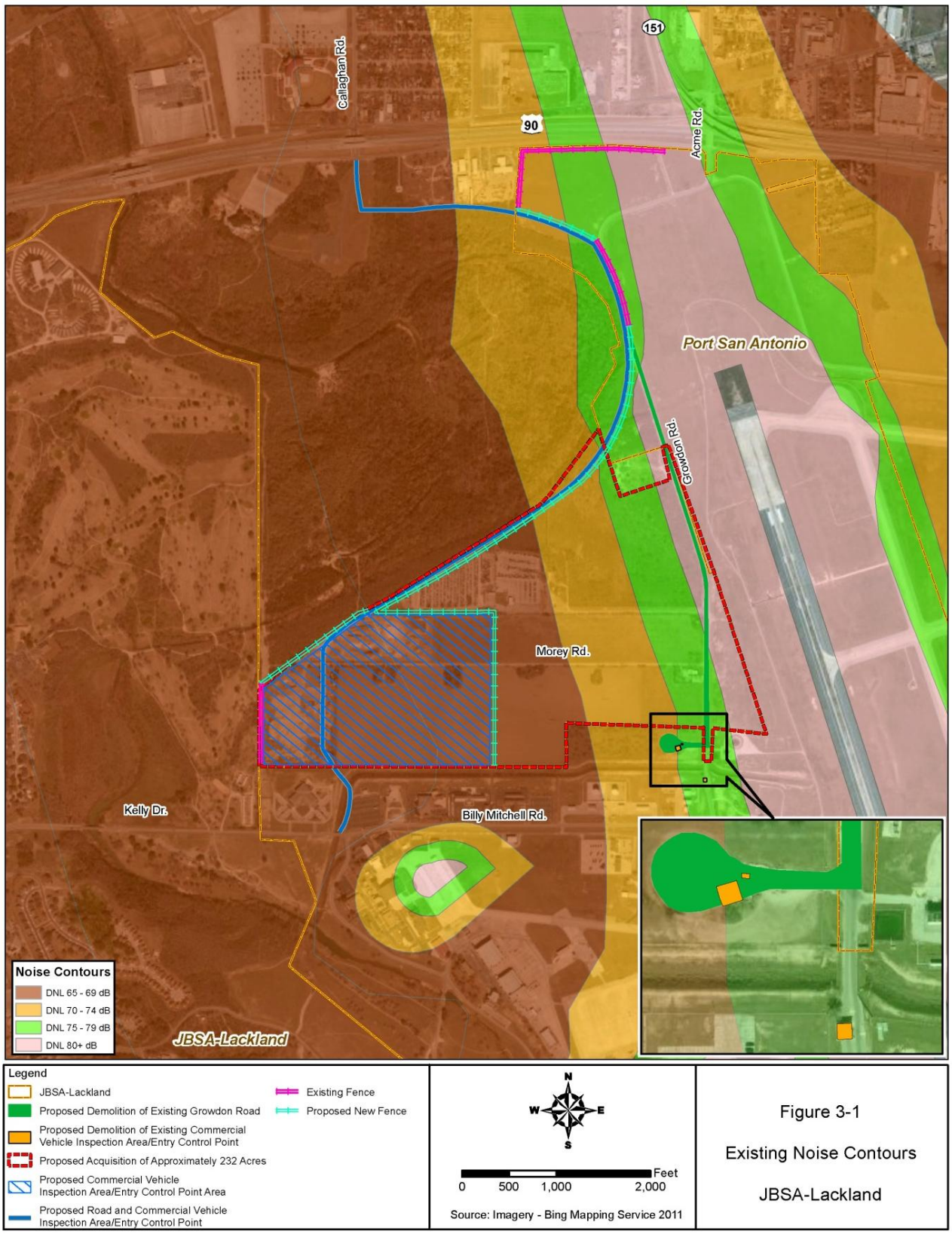

Figure 3-1

Existing Noise Contours

JBSA-Lackland

3.3.1.3 Noise-sensitive Receptors

A noise-sensitive receptor is commonly defined as the occupants of any facility where a state of quietness is a basis for use such as a residence, hospital, or church. Potential noise-sensitive receptors in the proposed project area include the Gateway Hills Golf Course, Camargo Park, Stillman Park, Stacey High School, Lackland Elementary School, Wilford Hall Medical Center, and various residences. The closest potential noise-sensitive receptor to the proposed construction activities are the various residences located 0.08 mile north of the project area. These residences are currently located within the 65-69 dB aircraft noise contour and are also situated approximately 60 feet from the US Highway 90 access road, and approximately 200 feet from Highway 90, where traffic noise is elevated. According to TXDOT, approximately 79,000 vehicles travel daily along US Highway 90 at the north end of the proposed location near Callaghan Road (TXDOT 2008), which results in additional noise generated in the area. The second closest potential noise-sensitive receptor, Gateway Hills Golf Course, is located 0.18 miles from the proposed project site and is within the 65-69 dB noise contour.

There is a single residence located adjacent to the existing Growdon Road that is located approximately 553 feet from the existing Growdon Road, and approximately 340 feet from the proposed Growdon Road. Assuming an average noise level of 80 dBA (at a distance of 49 feet) for medium to heavy trucks travelling less than 35 miles per hour, the residence currently experiences exterior, intermittent noise levels between 68 dBA and 71 dBA from the existing Growdon Road (USDOT 1995). Additionally, the residence is located within the aircraft noise contour of 75-79 dB DNL, so the average daily noise is currently greater than that of the intermittent traffic noise that is experienced at the existing Growdon Road. Noise levels inside the residence are further lessened due to the noise-reducing properties of construction building materials.

3.3.2 Land Use

3.3.2.1 Definition of the Resource

Land use describes the activities that take place in a particular area and generally refers to human modification of land, often for residential or economic purposes. It is important as a means to determine if there is sufficient area for proposed activities and to identify any potential conflicts with local land use plans. The two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. Management plans and zoning regulations determine the type and extent of land use allowable in areas and are often intended to protect environmentally sensitive areas. However, there is no nationally recognized convention or uniform terminology for describing land use categories.

The USDA Natural Resources Conservation Service (NRCS) maintains an inventory of Prime and Unique Farmlands and defines these terms in 7 CFR 657 – *Prime and Unique Farmlands*. Prime farmlands are lands that have the best characteristics for crop production and are available for this use. Food, feed, forage, fiber, and oilseed crops are acceptable uses of prime farmlands. Characteristics for crop production that are considered include soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in cost effective manner.

Unique farmlands are those lands other than prime farmlands that are used to produce specific high value food and fiber crops.

JBSA-Lackland has 14 land use designations: administrative, airfield, airfield runway/taxiway/apron, aircraft operations and maintenance, community-commercial, community-service, housing-accompanied, housing-unaccompanied, industrial, medical, open space, outdoor recreation, training-indoor, and training-outdoor (USAF 2010a). The Air Force's comprehensive planning process utilizes functional analysis, which determines the degree of connectivity among land uses as well as between on- and off-installation land uses, to determine future installation development and facilities planning (USAF 2010a).

3.3.2.2 Affected Environment

This section describes the existing land uses and aesthetics for the on-base property surrounding the existing Growdon Gate and Growdon Road, and the approximately 232-acre off-base subject property that includes the proposed location for the new CVIA/ECP.

The portion of on-installation land that would be affected by the Proposed Action is designated as "Industrial" and "Open Space" land use (USAF 2010a). The existing CVIA/ECP is located in an area designated as "Open Space." The 232 acres of off-base land that would be acquired under the Proposed Action are comprised of multiple parcels that have various uses and owners, and is located adjacent to COSA property, JBSA-Lackland, and the northwest corner of Kelly Field Annex. The 232 acres consists of private property and COSA property. The private property is comprised of mixed-residential, commercial, and agricultural land use classifications. A portion of the private property is currently being used for coastal hay production and operates under a Texas Agricultural and Timber Tax Exemption. Additionally, the majority of the property proposed for acquisition is considered Prime Farmland. These areas are discussed in more detail in Section 3.3.4.

The COSA land is used as a staging area for materials used on municipal projects, a San Antonio Police Department vehicle impound yard, and a drop-off area for bulky items. A portion of the property also remains unused/undeveloped (USAF 2011b). The proposed location for the CVIA/ECP is on COSA property classified as "Open Space".

In addition to the 232 acres proposed for acquisition under the Proposed Action, JBSA-Lackland would obtain an easement from the COSA to construct and use the new section of Growdon Road. The portions of the COSA property where the easement would be located are currently undeveloped land, with the exception of a small portion of the easement that would be located near an access road for oversized household waste disposal area (USAF 2010b). This segment of the COSA property is zoned "Agribusiness Tier," which, according to the West/Southwest Sector Plan, allows for farm homesteads, agricultural uses, and light industrial use (COSA 2011).

Portions of the 232 acres that would be acquired are located within the floodplain. Approximately 1.1 acres of the property is located within the 100-year floodplain and 4.8 acres is located within the 500-year floodplain. Additional information on the floodplain within the footprint of the Proposed Action can be found in Section 3.3.7, Water Resources.

3.3.3 Air Quality

Air Quality Standards and Regulations

The United States Environmental Protection Agency (USEPA) has established primary and secondary National Ambient Air Quality Standards (NAAQS) under the Clean Air Act Amendments of 1990 (CAAA). The CAAA also set emission limits for certain air pollutants from specific sources, set new source performance standards based on best demonstrated technologies, and established national emission standards for hazardous air pollutants.

The CAAA specifies two sets of standards – primary and secondary – for each regulated air pollutant. Primary standards define levels of air quality necessary to protect public health, including the health of sensitive populations such as people with asthma, children, and the elderly. Secondary standards define levels of air quality necessary to protect against decreased visibility and damage to animals, crops, vegetation, and buildings. Federal air quality standards are currently established for six pollutants (known as criteria pollutants), including carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulfur oxides (SO_x, commonly measured as sulfur dioxide – SO_2), lead, particulate matter equal to or less than 10 micrometers in aerodynamic diameter (PM_{10}) and particulate matter equal to or less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$). Although O_3 is considered a criteria pollutant and is measurable in the atmosphere, it is often not considered as a pollutant when reporting emissions from specific sources, because O_3 is not typically emitted directly from most emissions sources. Ozone is formed in the atmosphere from its precursors – nitrogen oxides (NO_x) and volatile organic compounds (VOCs) – that are directly emitted from various sources. Thus, emissions of NO_x and VOCs are commonly reported instead of O_3.

The NAAQS for the six criteria pollutants are shown in Table 3-2. Units of measure for the standards shown in this table are micrograms per cubic meter of air ($\mu g/m^3$), except for ozone, which is in parts per million (ppm).

The USEPA classifies the air quality within an Air Quality Control Region (AQCR) according to whether the region meets federal primary and secondary air quality standards. An AQCR or portion of an AQCR may be classified as attainment, non-attainment, or unclassified with regard to the air quality standards for each of the criteria pollutants. "Attainment" describes a condition in which standards for one or more of the six pollutants are being met in an area. The area is considered an attainment area for only those criteria pollutants for which the NAAQS are being met. "Nonattainment" describes a condition in which standards for one or more of the six pollutants are not being met in an area. "Unclassified" indicates that air quality in the area cannot be classified and the area is treated as attainment. An area may have all three classifications for different criteria pollutants.

Table 3-2 National Ambient Air Quality Standards

Pollutant	Standard Value ($\mu g/m^3$)[a]	Standard Type
CO		
1-hr average	40,000	Primary
8-hr average	10,000	Primary
NO_2		
1-hr average[b]	188	Primary and secondary
Annual average	100	
O_3		
8-hr average (2008 std)[c]	0.075	Primary
8-hr average (1997 std)[d]	0.08	Primary
Lead		
Quarterly average	1.5	Primary
PM_{10}		
24-hr average[e]	150	Primary and secondary
$PM_{2.5}$		
24-hr average[f]	35	Primary
Annual average[g]	15	Primary
SO_2		
1-hour average[h]	196	Primary
3-hr average	1,300	Secondary
24-hr average	365	Primary
Annual average	80	Primary

Notes:

Source: USEPA 2012

[a] Units for ozone are parts per million (ppm).

[b] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed this 188 $\mu g/m^3$.

[c] To attain the 8-hour ozone standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm.

[d] (1) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(2) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(3) USEPA is in the process of reconsidering these standards (set in March 2008).

[e] The 24-hour standard for PM_{10} is not to be exceeded more than once per year.

[f] The $PM_{2.5}$ 24-hour standard is based on the 3-year average 98th percentile of 24-hour concentrations at each population-oriented monitor.

[g] The $PM_{2.5}$ annual standard is based on 3-year average of annual arithmetic means.

[h] Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 197 $\mu g/m^3$.

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The CAAA requires federal actions to conform to any applicable state implementation plan (SIP). USEPA has promulgated regulations implementing this requirement (USEPA 2003a and USEPA 2003b). A SIP must be developed to achieve the NAAQS in non-attainment areas (i.e., areas not currently attaining the NAAQS for any pollutant) or to maintain attainment of the NAAQS in maintenance areas (i.e., areas that were non-attainment areas but are currently attaining that NAAQS). General conformity refers to federal actions other than those conducted according to specified transportation plans. Therefore, the General Conformity rule applies only to non-transportation actions in non-attainment or maintenance areas. Such actions must perform a determination of conformity with the SIP if the emissions resulting from the action exceed applicability thresholds specified for each pollutant and classification of nonattainment. Both

direct emissions from the action itself and indirect emissions that may occur at a different time or place but are an anticipated consequence of the action must be considered. The Transportation Conformity Rule applies to transportation plans, programs, and projects which are developed, funded, or approved by the Federal Highway Administration or Federal Transit Administration. This project will not be developed, funded, or approved by either of these organizations; therefore, the Transportation Conformity Rule does not apply to this project. The applicability thresholds are 100 tons per year (tpy) for criteria pollutants, except for those given in Table 3-3.

Table 3-3 General Conformity Applicability Thresholds

NAAQS Pollutant	Type of Nonattainment or Maintenance Area	Applicability Threshold (tpy)
Ozone	Extreme NAAs	10 tpy VOC or NO_x
	Severe NAAs	25 tpy VOC or NO_x
	Serious NAAs	50 tpy VOC or NO_x
	Marginal or moderate NAAs inside an ozone transport region	50 tpy VOC (100 tpy NO_x)
	Maintenance areas inside an ozone transport region	50 tpy VOC (100 tpy NO_x)
CO	All NAAs	100 tpy
SO_2	All	100 tpy
PM_{10}	Serious NAAs	70 tpy PM_{10}
	Moderate NAAs	100 tpy PM_{10}
	All Maintenance areas	100 tpy
$PM_{2.5}$	All	100 tpy
Lead	All NAAs	25 tpy Pb
	All Maintenance areas	25 tpy Pb

Notes:
CO = carbon monoxide
NAA = nonattainment area
NO_x = nitrogen oxides
O_3 = ozone
Pb = lead
$PM_{2.5}$ = particulate matter equal or less than 2.5 micrometers in diameter
PM_{10} = particulate matter equal or less than 10 micrometers in diameter
SO_2 = sulfur dioxide
tpy = tons per year

A number of actions are exempted from the requirements of general conformity including:

- Actions that do not have emissions increases.
- Actions with an emissions increase that is clearly *de minimis* (21 actions are listed; primarily actions that are administrative, legal, or routine in nature including routine movement of mobile assets, material and personnel as well as routine maintenance and repair).
- Actions that are not reasonably foreseeable or that respond to natural disasters or emergencies.
- Actions that have been approved under specified Federal programs.

If an action triggers the applicability thresholds and is not exempt from the requirements, the Federal agency must demonstrate and document that the direct and indirect emissions would conform to the SIP. In particular, it must be demonstrated that the proposed action will not:

- Cause or contribute to a new violation of an NAAQS.
- Interfere with the SIP.
- Increase the frequency or severity of existing violations.
- Delay attainment or any required progress toward that attainment.

The determination generally involves emission estimation and air quality modeling for the entire nonattainment or maintenance area (usually a multi-county area). If the initial conformity determination demonstrates that the proposed action does not conform to the SIP, measures must be established and committed to mitigate the projected air quality impacts. A timeline for implementation of these measures may be specified; however, enforcement measures must also be established to ensure that they are implemented as required.

Regional Air Quality

JBSA-Lackland is located within the Metropolitan San Antonio Interstate AQCR 217, which consists of the counties of Atascosa, Bandera, Bexar, Comal, Dimmitt, Edwards, Frio, Gillespie, Gonzales, Guadalupe, Karnes, Kendall, Kerr, Kimble, Kinney, La Salle, Mason, Maverick, Medina, Real, Uvalde, Val Verde, Wilson, and Zavala. The San Antonio Metropolitan Statistical Area (MSA) (Bexar, Comal, Guadalupe, and Wilson Counties) is designated as a basic nonattainment area for ozone with a deferred attainment date under their Early Action Compact (EAC). Therefore, the base is subject to the General Conformity regulations (40 CFR Parts 6, 51 and 93). This requires a conformity demonstration for each pollutant where the total direct and indirect emissions from a Federal action exceeds the corresponding *de minimis* level.

Potential new emissions from the Proposed Action would occur primarily from construction activities at JBSA-Lackland and would include activities such as grading, excavation, filling, and equipment operation. Thus, emissions would be localized within the area surrounding the project location. For this reason, the analysis in this EA will address potential impacts within the San Antonia MSA, instead of the entire AQCR that covers a large geographical area.

Greenhouse Gases

The six GHGs covered by the Kyoto Protocol include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). The emissions of each GHG are calculated separately and then converted to CO_2 equivalents (CO_{2eq}) on the basis of their global warming potential (GWP) the universal unit of measurement expressed in terms of one unit of carbon dioxide. GWP is used to evaluate the release of different GHGs against a common basic measure of how much a given mass of greenhouse gas is estimated to contribute to climate change. It is a relative scale which compares the gas in question to that of the same mass of carbon dioxide (whose GWP is by definition 1). Table 3-4 lists the GWP (USEPA 2005) of the six GHGs regulated under the Kyoto Protocol.

Table 3-4 Global Warming of Kyoto Protocol GHGs

Gas	Chemical Formula	GWP[a]
Carbon dioxide	CO_2	1
Methane	CH_4	21
Nitrous oxide	N_2O	310
Hydrofluorocarbons	HFCs	various
Perfluorocarbons	PFCs	various
Sulfur hexafluoride	SF_6	23,900

[a] Source: USEPA 2005

Notes:
CH_4 = methane
CO_2 = carbon dioxide
GWP = global warming potential
HFCs = hydrofluorocarbons
N_2O = nitrous oxide
PFCs = perfluorocarbons
SF_6 = sulfur hexafluoride

For purposes of this EA, only three of the Kyoto GHGs, will be considered for analysis in Chapter 4 because GHG emissions associated with the Proposed Action are expected to be limited to CO_2, CH_4, and N_2O. These three GHGs represent the majority of CO_{2eq} associated with operations in the Proposed Action. The other Kyoto GHGs were not considered in the potential emissions from the Proposed Action as they are presumed to be not emitted. HFCs are most commonly used in refrigeration and air conditioning systems and PFCs and SF_6 are predominantly emitted from various industrial processes including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting, none of which are part of the Proposed Action.

Direct emissions of CO_2, CH_4 and N_2O occur naturally to the atmosphere but human activities have increased global GHG atmospheric concentrations. The 2009, total U.S. GHG emissions were 6,639,700,000 metric tons of CO_{2eq} (USEPA 2011a). U.S. total GHG emissions have risen 7.4 percent from 1990 to 2009 (USEPA 2011a).

3.3.4 Earth Resources

The subject property is located in the ancestral flood plain of the San Antonio River/Leon Creek drainage system. There are two geologic formations that affect migration of groundwater in the shallow subsurface. These include the surficial Quaternary alluvium (stream-deposited sediments) and the underlying Navarro Clay (marine-deposited sediments). Groundwater is most commonly found in the lower clayey gravel and basal gravel units immediately overlying the Navarro Clay. The Navarro Clay is approximately 600 to 800 feet thick in the study area and forms the lower confining unit for the alluvial aquifer. The aquifer is discontinuous, of poor quality, and is not used as a water resource in the vicinity of JBSA-Lackland (USAF 2010b).

The lithology at the site generally consists of discontinuous layers of clayey units (clay and silty clay) at the surface with clayey to sandy gravel at the base of the alluvium. The alluvium is comprised predominantly of an upper silty clay that grades downward into sand and gravel. Beneath this upper silty clay unit is clay to sandy gravel that typically extends to the base of the alluvium and above the Navarro Clay. The Navarro Clay is a stiff, blocky, mottled gray to tan clay (USGS 1992).

The soil types vary across the proposed project site. The 232-acre tract is comprised primarily of Lewisville silty clay. The Lewisville silty clay is a well drained soil with a slope of zero to one percent with a parent material of alluvium of the quaternary age derived of mixed sources composed of silty clay; it has a moderately high to high capacity to transmit water. These areas are considered prime farmlands. Other soil units in the area include Patrick soils, Sunev clay loam, Loire clay loam, and pits and quarries. The Patrick soil is a well drained soil with a slope of three to five percent, composed of a parent material of clayey alluvium of quaternary age derived from mixed sources and/or sandy alluvium of the quaternary age, and has a moderately high to high capacity to transmit water. These soils are not considered prime farmlands. Sunev clay loam is a well drained soil that has a three to five percent slope, with a parent material of loamy alluvium composed of clay loam and clay, and has a moderately high to high capacity to transmit water. These soils are considered prime farmlands if the land is irrigated. Loire clay loam is a well drained soil that has a zero to two percent slope, is occasionally flooded and has a parent material of loamy alluvium composed of clay loam, loam, and fine sandy loam. Loire clay loam soils have a moderately high to high capacity to transmit water. These soils are considered prime farmland. Pits and quarries can have a 1 to 90 percent slope (NRCS 2011) and are not considered prime farmland. Some soils in the vicinity of the project areas have been significantly altered over time from anthropogenic activities. Approximately 212 acres of the subject property are considered prime farmland (NRCS 2011).

Portions of the project site adjacent to the Leon Creek drainageway are composed of pits and quarries. Three soil types occurring along the proposed Growdon Road corridor consist of Loire clay loam, Sunev clay loam, and Patrick soil (NRCS 2011).

The elevation of the subject property is approximately 690 feet above sea level. Overall, surface topography at the subject property and the surrounding area is flat with occasional pits (USGS 1993).

3.3.5 Biological Resources

Bexar County is located in a physiographic transition zone of the Balcones Canyon Lands, which includes portions of three physiographic regions: the Edwards Plateau, the Blackland Prairie, and the Rio Grande Plain (also known as the South Texas Coastal Plain). The Edwards Plateau is north and west; the Blackland Prairie is east and southeast; and the Rio Grande Plain is south and southwest of Bexar County. This subregion is comprised of a landscape dissected by numerous high gradient streams in steep-sided canyons that flow south and southeast to the Gulf of Mexico (Riskind and Diamond 1988).

3.3.5.1 Definition of the Resource

Biological resources include plant and animal species and the habitats in which they occur. For this analysis, biological resources are divided into the following categories: vegetation, wildlife, wetlands, and protected species. Vegetation and wildlife refer to the plant and animal species, both native and introduced, which characterize the region. Wetlands are special habitats that support specific plants and wildlife. Protected species are plant and animal species in need of protection to ensure that the species do not decline to extinction.

3.3.5.1.1 Vegetation

The Federal Noxious Weed Act (7 U.S.C. 2801 et seq.), enacted in January 1975, established a Federal program to control the spread of noxious weeds. It gave the Secretary of Agriculture authority to designate plants as noxious weeds by regulation; to inspect, seize and destroy product; and to quarantine areas, if necessary, to prevent the spread of such weeds.

EO 13112 was issued in 1999 to enhance federal coordination and response to the complex and accelerating problem of invasive species. The EO defines an invasive species as a species not native to the region or area whose introduction (by humans) causes or is likely to cause harm to the economy or the environment, or harms animal or human health (NISC 2005).

3.3.5.1.2 Wildlife

The Fish and Wildlife Coordination Act (16 U.S.C. 661-667e) requires consultation with the United States Fish and Wildlife Service (USFWS) and the fish and wildlife agencies of States where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted . . . or otherwise controlled or modified" by any agency under a Federal permit or license. The purpose of the act is to recognize the vital contribution of wildlife resources to the nation and to require equal consideration and coordination of wildlife conservation with water resources development programs.

3.3.5.1.3 Wetlands

The USEPA defines wetlands (in 40 CFR 230.3[t]) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Wetlands provide rich habitat for numerous species, protection from flooding and erosion, and are also important to the nutrient cycle.

EO 11990, Protection of Wetlands, signed by President Carter in 1977, requires federal agencies to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. It also requires that agencies avoid construction or providing assistance for new construction located in wetlands, to the extent practicable.

3.3.5.1.4 Protected Species

The ESA provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead federal agencies for implementing ESA are the USFWS and the U.S. National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). The law requires federal agencies, in consultation with the USFWS and/or the NMFS, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species.

Under the ESA (16 U.S.C. 1536), an “endangered species” is defined as any species in danger of extinction throughout all or a large portion of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. USFWS/NMFS also

maintains a list of species considered to be candidates for possible listing under the ESA. Although candidate species receive no statutory protection under the ESA, USFWS/NMFS has attempted to advise government agencies, industry, and the public that these species are at risk and might warrant future protection under the ESA. The USFWS also maintains a species of conservation concern list. This list includes unprotected species that are likely to become candidate species in the future under the ESA.

The Bald and Golden Eagle Protection Act (16 USC 668a; 50 CFR 22) was enacted to protect America's national symbol, the bald eagle (*Haliaeetus leucocephalus*). The golden eagle is a similar-appearing eagle, especially in immature life stages, and therefore was added to ensure protection of the bald eagle. This law, originally passed in 1940 and as amended, provides for the protection of the bald eagle and the golden eagle (*Aquila chrysaetos*) by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit. The USFWS defines disturbance to eagles as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information (1) injury to the eagle, (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment" (50 CFR Part 22.3).

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) authorizes the U.S. commitment to comply with international conventions (i.e., with Japan, Russia, Canada, and Mexico) for the protection of migratory bird resources. The conventions protect native species of migratory birds that occur in the U.S. and each country at some time during the annual life cycle of the species. EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, was signed by President Clinton in January 2001. The EO directs executive departments and agencies to take further actions to implement the MBTA by developing a Memorandum of Understanding (MOU) with the USFWS to promote the conservation of migratory bird populations.

3.3.5.2 Affected Environment

3.3.5.2.1 Vegetation

A field survey of the project area was conducted in May 2011 by walking a 100-ft belt transect (50 ft on each side of the route centerline) and documenting the habitat types encountered, any species observed, and evidence of animal species use (e.g., scat). During the survey, five habitat types were characterized by their associated vegetation communities. These habitat types are detailed in Table 3-5. Due to disturbance in the area, no high quality habitat was observed and invasive species were found in all habitat types. Although the route of the Proposed Action has changed slightly since the survey was conducted, aerial photography of the area was reviewed at close range to determine the extension of the habitat types into the revised project area. The habitat types found during the survey appear to extend to the route of the Proposed Action; therefore, additional habitat surveys were not necessary.

Table 3-5 Habitat Types and Common Flora of the Project Area

Habitat Type Observed	Associated Common Vegetation
Grassland/pasture	Bermuda grass (*Cynodon dactylon*),, silver bluestem (*Bothriochola laguroides*), silverleaf nightshade (*Solanum elaeagnifolium*), clover species (*Trifolium* sp.), oldfield threeawn (*Aristida oligantha*), thistle sp. (*Cirsium* sp.)
Highly disturbed and naturalized	Cottonwood (*Populus* sp.), cedar elm (*Ulmus crassifolia*), Chinese tallow (*Triadica sebifera),* black willows (*Salix nigra*), boxelder (*Acer negundo),* hackberry (*Celtis laevigata*), black walnut (*Juglans nigra*), pecan (*Carya illinoensis*), blackberry (*Rubus* sp.), greenbriar (*Smilax* sp.), poison ivy (*Rhus radicans*), giant ragweed (*Ambrosia trifida*), grape (*Vitis* spp.), and honeysuckle (*Lonicera* spp.)
Mesquite woodlands	Honey mesquite (*Prosopis glandulosa*), hackberry (*Celtis laevigata),* silver bluestem (*Bothriochloa laguroides*) Texas prickly pear (*Opuntia engelmannii*), and silverleaf nightshade (*Solanum elaeagnifolium*)
Riparian	Cedar elm (*Ulmus crassifolia*), black willow (*Salix nigra*), hackberry (*Celtis laevigata*), chinaberry (*Melia azedarach*), pecan (*Carya illinoensis*), Canada wildrye (*Elymus candensis*), poison ivy (*Rhus radicans*), greenbrier (*Smilax* spp.), and giant ragweed (*Ambrosia trifida*)
Urban	Bermuda grass (*Cynodon dactylon*), Johnson grass (*Sorghum halepense*), crabgrass species (*Digitaria* sp.), dandelion species (*Taraxacum* sp.), henbit (*Lamium amplexicaule*), ornamental trees and shrubs (i.e., landscaping)

3.3.5.2.2 Wildlife

The wildlife associated with each of the vegetation communities is described below. Photographs depicting these habitats, as well as a map of the proposed Growdon Road and associated communities are contained in the *Biological Assessment/Evaluation for Road and Gate Construction at Lackland Air Force Base, Texas* prepared in June 2011 and included as Appendix B (GMI 2011a).

The grassland/pasture habitat contains a variety of grasses and forbs and provides good foraging areas for western kingbird (*Tyrannus verticalis*), scissor-tailed flycatcher (*Tyrannus forficatus*), and barn swallow (*Hirundo rustica*).

The highly disturbed and naturalized habitat contains a mixture of mature native and introduced trees, grasses, and other vegetation. This habitat includes old quarries, landfills, and road improvement areas that have been allowed to naturalize. This habitat hosts many wildlife species including northern cardinal (*Cardinalis cardinalis*), black-crested titmouse (*Baeolophus bicolor*), golden-fronted woodpecker (*Melanerpes aurifrons*), white-tailed deer (*Odocoileus virginianus*), eastern fox squirrel (*Sciurus niger*), and common raccoon (*Procyon lotor*). The tall cottonwoods provide excellent perches and potential nesting habitat for barred owl (*Strix varia*), red-tailed hawk (*Buteo jamaicensis*) and red-shouldered hawk (*Buteo lineatus*).

The mesquite woodlands habitat is not a diverse plant community and consists mostly of mesquite trees/shrubs. Common wildlife occurring in this habitat type including mourning dove

(*Zenaida macroura*), white-winged dove (*Zenaida asiatica*), northern mockingbird, northern cardinal, common raccoon, coyote (*Canis latrans*), eastern cottontail (*Sylvilagus audubonii*), white-tailed deer, and Texas spiny lizard (*Sceloporus olivaceus*).

A riparian habitat area associated with Leon Creek lies on the western edge of the proposed site of Growdon Road relocation. A wide variety of wildlife use this habitat type including toad and frog species, mourning dove, white-winged dove, northern cardinal, northern mockingbird, Carolina chickadee (*Poecile carolinensis*), tufted titmouse (*Baeolophus bicolor*), common raccoon, Virginia opossum (*Didelphis virginiana*), nine-banded armadillo (*Dasypus novemcinctus*), coyote, white-tailed deer, and feral hog (*Sus scrofa*). This habitat could potentially be used as a migration stopover or foraging area for American and Arctic peregrine falcon (*Falco peregrinus anatum/tundrius*), a state-listed threatened species. Neotropical migratory birds use riparian corridors/floodplains for foraging and resting during spring and fall migration and would be expected to be present in the Leon Creek riparian corridor. At nearby Kelly Field Annex (formerly Kelly AFB), a neotropical migratory bird survey was conducted along a narrow riparian forested area along Leon Creek. Of the 106 bird species detected, 59 were neotropical migratory birds. Swifts (Family Apodidae), swallows (Family Hirundunidae), and flycatchers (Family Tyrannidae) were the most common neotropical birds. Warbler diversity was fairly high (14 species) but abundance was low (U.S. Army Corps of Engineers 1995).

The urban habitat includes homesteads, roads, impound lots, and gravel and dirt piles. The mixture of native and ornamental plants on this habitat hosts bird species such as white-winged dove (*Zenaida asiatica*), mourning dove (*Zenaida macroura*), great-tailed grackle (*Quiscalus mexicanus*), house sparrow (*Passer domesticus*) and northern mockingbird (*Mimus polyglottos*). This community is not likely to support many wildlife species (GMI 2011a; Appendix B).

3.3.5.2.3 Wetlands

The project area was assessed for waters of the U.S. and wetlands in May 2011 in accordance with the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Great Plains Region (Version 2.0) (U.S. Army Corps of Engineers 2010). According to this manual, an area is identified as a wetland only if it meets all three wetlands parameters: hydric soils, hydrophytic vegetation, and wetlands hydrology. Field surveys consisted of identifying the vegetation, soils, and hydrology of potential wetland areas. Atypical weather for the region has resulted in an ongoing drought making the wetland delineation difficult to conduct. The drought caused soils, which may normally be saturated, to be dry and vegetation that would normally be growing and/or in bloom to be dormant.

During the field survey, 12 potential wetlands were located and delineated on a straight line south from Callaghan Road within the loop created by Leon Creek; none of the wetlands fell within the corridor for the proposed Growdon Road relocation to the east of the Leon Creek loop. Five small channels that appeared to drain runoff south or west into Leon Creek were noted along the proposed road route; however, these channels were not delineated as being wetlands (GMI 2011b). A copy of the wetland delineation report is provided as Appendix C.

3.3.5.2.4 Protected Species

The habitat requirements of protected species potentially occurring in the project area were compared to habitats observed in the area to determine the potential presence/absence of the protected species. Habitat suitability for federal species listed as threatened, endangered, or candidate species under the ESA; bird species of conservation concern; and state-listed threatened or endangered species is provided in this section.

The proposed project is located in Bexar County, Texas. A large number of karst species are federally-listed as threatened or endangered for the County. Karst habitat primarily occurs north and northwest of San Antonio is not known to occur in the project area (USAF 2007a); therefore, the 15 karst species that are federally- or state-listed threatened or endangered species in Bexar County are not presented here. In addition to the karst species, the USFWS lists in Bexar County three bird species as endangered; one mammal, the black bear, as threatened, and one bird and one plant as a candidate species (Table 3-6). Critical habitat is not designated in the project area for any of the potentially occurring federally-listed species (USFWS 2011c, 2012a, 2012b).

The State of Texas lists four bird species and two (extirpated) mammal species as endangered and four reptile, four bird, and one mammal species as threatened. Texas Parks and Wildlife Department identifies several species as rare, but with no regulatory status. These species are not included in Table 3-6 unless they are also listed by the USFWS as threatened or endangered (TPWD 2011).

Bald eagles often utilize lake and riparian areas for foraging. In the South Texas brushlands province, the bald eagle is a scarce to occasional visitor during winter and is not known to breed in the area. Golden eagles are vagrants in the project area (Arvin 2007).

Table 3-6 Federal- and State-listed Threatened, Endangered, and Candidate Species, and Species of Concern of Bexar County

Common Name[1]	Scientific Name	Federal	State
Amphibians			
Texas salamander	*Eurycea neotene*	Under review[2]	Rare
Reptiles			
Texas horned lizard	*Phrynosoma cornutum*	NL	T
Texas indigo snake	*Drymarchon melanurus erebennus*	NL	T
Texas tortoise	*Gopherus berlandieri*	NL	T
Canebrake rattlesnake	*Crotalus horridus*	NL	T
Birds			
American peregrine falcon	*Falco peregrinus anatum*	DL	T[3]
Black-capped vireo	*Vireo atricapilla*	E	E
Golden-cheeked warbler	*Dendroica chrysoparia*	E	E
Interior least tern	*Sterna antillarum athalassos*	NL[4]	E
Mountain plover	*Charadrius montanus*	NL[5]	Rare
Sprague's pipit	*Anthus spragueii*	C	Rare
White-faced ibis	*Plegadis chihi*	NL	T
Whooping crane	*Grus americana*	E	E
Wood stork	*Mycteria americana*	NL	T
Zone-tailed hawk	*Buteo albonotatus*	NL	T
Mammals			
Black bear	*Ursus americanus*	T/SA[6]	T
Gray wolf	*Canis lupus*	NL	E
Red wolf	*Canis rufus*	NL	E
Plants			
Bracted twistflower	*Streptanthus bracteatus*	C[7]	Rare

Source: TPWD 2011, USFWS 2012a, and USFWS 2012b
Notes:

C – Candidate	PT – Proposed Threatened
DL – Delisted	Rare – Identified by TPWD as rare, but with no regulatory status
E – Endangered	SA – Similarity of Appearance
NL – Not Listed	T - Threatened

[1] Karst/cave species from Bexar County are not listed because karst formations are not present in the project area.
[2] On December 16, 2009, the USFWS published notice in the *Federal Register* that they were beginning a status review of 67 species, including the Texas salamander (USFWS 2009).
[3] Both subspecies of *Falco peregrinus (anatum* and *tundrius)* migrate across TX; however, F. p. *anatum* is also a resident breeder in west TX and listed as threatened by TPWD.
[4] The interior population of *Sterna antillarum* is federally listed as endangered; however, the USFWS does not consider the interior population to be present in Bexar County, TX (USFWS 2012b).
[5] USFWS published its withdrawal of the 2002 proposal to list the mountain plover as threatened on May 12, 2011. (USFWS 2011a)
[6] The Louisiana (LA) black bear (*U. a. luteolus*) is federally listed as threatened; due to similarity in appearance, any black bear found within the range of the LA black bear, which includes much of TX and all of LA and Mississippi, should be considered threatened.
[7] USFWS listed this plant as a candidate species on October 26, 2011.

3.3.6 Cultural and Traditional Resources

Regulations and Criteria

Cultural resources are prehistoric and historic sites, districts, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. A historic district is an area that "possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development" (NPS 1997).

Numerous laws and regulations require that possible effects on cultural resources be considered during the planning and execution of federal undertakings. These laws and regulations stipulate a process of compliance, define the responsibilities of the federal agency proposing the actions, and prescribe the relationships among involved agencies. In addition to NEPA, the primary laws that pertain to the treatment of cultural resources during environmental analysis are the NHPA (especially Sections 106 and 110), the ARPA, the AIRFA, and the Native American Graves Protection and Repatriation Act. Under AIRFA, the project site does not have any known traditional cultural properties or sacred sites to which access must be provided.

Section 106 of NHPA requires that federal agencies give the Advisory Council on Historic Preservation a "reasonable opportunity to comment" on proposed actions. Federal agencies must consider whether their activities could affect historic properties that are already listed, determined eligible, or not yet evaluated under the NRHP criteria. Properties that are either listed on or eligible for listing in the NRHP are provided the same measure of protection under Section 106.

The following criteria have been established as guidance for evaluating potential entries to the NRHP. "Significance" in American history, architecture, archeology, and culture is granted to districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that meet at least one of the following criteria:

- an association with events that have made a significant contribution to the broad patterns of history (Criterion A);
- an association with the lives of persons significant in history (Criterion B);
- embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic value; or represent a significant and distinguished entity whose components may lack individual distinction (Criterion C); or
- have yielded, or may likely yield, information important in prehistory or history (Criterion D).

Resources less than 50 years of age must be evaluated under Criterion Consideration G: Properties That Have Achieved Significance in the Last Fifty Years. This criterion requires that such resources be "exceptionally important" to qualify for listing. Resources less than 50 years of age must also meet the criteria for resources 50 years or older (i.e., A, B, C, or D) and retain their integrity.

Previous Investigations

Six archaeological sites have been previously recorded within one mile of the project area: 41BX958, 41BX1061, 41BX1065, 41BX1066, 41BX1107, and 41BX1108 (Table 3-7). Site 41BX958 was recorded by Geo-Marine, Inc. in 1991 during a survey for the former Kelly AFB (KAFB). The site represents a twentieth century historic site found on an upland surface along the boundary fence of former KAFB. According to historic topographic maps, the structure encountered during the survey was constructed sometime between 1922 and 1938. The site was recommended ineligible for inclusion in the National Register of Historic Places (NRHP).

Table 3-7 Previously Identified Sites in the Vicinity of Project Area

Site No.	Site Data	NRHP Eligibility Status	Comments
41BX958	Historic period site constructed between 1922 and 1938	Ineligible	Outside Area of Potential Effect (APE); originally recorded in 1991 by Geo-Marine, Inc.
41BX1061	Historic sewer line dating to the early 1900s	Ineligible	Outside APE; originally recorded in 1997 by Center for Archaeological Research; UTSA; reevaluated by Geo-Marine, Inc. in 2006
41BX1065	Middle to Transitional Archaic period campsite on terrace overlooking Leon Creek	Site considered to have moderate to high research potential, but no further work recommended	Outside APE; recorded in 1997 by Center for Archaeological Research, UTSA
41BX1066	Small, surficial lithic scatter; no diagnostics or features present	Ineligibile	Outside APE; originally recorded in 1997 by Center for Archaeological Research, UTSA
41BX1107	Early to Transitional Archaic period quarry site; testing of site revealed low density scatter of artifacts in a secondary context	Ineligible	Outside APE; originally recorded in 1997 by Center for Archaeological Research, UTSA; reevaluated by Geo-Marine, Inc. in 2006
41BX1108	Prehistoric campsite of unknown age (possibly Early Archaic) with burned rock midden	Eligible	Outside APE; originally recorded in 1997 by Center for Archaeological Research, UTSA

In 1997, a large-scale survey of Lackland AFB Main Base and the LTA was undertaken by the Center for Archaeological Research (CAR) at the University of Texas at San Antonio (Nickels et al. 1997). The survey included the investigation of 41BX1061 at the Wherry Housing area (Raymond 1997) and the intensive shovel testing of four "Special Areas" designed for development that included sites 41BX1065 and 41BX1066 (Durst 1997). Site 41BX1061 represents a historic sewer line installed in the early 1900s when the base was first acquired. Site 41BX1065 represents a Middle Archaic through Transitional Archaic campsite found within the upper 55 centimeters below surface (cmbs) at the edge of a large, flat terrace overlooking Leon Creek. Fifty shovel tests, seven 1-x-1-m test units, seven Gradall trenches, and two backhoe

trenches were excavated at the site. The test units encountered sterile deposits at depths ranging from 35 to 62 cmbs. The site was considered to have moderate to high research potential, but no further work was recommended. It is unclear if a proposed housing expansion eventually impacted the site. Site 41BX1066 consisted of a small lithic surface scatter found on top of a flat knoll overlooking Leon Creek. Debitage and expedient tools comprise the assemblage recovered from the site; however, no diagnostic materials or features were found.

Site 41BX1107 represents an Early to Transitional Archaic lithic quarry site found by CAR (Nickels et al. 1997). The site was found in an eroding surficial context on a slight slope above Medio Creek near the 4th green on the Lackland AFB golf course. Artifacts consisted of interior flakes, thinning flakes, retouched flakes, and an Edgewood point. Fire-cracked rock was also found on the surface adjacent to the lithic scatter; however, no intact features were found. Site 41BX1108 represents an unknown prehistoric campsite found on the interior of a large meander of Leon Creek (Nickels et al. 1997). The artifacts were exposed on the surface and included thinning flakes, fire-cracked rock, mollusk shell, bone, and debitage. In addition, a presumed burned rock midden of unknown age was identified. Although impacts from construction and maintenance of the golf course were observed, future subsurface testing was recommended for both sites.

In 2006, Geo-Marine, Inc. conducted subsequent archaeological eligibility testing on several sites previously investigated by CAR, and located along Leon Creek: 41BX1107, 41BX1108, and 41BX1061 (Huhnke 2006).

Nine shovel tests placed at 10-meter intervals were excavated at 41BX1107. A total of 32 artifacts were recovered including debitage, a core, and a utilized flake; however, no fire-cracked rock was recovered. The vast majority of the artifacts were recovered from the upper 20 cmbs, although some were recovered between 20 and 50 cmbs. The investigation determined that the sediments containing the artifacts had been mixed with sand fill and were in secondary context. The site was recommended ineligible for inclusion on the NRHP.

Seven shovel tests were excavated along two transects at 41BX1108. Numerous flakes were noted in the upper 60 cmbs and an Early Archaic Guadalupe biface was found between 10 and 20 cmbs. Nearly 200 lithic artifacts were recovered during testing. A shovel test also encountered a large burned rock feature between 45 and 60 cmbs. The large size of the cobbles suggests that the cobbles were related to food cooking and not refuse from boiling activities. The investigations concluded that artifacts at the site may have accumulated on a stable surface. In sum, the site was determined to have good integrity, intact features, multiple stratified artifact zones, and preservation of bone and shell. The site was recommended as eligible for inclusion in the NRHP.

Finally, eligibility testing was also attempted on 41BX1061, a historic sewer line built in the early 1900s. Unfortunately, the open features at the site were determined to be a safety hazard and were filled before additional testing could be conducted. However, it was determined that the features at the site were not part of an early historic homestead and considering the lack of integrity of the sewer system, the site was recommended as ineligible for inclusion in the NRHP (Huhnke 2006).

Archeological Survey of APE

In 2011, Geo-Marine, Inc. conducted an archeological survey of the proposed project site that involved a pedestrian walkover of the proposed APE at systematic intervals. The APE was defined as 50 feet from the proposed road centerline. A report detailing the archaeological survey can be found in Appendix D – *Cultural Resources Survey for the Relocation of Growdon Gate at Lackland Air Force Base, Bexar County, Texas*. Shovel tests were excavated where there was potential for buried deposits; all cutbank exposures within the APE were examined also (GMI 2011c). Archival research and the archeological survey resulted in the identification of the remnants of a historic structure, designated site 41BX1886, located just south of the Peerless Equipment Company (See Figure 20 of Appendix D). The razed structure is divided into two sections by a concrete pathway and a dual-step porch (See Figure 19 of Appendix D). East of the walkway, the area appears to have been used as an outbuilding, while an enclosed wooden fence west of the walkway indicates that the western portion was likely used as a small stable area.

The earliest topographic map to show structures in this vicinity is the 1953 West San Antonio topographic quad which depicts a road system connecting this structure along with several other structures within and south of the Proposed Action right of way (ROW) (Appendix D, Figure 22). According to the 1963 aerial image this road system appears to have extended south into the interior of the Leon Creek meander and may have been used to access a construction staging area which is also visible on the 1963 image. The area immediately south of the collapsed structure was inspected for the presence of the additional mapped structures; however, none was encountered in primary context. Instead, structure remnants were found piled along a steep ridge to the south above the Leon Creek floodplain. The materials mixed within the rubble consist primarily of large concrete slabs and corrugated metal, although numerous domestic items such as glass bottles, aluminum cans, tin wash pales, tin cans, and other household items were also observed. The majority of the aluminum cans found across the site exhibited a pull-tab opening, and according to approximate initial production dates of pull tabs, one can of Schlitz beer can be dated to as early as 1963.

According to the time series presented in Figure 22 of Appendix D, the area where the structures are mapped appears to have been impacted by construction activities sometime between 1963 and 1966, although the type of construction and degree to which it impacted the structures is unclear from the aerial photographs. Together, the artifacts observed, in addition to the historic topographic and aerial maps reviewed, suggest that the area represents a demolished, mid-twentieth century structure that may have been used into the 1970s. No other time-diagnostic items or historic imagery was found that would suggest that the site was occupied prior to the mid-twentieth century. Due to the minimum informational potential of this site and its general lack of integrity, the site was recommended ineligible for inclusion in the NRHP. The State Historic Preservation Office concurred with this determination (Appendix E)

Historic Buildings and Structures within the APE

The only buildings and/or structures within the proposed APE are Buildings 1213 (Traffic check house; 72 sq ft) (Figure 3-2) and 1217 (SP Entry Con Bldg; 2222 sq ft) (Figure 3-3). Since these buildings were constructed in 2002 and 2005, respectively, they are not of historic age and do not

display exceptional architectural design or features that would make them eligible under Criterion Consideration G for properties less than 50 years of age. Therefore, Buildings 1213 and 1217 are not eligible for inclusion on the National Register of Historic Places.

Figure 3-2 Building 1213

Figure 3-3 Building 1217

3.3.7 Water Resources

3.3.7.1 Groundwater

A shallow alluvial aquifer in San Antonio, located between 5 and 15 feet below ground surface (bgs), contains groundwater not suitable for use as a potable water source due to poor water quality. Low-permeable Del Rio clay separates this aquifer from the underlying Edwards Aquifer (USAF 2010a). The primary source of water for JBSA-Lackland and the San Antonio, Texas area is groundwater from the Edwards Aquifer. Water from the aquifer is primarily used for municipal, irrigation, and recreational purposes and approximately 54 percent is used for municipal supply (TWDB 2011). This aquifer, composed primarily of limestone, collects groundwater runoff in an underground reservoir that consists of contributing, recharge, transition and artesian zones stretching across 13 counties in south central Texas. JBSA-Lackland is not located within a recharge zone, but is located in the artesian zone of the Edwards Aquifer (USAF 2011d). Within the artesian zone, groundwater flows generally southeast and up to the surface at natural discharge points (e.g. Comal, Barton, or San Marcos Springs) or is manually pumped out through municipal or private wells (TWDB 2011). The median recharge rate for the past ten years is 716,500 acre-feet/year with a median well withdrawal of 379,900 acre-feet/year (EAA 2009). Depth to groundwater in Bexar County has ranged over the past thirty years from 624 feet to 703 feet above mean sea level (EAA 2012), indicating a shallow groundwater at JBSA-Lackland. Currently, there are two active groundwater wells in the project area used by SAWS

and a private landowner, and drilled to 1,587 feet and 1,400 feet bgs, respectively (USAF 2010b). Well records obtained from Texas Water Development Board (TWDB) indicate that the SAWS well was drilled in 1950, and at the time of installation, ground water levels were approximately 44 feet bgs (TWDB 2012).

Due to its highly permeable nature, the Edwards Aquifer is considered susceptible to contamination through its recharge zone. As discussed in greater detail in Section 3.3.8.5, review of historical aerial photography of the proposed acquisition area indicates that a quarry existed within the site boundaries (Raba-Kistner 2011). Due to the possible historic use of the area as a quarry with unknown reclamation activities, it is possible that buried wastes may exist within the subject property lines, and therefore, there may be resultant impacts to groundwater quality. If wastes are present, further evaluation may be required to determine possible impacts to shallow groundwater. Other potential shallow groundwater impacts may exist where stored vehicles have leaked fluid into the soil, at a privately operated facility in the subject area. Finally, a portion of the subject property appears to have been used as a stockpiled material storage area, which includes river sediments dredged from the San Antonio River. In July 2011, Weston Solutions, Inc. conducted a Phase II Environmental Baseline Survey for the project area and encountered lead and arsenic above Texas Risk Reduction Program (TRRP) critical residential Protective Concentration Levels (PCLs) in groundwater located within fill material. It was further recommended that further evaluation may be required to determine the extent of impacts to shallow groundwater (USAF 2011b).

3.3.7.2 Surface Water

JBSA-Lackland is located within the San Antonio River Basin. Surface water on the installation includes Leon Creek, Medio Creek, Long Hollow Creek, various ponds and water hazards developed for training. As shown on Figure 3-4, Surface Waters, Leon Creek is located immediately adjacent to the proposed acquisition and project area. Leon Creek is designated by the USFWS National Wetlands Inventory (NWI) as a lower perennial riverine waterbody with an unconsolidated bottom and permanent flooding or water flow (R2UBH) (USFWS 2011b). The lower segment of Leon Creek also has a high aquatic life use designation (SARA 2010). Based on review of topographic mapping, Leon Creek flows south and continues approximately 19 miles into Medina River, which flows an additional nine miles southeast before its confluence with the San Antonio River. Along the southern boundary of the 232 acres proposed for acquisition, there is also a drainage ditch designated by the USFWS NWI as an intermediate streambed waterbody that has a temporary water flow and has been excavated (R4SBAx) (USFWS 2011b). This drainage ditch flows directly into Leon Creek.

The 2010 Texas Integrated Report listed Lower Leon Creek as an impaired waterway due to low dissolved oxygen and polychlorinated biphenyls in edible tissue (TCEQ 2010). A 2010 Study of dissolved oxygen on the Lower Leon Creek found that the segment of the creek near the proposed project site can fully support a healthy aquatic ecosystem (SARA 2010). Therefore, while Lower Leon Creek is currently still listed as impaired, water quality is improving such that it is expected to be removed from the impaired water list in 2012. If this occurs, the TCEQ will not develop Total Maximum Daily Loads for this waterway (TCEQ 2011).

Several locations within the project area have been designated as potential wetlands, as discussed previously in Section 3.3.5.2.3; however, the location of the proposed land acquisition, proposed facilities and the existing Growdon Gate facilities do not coincide with any areas designated as potential wetlands.

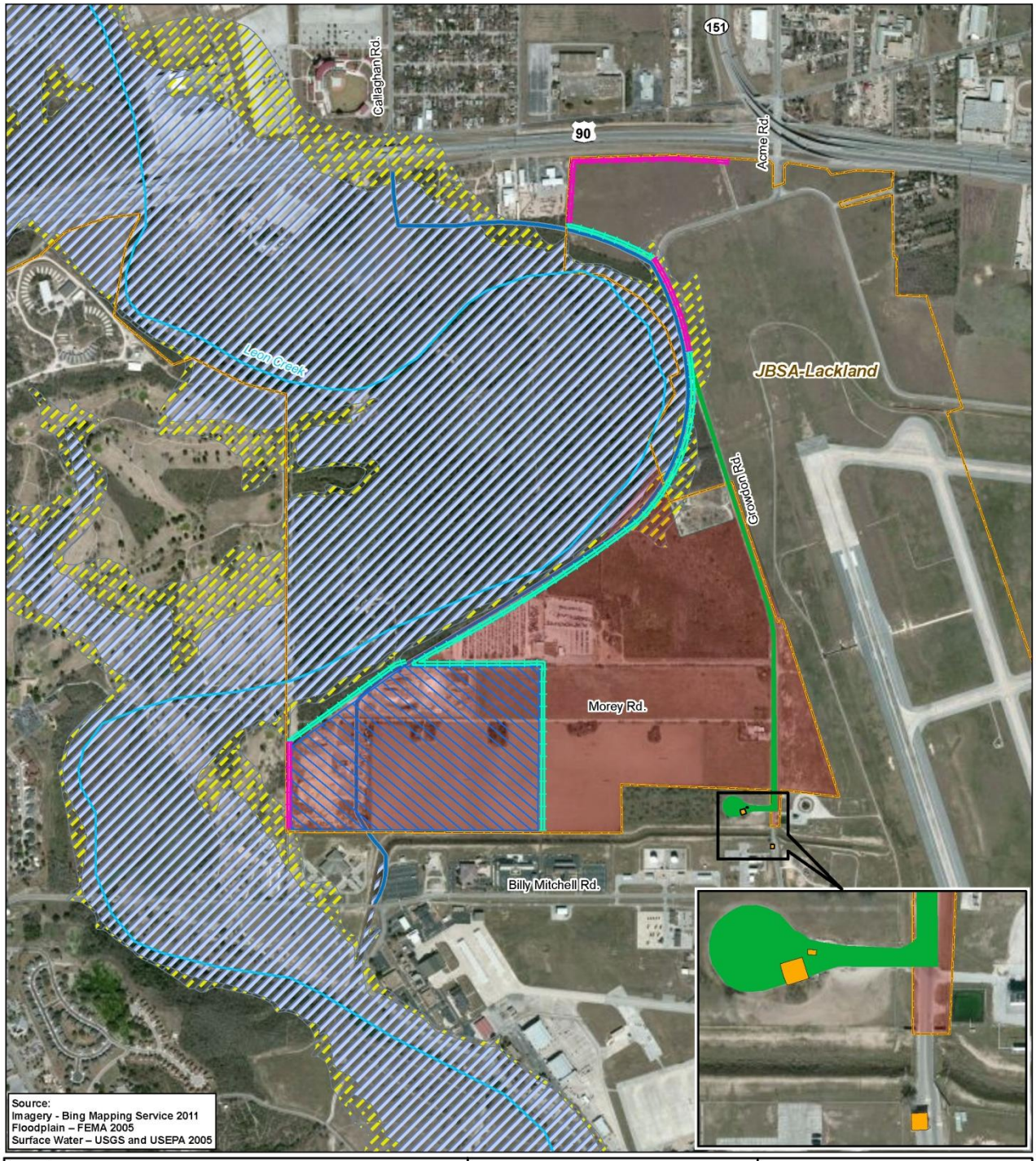

Figure 3-4

Surface Waters

JBSA-Lackland

3.3.7.3 Floodplains

Federal agencies are required, under EO 11988, *Floodplain Management*, to provide leadership and take action to reduce the risk of flood loss; minimize the impacts of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values of floodplains when acquiring, managing, or disposing of federal lands. As depicted in Figure 3-3, the Federal Emergency Management Association (FEMA) has designated a portion of the project area as being located within the 100-year and 500-year floodplains of Leon Creek. Approximately 1.1 acres and 4.8 acres of the 232 acres are located in the 100-year and 500-year floodplains, respectively (0.47% and 2.1%). The proposed road is located within the 100-year and 500-year floodplains for approximately 4.7 acres and 8.3 acres, respectively. Approximately 0.07 acres and 0.15 acres of existing Growdon Road proposed for demolition are located within the 100-year and 500-year floodplains, respectively. The current Growdon Gate and facilities are located outside the parameters of both the 100-year and 500-year floodplains (FEMA 2005).

3.3.8 Hazardous Materials and Wastes

A Phase II Environmental Baseline Study (EBS) was conducted for the property addressed in this EA as land to be acquired by JBSA-Lackland. The Phase II EBS investigations included surface and subsurface soil sampling, groundwater sampling, and an asbestos and lead-based paint assessment. The subject properties to be acquired that are addressed in the EBS will be referred to in this EA as follows:

- Parcels B_3 through B_9 – COSA
- Parcels F_1 and F_2 – Mr. Cristoval Alcoser
- Parcel G – Ms. Agnes Lorraine Wauters

3.3.8.1 Hazardous Materials

Hazardous material use and management at JBSA-Lackland are regulated under the TSCA, Occupational Safety and Health Administration (OSHA), Emergency Planning and Community Right–to-Know Act, and Air Force Occupational Safety and Health Standards. The regulations require personnel using hazardous material to be trained in the application, management, handling, and storage of material; to know the location of material safety data sheets (MSDSs) for all hazardous materials that they are using; and to wear the correct personal protective equipment (PPE) required for materials that are being used. JBSA-Lackland has a Spill Prevention, Control and Countermeasures Plan (SPCCP) in place that establishes procedures, methods, equipment, and other criteria to prevent and respond to discharges of oil products and hazardous substances on JBSA-Lackland and associated property. The SPCCP is written in accordance with 40 CFR, Chapter 112 (USAF 2006).

The COSA maintains an Emergency Management - Basic Plan to provide general guidance for emergency operations on COSA-owned properties, including those that use, handle, or store hazardous materials. This plan assists in directing the San Antonio Fire Department and other COSA agencies how to respond in the event of an emergency (COSA 2006). According to COSA, no hazardous materials are managed on the properties that would be affected by the Proposed Action (Paramo 2011).

Properties owned by private individuals are not likely to maintain any plans for handling, storing or disposing of hazardous materials or wastes. During the visual site inspection for a previously conducted EBS in May 2010, it was observed that there were hazardous materials and petroleum products located within the B_4, F_2, and G parcels. Observations included aboveground storage tanks (ASTs) used for fuel; several petroleum, oil, and lubricant storage cans; storage lockers and sheds; and leaky vehicles that have been parked/impounded (USAF 2010b).

3.3.8.2 Asbestos

The buildings on JBSA-Lackland proposed for demolition within the current Growdon Gate area have not previously been assessed for asbestos containing material (ACM). Since these buildings were built in 2002 and 2005, it is unlikely that asbestos is present; however, prior to demolition of any buildings, an ACM survey must be prepared in coordination with the Base Asbestos Program Officer.

Buildings located on properties proposed for acquisition were included in an assessment for ACM conducted in July 2011 for a Phase II EBS. Note that no ACM samples were collected for Parcels B_3, B_8, or B_9. Seven structures, located on both COSA and private property, were found to contain ACM totaling approximately 4,134 sf. Table 3-8 summarizes the findings (USAF 2011b).

Table 3-8 Asbestos Containing Material Assessment Findings

Parcel	Structure ID	Finding	Approximate Amount (sf)
B4	S1	No	NA
	S2	No	NA
	S3	NS	NA
	S4	NS	NA
B5	S1	Yes	250
	S2	No	NA
	S3	NS	NA
B6	S1	Yes	200
	S2	NS	NA
B7	S1	Yes	144
	S2	No	NA
	S3	NS	NA
F1	S1	NS	NA
F2	S1	Yes	40
	S2	NS	NA
	S3	NS	NA
	S4	NS	NA
	S5	Yes	1,000
	S6	Yes	2,250
G	S1	NS	NA
	S2	Yes	250
	S3	NS	NA

Notes:
sf – square feet
NA – Not Applicable
NS – No suspect ACM present

3.3.8.3 Lead-Based Paint

The buildings on JBSA-Lackland that are proposed for demolition within the current Growdon Gate area have not been assessed for lead-based paint (LBP). Since these buildings were built in 2002 and 2005, it is unlikely that LBP is present; however, the JBSA-Lackland LBP Management and Operations Plan requires an LBP survey be conducted prior to demolition of any buildings.

Buildings located on properties proposed for acquisition were included in an assessment for lead-based paint conducted in July 2011 for a Phase II EBS. Note that no LBP samples were collected for Parcels B_3, B_8, or B_9. Nine structures, located on both COSA and private property, were found to contain LBP. Table 3-9 summarizes the findings of the assessment (USAF 2011b).

Table 3-9 Lead-Based Paint Assessment Findings

Parcel	Structure ID	Finding	Description of Material
B_4	S1	No	NA
	S2	No	NA
	S3	No	NA
	S4	Yes	Yellow painted utility pole
B_5	S1	No	NA
	S2	Yes	Painted door frames ,wall
	S3	NS	NA
B_6	S1	Yes	Painted doors, soffits, window frames, cabinets
	S2	NS	NA
B_7	S1	No	NA
	S2	NS	NA
	S3	No	NA
F_1	S1	No	NA
F_2	S1	Yes	Painted windows, door frames, door/shelf
	S2	Yes	Painted garage interior door, frame, screen
	S3	Yes	Painted garage interior
	S4	No	NA
	S5	Yes	Painted wall (former exterior of garage)
	S6	Yes	Painted exterior windows casing, sash, screen, doors, walls; interior trim
G	S1	No	NA
	S2	Yes	Painted exterior windows, frames, doors, walls, soffits
	S3	NS	NA

Notes:
NA – Not Applicable
NS – No suspect LBP present

3.3.8.4 Pesticides/Herbicides

Pesticide application and management at JBSA-Lackland is accomplished in accordance with the Pest Management Plan which has been prepared in accordance with DoD Instruction 4150.07 and as outlined in the Armed Forces Pest Management Board's Technical Information Memorandum No. 18. The JBSA-Lackland pest management activities are conducted by the Civil Engineer Pest Management shop. Pesticide use on sensitive areas such as wetlands, golf course ponds, or creeks require appropriate controls for application (USAF 2010c). The probability that pesticides have been used and may still be used within the existing Growdon Gate area is likely because of the presence of current entry gate and associated buildings.

It is known that the properties owned by private landowners and COSA have a history of agricultural use. Therefore, it is likely that pesticides have been used on these properties. Also,

depending on the type of crops historically grown on the properties, it is possible that arsenic-based cotton defoliants were historically used. Section 3.3.8.7 details the findings of arsenic on the subject property as a result of the Phase II EBS. Currently, there is no known storage or use of pesticides or herbicides on the subject properties (EDR 2009). The Phase II EBS investigated the presence of pesticides on parcels B4, F2, and G, and the analyses indicated that pesticides (dieldrin and toxaphene) were reported in soil samples collected on parcel G (Wauters) at concentrations above the TRRP critical residential PCLs. In addition to exceeding the residential PCLs, the reported concentrations at one sample location (SS-10 [0-0.25 feet bgs]) on parcel G also exceed the TRRP critical commercial/industrial PCLs.

3.3.8.5 Hazardous Waste

Hazardous wastes are defined by the Solid Waste Disposal Act as amended by RCRA, which was further amended by the Hazardous and Solid Waste Amendments, RCRA subtitle C (40 CFR, Parts 260 through 270). Hazardous wastes are defined as wastes with properties that are dangerous or potentially harmful to human health or the environment. Hazardous wastes are regulated by the USEPA. However, in Texas, the USEPA has delegated its hazardous waste regulatory authority to the State of Texas, Texas Commission for Environmental Quality (TCEQ). Additionally, JBSA-Lackland hazardous waste management is regulated under AFI 32-7013, *Hazardous Waste Management and Minimization*.

Hazardous waste regulations are implemented at JBSA-Lackland through hazardous waste permitting procedures and the JBSA-Lackland *Hazardous Waste Management Plan*. The plan details hazardous waste packaging, turn-in, transportation, storage, recordkeeping, and emergency procedures. Hazardous waste is generated at JBSA-Lackland from aircraft, vehicle, building, and equipment maintenance; spent hazardous materials; and spills. Air Force waste management operations at JBSA-Lackland Main Base are registered with the USEPA under identification number TX4571524129 (USAF 2007b). Currently, there are no industrial activities or other activities that occur at the existing Growdon Gate that would generate hazardous waste.

Parcels owned by COSA and private individuals are not known to have generated, stored or received any hazardous waste; however historical photographs indicate that quarry activities took place within the parcels. It is also possible that the quarry areas may have accepted wastes that are now buried in the former quarries. The Phase II EBS completed soil sampling in suspect areas, but not all areas were tested.

3.3.8.6 Environmental Restoration Program

The Environmental Restoration Program (ERP) at JBSA-Lackland was implemented by the DoD to identify and evaluate areas and constituents of concern from toxic and hazardous material disposal and spill sites. Once the areas and constituents had been identified, the ERP was tasked to remove the hazards in an environmentally responsible manner. All response actions are based upon provisions of CERCLA, and the *Superfund Amendments and Reauthorization Act of 1986* as clarified in 1991 by EO 12580, *Superfund Implementation.*

There are four JBSA-Lackland ERP sites within a quarter mile of the proposed project site. Table 3-10 shows a summary of those ERP sites.

Table 3-10 ERP Sites Within 1/4–mile of Proposed Project Site

Site Name	Status/Summary
AL-722 – Kelly Bombing Range South (UXO31)	Approximately 450 acres located around Leon Creek consisting of undeveloped land, administrative offices, basic military training parade ground, portions of Stillman Park, horse stables, and part of a golf course. Site is currently undergoing site investigations.
SS-51 (AOC048)	A former tank area located at Billy Mitchell and Westover Roads where a park and/or corral currently reside. It was determined that there was no release at this site and approved by TCEQ on 11 December 2008.
Building 933 (ehhwarea204)	Currently a Flight Specialist shop, an Avionics shop, and an Armament Systems shop that supports the 149th Fighter Wind, Texas Air National Guard. The building stores hazardous materials (primarily solvents and aerosol spray paints) to maintain components of F-16 aircraft.
Building 966 (SWMU No. 45)	A former vehicle maintenance building that serviced gasoline tanker trucks. The building was demolished in September 2008. The SWMU consisted of an OWS and 200-gallon concrete UST, a 500-gallon fiberglass. The OWS and UST have been out of service since 1988 and were permanently removed from the ground in 1995. Record of Decision dated November 2011 was submitted to TCEQ for approval of site closure.

Notes:
AOC – area of concern
MMRP – military munitions response program
OWS – oil water separator
SWMU – solid waste management unit
TCEQ – Texas Commission on Environmental Quality
UST – underground storage tank
UXO – unexploded ordnance

3.3.8.7 Other Identified Contamination

As part of the Phase II EBS investigations conducted in July 2011, groundwater and soil sampling was performed at the properties identified for acquisition by JBSA-Lackland. Parcels B_3, B_5, B_6, B_7, B_8, B_9 and F_1 were not included in the additional investigations because there was no reason to suspect any unidentified contamination in those areas after researching the historical use of the properties. The following summarizes the findings of the Phase II investigations (USAF 2011b).

Parcel B_4:

- Evidence of surface spills from impounded vehicles was noted throughout the parcel and the "sand lot" is specifically designed to absorb fluids drained from vehicles.
- Results of the soil sampling and analyses indicated that VOCs and PAH were reported in soil samples collected from beneath the asphalt surface near areas where visible surface staining was noted in the impound areas and the asphalt-lined "sand lot". The

concentrations were below TRRP critical residential PCLs. Therefore, the potential for VOCs and PAH to adversely impact human health or the environment at this parcel is low.

- Results of the soil sampling and analyses indicated that metals (arsenic and lead) were reported in soil samples collected from beneath the "sand lot" at concentrations above the TRRP critical residential PCLs. Even though the concentrations exceed the PCLs, they are within the range of JBSA-Lackland soil background concentrations. Therefore, the potential for arsenic and lead to adversely impact human health or the environment at this parcel is low.
- Groundwater was not encountered on this parcel at the maximum depth investigated (35.3 feet bgs). The alluvium to the underlying Navarro Clay was fully penetrated.

Parcel F_2:

- Evidence of surface spills from ASTs, vehicles, containers, and vehicle maintenance activities were noted on the ground surface throughout the parcel.
- Results of the soil sampling and analyses indicated that VOCs and semi-volatile organic compounds/polycyclic aromatic hydrocarbons (SVOCs/PAH) were reported in soil samples collected from beneath the asphalt surface near areas where visible surface staining was noted. The concentrations were below TRRP critical residential PCLs. Therefore, the potential for VOCs and SVOCs/PAH to adversely impact human health or the environment at this parcel is low.
- Results of the soil sampling and analyses indicated that total petroleum hydrocarbons (TPH) was detected above the TRRP critical residential PCLs in two soil samples where analyses for VOC and SVOC analyses were also conducted. Results of the VOC and SVOC analyses, as described above, indicated that concentrations were below the TRRP critical residential PCLs. TPH was used as a screening parameter to determine which soil samples would be subsequently analyzed for VOCs and SVOCs/PAH. The reported concentrations do not exceed the TRRP critical commercial/industrial PCLs. Therefore, the potential for TPH to adversely impact human health or the environment at this parcel is low.
- Results of the soil sampling and analyses indicated that metals (arsenic, mercury, and silver) were reported in soil samples at concentrations above the TRRP critical residential PCLs. Even though the arsenic, mercury, and silver concentrations exceed the PCLs, they are within the range of JBSA-Lackland soil background concentrations. Therefore, the potential for arsenic, mercury, and silver to adversely impact human health or the environment at this parcel is low.
- Results of the soil sampling and analyses indicated that metals (lead and selenium) were reported in soil samples at concentrations above the TRRP critical residential PCLs. The majority of the lead concentrations were also within the range of JBSA-Lackland soil background concentrations, except for the lead concentration reported in one sample (SB-14 [21-22 feet bgs]). In addition, selenium was reported above the range of JBSA-Lackland soil background concentrations in one sample (SB-22 [18-19 feet bgs]). The results of the SPLP analyses for lead and selenium to determine leachability indicated

that only the leachate analyzed for lead exceeded the residential and commercial/industrial PCL for the groundwater ingestion pathway through rainfall infiltration.

- Groundwater was encountered at four of the soil boring locations at depths ranging from 27 to 32 feet bgs, all within fill material. This water appears to be laterally discontinuous across the site and is likely trapped within the fill materials when portions of the area were open and then subsequently filled with off-site fill material. Groundwater was not detected at the other fill area soil boring locations even though the Navarro Clay was encountered. Groundwater was also not detected at soil boring locations within non fill areas to the maximum depth investigated (30 feet bgs) and fully penetrated the alluvium to the underlying Navarro Clay.
- Results of the groundwater sampling and analyses indicated that VOCs and SVOCs were reported in groundwater samples collected from this parcel. The concentrations were below TRRP critical residential PCLs. Therefore, the potential for VOCs and SVOCs to adversely impact human health or the environment at this parcel is low.
- Results of the groundwater sampling and analyses indicated that metals (arsenic and lead) were reported in groundwater samples from this parcel at concentrations above the TRRP critical residential and commercial/industrial PCLs.

Parcel G:

- Results of the soil sampling and analyses indicated that VOCs and PAH were reported in soil samples collected in the area of the former AST and solvent bucket and other containers. The concentrations were below TRRP critical residential PCLs. Therefore, the potential for VOCs and PAH to adversely impact human health or the environment at this parcel is low.
- Results of the soil sampling and analyses indicated that pesticides (dieldrin and toxaphene) were reported in soil samples collected in the area of the barn at concentrations above the TRRP critical residential PCLs. In addition to exceeding the residential PCLs, the reported concentrations at one sample location (SS-10 [0-0.25 feet bgs]) also exceed the TRRP critical commercial/industrial PCLs.

3.3.9 Utilities and Infrastructure

The following sections provide a summary of infrastructure found at the proposed land acquisition area and Growdon Gate and road relocation sites.

3.3.9.1 Electricity

The service provider for electrical utilities for the greater San Antonio region and JBSA-Lackland is CPS Energy. Currently JBSA-Lackland has a contract with CPS Energy for at least 32 mega watts (MW) of service for main base distribution. This contract with CPS energy identifies electrical energy rates and provides a minimum level of service, but does not limit the amount of electricity available for consumption. JBSA-Lackland operates the Valley Hi substation located just off Valley Hi Drive on the main base approximately 2 miles southwest of

the project area. Three feeders (No. 113, 569 and 796) from the on-installation substation provide power to the Main Base Switching Station and have load ratings of 20.4 MW, 17.8 MW and 18.2 MW (at normal rating and 90^{o} Fahrenheit [F]). While JBSA-Lackland maintains electrical utilities throughout the majority of the installation, the electrical facilities at the Kelly Field Annex, including the Growdon Gate project area, are privatized and maintained by CPS Energy. The Kelly Field Annex includes two main distribution feeders from Kelly Substation #3 located on North Frank Luke Drive, approximately 0.85 mile south east of the project area. However, the Growdon Gate inspection area is provided power by a separate designated feeder from CPS energy (USAF 2011d). Based on review of aerial photos for the proposed acquisition area, a limited distribution infrastructure appears to be in place.

JBSA-Lackland electricity consumption reported for FY 2011 was 160,941 mega watt hours (MWH) for JBSA-Lackland Main Base and 58,421 MWH for the Kelly Field Annex (USAF 2011d).

3.3.9.2 Natural Gas

CPS Energy also is the service provider for natural gas to the San Antonio greater area and JBSA-Lackland. An 8-inch pipeline enters JBSA-Lackland at Five Palms Street on the southern end of the main installation and connects to a natural gas network comprised of 41 miles of pipeline. JBSA-Lackland's natural gas network includes 48 pounds per square inch (psi) distribution loop encircling the western half of JBSA-Lackland and an 18 psi loop that encircles the eastern side of the Base (USAF 2011c). The combined CPS Energy natural gas line capacity for JBSA-Lackland is 9.254 million cubic feet per day (MCF/d). In addition to the CPS Energy pipelines, United Gas maintains an 8-inch 250 psi pipeline that runs along the northern border of the installation. JBSA-Lackland has contracted with United Gas to supply of up to 4.93 MCF/d for this pipeline. Kelly Field Annex gas utilities are provided by a separate United Gas 6" pipeline that enters the Base to feed this area (USAF 2011d). The current Growdon Gate facilities do not currently use natural gas. Additionally, based on review of aerial photos for the proposed acquisition area, a limited distribution infrastructure appears to be in place.

JBSA-Lackland natural gas usage reported for FY 2011 was 928,730 thousand cubic feet (KCF) for JBSA-Lackland Main Base and LTA. Kelly Field Annex reported using 46,066 KCF of natural gas in FY 2011 (USAF 2011d).

3.3.9.3 Solid Waste Disposal

Municipal solid waste management and compliance at Air Force installations are established in AFI 32-7042, *Solid and Hazardous Waste Compliance*. AFI 32-7042 incorporates by reference the requirements of RCRA Subtitle D, 40 CFR 240 through 244, 257, and 258, and all other applicable federal regulations, AFIs, and DoD directives. In general, AFI 32-7042 establishes the requirement for installations to have a solid waste management program that incorporates the following: a solid waste management plan; procedures for handling, storage, collection, and disposal of solid waste; record keeping and reporting; and recycling of solid waste, as addressed in AFI 32-7080, *Pollution Prevention Program*.

The 2010 Integrated Solid Waste Management Plan for JBSA-Lackland, states that nonhazardous solid waste at JBSA-Lackland is collected and disposed of by, C-6 Disposal Systems, a private contractor. Nonhazardous solid waste is disposed of at a private landfill serving the San Antonio greater area - Covel Gardens landfill, located approximately 4.0 miles southwest of the project area (USAF 2010d). Currently, the Covel Gardens landfill had a life expectancy of at least 75 years at the current disposal rate, receiving approximately 1.6 million tons of solid waste per year and a permitted capacity of 124.1 million cubic yards (Covel Gardens 2012 and USAF 2011c). Landfills are governed under TCEQ and USEPA rules and regulations.

In 2009, JBSA-Lackland generated approximately 50,000 tons of solid waste, of which 11,500 tons were disposed of in the Covel Gardens landfill and 36,000 tons were reused. This solid waste disposal accounts for less than one percent of the daily waste disposed at Covel Gardens landfill. Additionally, 2,500 tons were recycled at JBSA-Lackland's own recycling center which processes an average of 600,000 pounds per month of materials that would otherwise be disposed of in landfills (USAF 2011d).

3.3.9.4 Water Supply and Wastewater

Water Supply

Edwards Aquifer, as described in Section 3.3.7.1, is the primary water supply for the greater San Antonio area and JBSA-Lackland. JBSA-Lackland currently maintains six supply wells that pump water from the Edwards Aquifer with a withdrawal capacity of 13.22 million gallons per day (MGD) (USAF 2011c). At peak withdrawal conditions, the JBSA-Lackland wells operated at 16 percent (2.08 MGD) of the total design capacity. These peak withdrawal conditions in July 2005 were driven by mission and seasonable demands, and not sustained over the course of the year (USAF 2011d). The FY 2012 Joint Base San Antonio (Lackland AFB, Randolph AFB, and Fort Sam Houston) pumping allowance from Edwards Aquifer is 12,012 acre-feet, as regulated by the January 2008 USFWS Biological Opinion (USFWS 2008). JBSA-Lackland is allocated 48.8 percent of this withdrawal, which equates to 5,861.86 acre-feet/year (1,910,094 kilo-gallons (kgal)/year or 5.23 MGD). The overall withdrawal from Edwards Aquifer has been mandated by the USFWS to remain less than 572,000 acre-feet/year (186,387,017 kgal/year or 510.65 MGD) (USWFS 2008).

The water system network at JBSA-Lackland is comprised of more than 60 miles of water main lines and four elevated storage tanks, providing a total storage capacity of 1.28 MGD. The majority of this water supply infrastructure, including wells and water pipelines, is maintained by JBSA-Lackland. However, a portion of the JBSA-Lackland supply infrastructure has been privatized and is now supported by SAWS, which includes the current Growdon Gate and Road location (USAF 2011d). The project area is provided water through wells maintained by the City of San Antonio, in addition to the two active groundwater wells discussed in Section 3.3.7.1 used by the SAWS and the private landowner (USAF 2010b). Based on the limited existing facilities within the area proposed for acquisition, it is assumed that minimal supply infrastructure currently exists.

JBSA-Lackland water usage reported for FY 2011 was 739,607 kgal for JBSA-Lackland Main Base and LTA and 121,631 kgal for the Kelly Field Annex (USAF 2011d). This equates to approximately 45 percent of the water allocated to JBSA-Lackland by the USFWS Biological Opinion. JBSA-Lackland has instituted a number of water saving initiatives, such as installation of wash water recycling system and retrofitting existing fixtures (AETC 2009). In addition, JBSA-Lackland purchased 165,404 kgal of recycled water from SAWS in FY 2011 for use at the golf course, the parade grounds, and the Wilford Hall Medical Center cooling tower (USAF 2011d).

Wastewater

SAWS provides wastewater collection and treatment services to JBSA-Lackland. The approximately 44-mile sewer main network is primarily gravity fed and has a rated capacity of 9.79 MGD. Lift stations and force mains are used to connect individual facilities to the main system. The estimated daily wastewater discharge volume is 1.6 MGD, or approximately 16 percent of the rated capacity (USAF 2011c). In FY 2011, JBSA-Lackland Main Base reportedly discharged 364,225 kgal of wastewater and Kelly Field Annex discharged 121,668 kgal of wastewater (USAF 2011d). Wastewater is discharged off site approximately nine miles southwest to the Leon Creek Water Recycling Center managed by SAWS.

3.3.9.5 Drainage of Storm Water

JBSA-Lackland operates under the Multi-Sector General Permit TXR050000 for storm water discharges related to industrial activities and maintains a Texas Pollutant Discharge Elimination System (TPDES) Municipal Separate Storm Sewer System (MS4) General Permit (Permit No. TXR040068). In accordance with these permits, JBSA-Lackland has implemented and maintains a SWPPP to minimize storm water pollution and to implement sampling and monitoring systems for industrial activity only (USAF 2011e).

The majority of storm water runoff on JBSA-Lackland is drained through a series of channels consisting of natural drainages, open man-made ditches and underground storm drainages to various permitted outfall locations, such as Leon Creek, Indian Creek and Medio Creek. In the project area, Leon Creek serves as the main discharge location for the man-made ditch located on the southern boundary of the 232 acre acquisition area, as discussed in Section 3.3.7.2. Based on review of aerial photography, the remainder of the project area is drained by overland sheet flow and a few minor road side ditches. Permitted outfalls into Leon Creek are monitored in accordance with TCEQ reporting requirements.

3.3.9.6 Security

Currently the proposed 232-acre acquisition area and Growdon Road relocation area is unsecured and access is unrestricted from US Highway 90 to the north. Along the southern boundary of the proposed 232-acre acquisition area is a security chain-link fence in place as part of the security measures to JBSA-Lackland. Access to and from the south is only obtained through the current Growdon Road CVIA/ECP. To the east of the project area is the northern edge of the JBSA-Lackland airstrip on Kelley Field Annex, all of which is surrounded by a security chain-link

fence. All fenced and secured boundaries of JBSA-Lackland are currently patrolled and monitored by the AFB security forces.

3.3.10 Transportation

3.3.10.1 Definition of the Resource

Traffic refers to the movement of vehicles throughout a road or highway network. The project area includes road segments in the public roadway network, access points (gates) to the Base, and the internal roadway system of the Base. Primary roads are principal arterials, such as major interstate routes, designed to move traffic, but not necessarily provide access to all adjacent areas. Secondary roads are arterials, such as rural routes and major surface streets that provide access to most, if not all, areas.

In traffic analyses, performance measures include level of service (LOS), delay, and volume-to-capacity (v/c) ratio. The LOS is a qualitative measure describing operational conditions within a traffic stream and motorists' perceptions of those conditions. In general, the following terms define the LOS (Rodrigue *et al*. 2009):

A = Free flow
B = Steady
C = Steady but limited
D = Steady at high density
E = Saturated
F = Congested

The v/c ratio is the ratio of the current flow rate to the capacity of the intersection. This ratio is often used to determine how sufficient capacity is on a given roadway. A ratio of 1.0 generally indicates that the roadway is operating at capacity. A ratio of greater than 1.0 indicates that the facility is failing as the number of vehicles exceeds the roadway capacity.

3.3.10.2 Affected Environment

To evaluate the potential impacts on traffic associated with relocating Growdon Gate, the CVIA/ECP, and part of Growdon Road, the Air Force conducted a traffic study to identify the existing roadway network, existing traffic volumes, and existing intersection capacity and LOS (ARA-VEP 2011). The complete study is attached as Appendix F.

Nine intersections were considered in the region of influence (ROI); intersections on US Highway 90, Military Drive, Callaghan Road, S. Acme Road, Castroville Road, and Old US 90 were included in the study network. Figure 3-5 is a map of the ROI showing the study network in relation to the project site. Table 3-11 lists the intersections in the ROI and the LOS calculated in the traffic study. The eastbound (EB) and westbound (WB) frontage roads of US Highway 90 are listed separately in Table 3-11 because they have separate traffic counts and calculated LOSs.

Table 3-11 Summary of Existing Traffic Conditions

Intersection	Control	A.M. LOS	P.M. LOS
S. Acme Road at WB US Highway 90 Frontage Road	Signalized	A	B
S. Acme Road at EB US Highway 90 Frontage Road	Signalized	A	A
S. Acme Road at Castroville Road	Unsignalized	A	A
Castroville Road at Stotzer ramp	Unsignalized	B	A
Old US 90 at Callaghan Road	Signalized	A	A
WB US Highway 90 Frontage Road at Callaghan Road	Unsignalized	A	A
EB US Highway 90 Frontage Road at Callaghan Road	Unsignalized	A	A
Old US 90 at US Highway 90 ramp	Unsignalized	B	C
Military Drive at WB US Highway 90 Frontage Road	Signalized	**E**	**F**
Military Drive at EB US Highway 90 Frontage Road	Signalized	**F**	**F**
Military Drive at Bergquist Drive	Signalized	A	A
Military Drive at Luke Boulevard	Signalized	B	D

Notes:
A.M.=morning
P.M.= afternoon/evening
LOS=level of service
WB=westbound
EB=eastbound
US= U. S. Highway

The results of the existing conditions capacity analysis indicate that most of the study intersections currently operate at an acceptable LOS C or better during the morning (a.m.) and evening (p.m.) peak hours, which occur from 0715 to 0815 hours and 1600 to 1700 hours, respectively. The intersection of the WB US Highway 90 Ramp at Military Drive is currently operating at a LOS E during the a.m. peak and a LOS F during the p.m. peak hour. The intersection of Military Drive and Luke Boulevard is at a LOS D, which is a saturated traffic condition that could be considered poor, but not as congested as LOS E or F. The intersection of the Eastbound US Highway 90 ramp at Military Drive is operating at a LOS F during both the a.m. and p.m. peak hours. The daily traffic volumes through Growdon Gate, based on the data collected, show the inbound daily count was 3,441 and the outbound daily count was 3,611 (ARA-VEP 2011).

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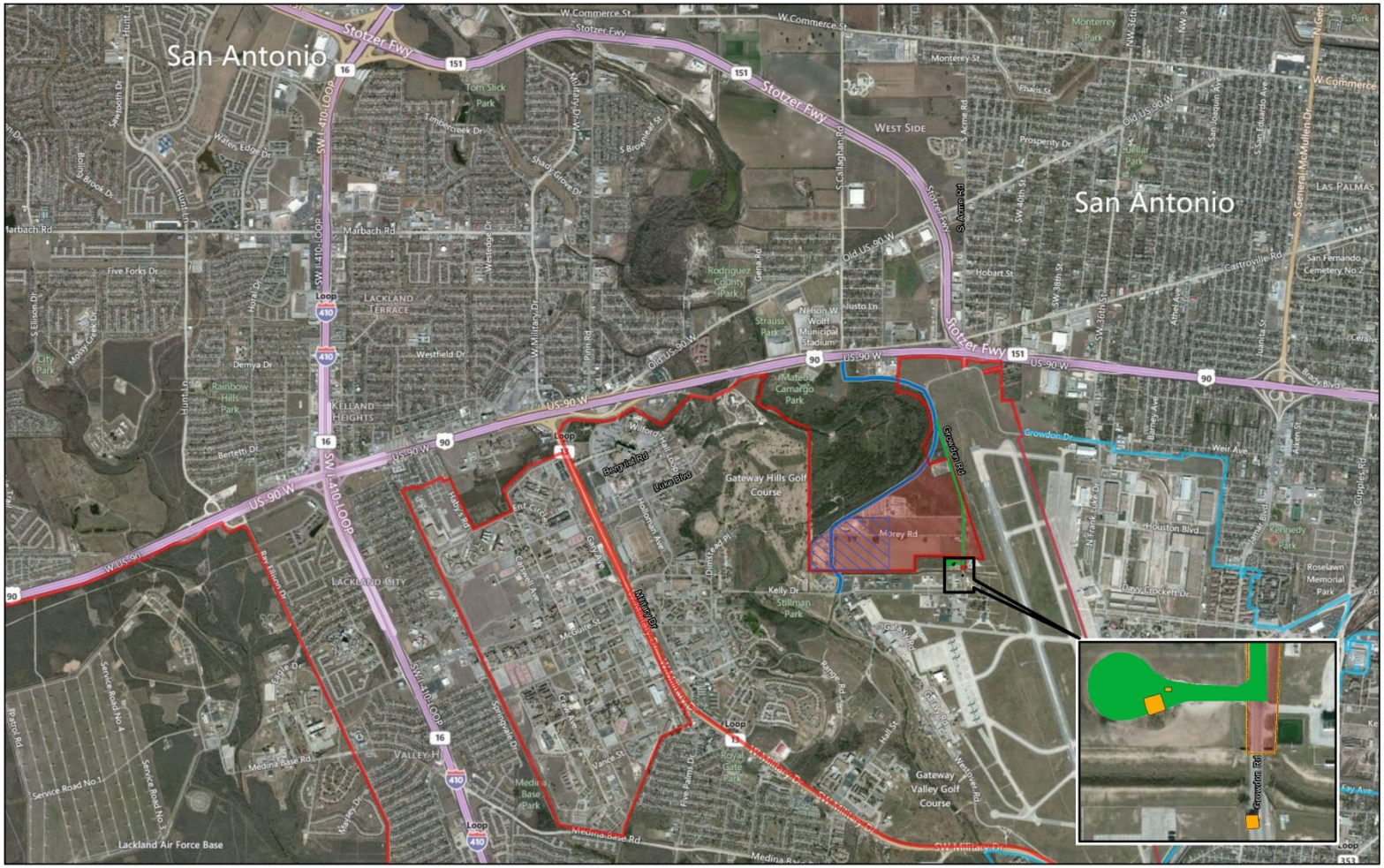

Figure 3-5

Project Traffic Network

JBSA-Lackland

3.3.11 Socioeconomic Resources

JBSA-Lackland is located in Bexar County, Texas, 12.8 miles southwest of downtown San Antonio. Due to the nature of the Proposed Action and the fact that it would not include changes to population, housing, or education, the scope of this section is limited to an analysis of the existing economic conditions within the ROI of the Proposed Action.

3.3.11.1 Economic Activity

JBSA-Lackland's economic influences are geographically far-reaching, affecting Atascosa, Bandera, Bexar, Comal, Guadalupe, Kendall, Medina, and Wilson Counties (Bexar County 2010). The installation generates economic activity in the region through employee payrolls, service contracts, construction programs, local procurements, and other expenditures. The surrounding communities and JBSA-Lackland depend on one another for employment, goods, and services.

JBSA-Lackland is home to more than 120 DoD and associate organizations, including the 37th Training Wing, the largest training wing in the US Air Force (USAF 2010e). JBSA-Lackland is the Air Force's only site for enlisted basic military training and also offers professional and technical skills, and English language training for members of the Air Force, other military services, government agencies, and allies (USAF 2010e).

In FY 2010, the installation supported approximately 6,675 active duty military personnel, approximately 3,250 trainees, approximately 3,745 Appropriated Funds Civilians, and approximately 2,515 other Civilians with a total payroll of over $1.8 billion (USAF 2010e). The Base is the second largest employer in the City of San Antonio (Bexar County 2010). Including construction; services; and other materials, equipment, and supplies procured the total annual expenditures at JBSA-Lackland is over $750 million. JBSA-Lackland's total annual economic impact estimate for FY 2010 was over $3.2 billion (USAF 2010e).

3.3.12 Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, provides that "…each Federal Agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." In an accompanying Presidential memorandum, the President specified that federal agencies shall analyze the environmental effects of their proposed actions on minority and low-income communities, including human health, economic, and social effects when such analysis is required by NEPA.

This analysis follows the *Guide for Environmental Justice Analysis with the Environmental Impact Analysis Process*, November 1997, and the CEQ Environmental Justice Guidance under NEPA, December 1997.

In order to determine if minority and low-income populations are disproportionately impacted by the Proposed Action or No-action Alternative, two areas of comparison must first be determined:

- the area potentially affected by impacts from resources (i.e., air quality, noise, land use), or ROI, and

- the larger regional community that includes the affected area and serves as a Community of Comparison (COC).

Depending on the alternatives, each resource (i.e., air quality, noise, land use) can impact a different ROI. The ROI is the geographic region that would be influenced by a resource as a result of the proposed project. The ROI for this environmental justice analysis includes the census tracts affected by the Proposed Action, including census tract 1614 which is comprised of JBSA-Lackland. The COC is the regional area surrounding the ROI that is the demographic area used to compare and analyze the potential environmental justice impacts that results in the identification of an environmental justice community. For this analysis the COC is the COSA.

Disadvantaged groups within the ROI and COC, including low-income and minority communities, are specifically considered in order to assess the potential for disproportionate occurrence of impacts. For the purposes of this analysis, disadvantaged groups are defined as follows:

- *Minority Population:* Black or African Americans; American Indians and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; and some other race. For the 2010 Census, race and Hispanic origin (ethnicity) were considered two separate concepts and were recorded separately. For the purposes of this analysis, the total minority race population will be separate from the total Hispanic population to determine total minority race population from the Hispanic total within the affected areas.
- *Low-Income Population:* Persons living below the poverty level, according to income data collected in US Census 2010.

Table 3-12 summarizes census data on minority and low-income populations for the affected Census Tracts (the ROI) and for the COSA (the COC). Additional information is provided for Bexar County, the State of Texas, and the US.

Table 3-12 Percent Minority Population and Low-Income Population for Proposed Site

Demographic Area	Total Population	Total Hispanic/ Latino Population	Percent Hispanic/ Latino Population	Total Minority Race Population	Percent Minority Race	All Income Levels	Percent Low-Income
Region of Influence (ROI)							
Census Tract 1614	9,945	777	8	2,739	28	915	15.2
Census Tract 1616	3,958	3,144	79	1,096	28	4,800	39.5
Census Tract 1716.01	4,462	4,077	91	1,393	31	3,676	38.3
Census Tract 1716.02	3,135	2,836	90	1,011	32	3,667	33.5
Census Tract 9801	301	60	20	72	24	348	0.0
Community of Comparison (COC)							
COSA	1,327,407	838,952	63	318,463	24	489,289	18.9
Others							
Bexar County	1,714,773	1,006,958	59	404,845	24	1,682,820	16.9
State of Texas	25,145,561	9,460,921	38	6,765,008	27	24,652,927	17.9
United States	308,745,538	50,325,523	16.3	57,117,925	18.5	296,141,149	13.8

Source: USCB 2011a-f

At least one criteria listed below must be met to determine if an environmental justice community is present:

- If the percentage of minority or low-income population within the ROI is greater than that of the community of comparison, the affected area is considered to be a minority or low-income population.
- If the minority population (including Hispanics or Latinos) or low-income population of the ROI is greater than 50 percent, the affected area is considered a majority-minority or majority low-income population.

According to the percentages listed in Table 3-12, an environmental justice community is present in the area of the Proposed Action. Census Tracts 1614, 1616, 1716.01, and 1716.02 have environmental justice communities because the total percent minority race populations are greater than the COC, making them a majority-minority population. Additionally, Census Tracts 1616, 1716.01, and 1716.02 are considered environmental justice communities because the percent low income populations are greater than the COC, making the Census Tracts majority low-income populations.

CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter describes the potential environmental consequences that are likely to occur as a result of implementation of the Proposed Action or No-action Alternative. The No-action Alternative provides a baseline against which the impacts of the Proposed Action can be compared. Discussion of mitigation measures and best management practices are included, as necessary. If the actions result in irreversible or irretrievable results, it is noted within the sections below. Criteria and assumptions used to evaluate potential impacts are discussed at the beginning of each section.

4.2 CHANGE IN CURRENT MISSION

The activities associated with implementation of the Proposed Action would not change the current mission of the installation. Acquisition of approximately 232 acres and relocation of Growdon Road and CVIA/ECP would continue to support the current and future mission of the installation and the DoD.

4.3 DESCRIPTION OF THE EFFECTS OF ALL ALTERNATIVES ON THE AFFECTED ENVIRONMENT

4.3.1 Noise

The following factors were considered in evaluating potential noise impacts: (1) the degree to which noise levels generated by construction activities were higher than the ambient noise levels; (2) the degree to which there is annoyance and/or interference with activity as a result of the alternative; and (3) the proximity of potential noise-sensitive receptors to the noise source.

Noise naturally dissipates by atmospheric attenuation as it travels through the air. Factors that can affect the amount of attenuation are ground surface, foliage, topography, and humidity. Assuming that noise from the construction equipment radiates equally in all directions, the sound intensity would diminish inversely as the square of the distance from the source. Therefore, in a free field (no reflections of sound), the SPL decreases 6 dB with every doubling of the distance from the source (USEPA 1977). Impacts from noise would be considered significant if the alternative resulted in noise levels at potential noise-sensitive receptors which exceed the baseline noise contours.

4.3.1.1 Proposed Action

The increased noise levels associated with the Proposed Action would come from the construction and demolition of Growdon Road and Growdon Gate, rather than the operation of the new CVIA/ECP. Since the new CVIA/ECP would be more efficient at screening commercial vehicles, engine idling times would be lessened. This would result in a decrease in traffic engine noise associated with operation of the CVIA/ECP.

The noise associated with the operation of machinery on construction sites is typically short-term, intermittent, and highly localized; therefore, noise would not accumulate over time and would last only as long as the duration of the construction and demolition activities.

It is anticipated that typical construction vehicles and equipment to be used during demolition, site preparation, construction, and finishing work would be similar to those presented in Table 3-1. Construction equipment expected to be used at the site would produce peak SPLs ranging from 75 to 85 dBA at 50 ft from the source. The SPL decreases 6 dBA with every doubling of distance from the source (USEPA 1977). It should also be noted that Table 3-1 includes the SPL generated at various distances from the source, but does not account for the ability of sound to be reflected/absorbed by nearby objects, which could further reduce noise levels. Noise levels within buildings are generally reduced by 20 dB, depending on the type of walls and windows (US Navy 2005).

Air Force and civilian workers employed at buildings approximately 300 feet from proposed road construction sites would experience temporary increases in peak noise levels as a result of construction activities; however, these noise levels would be short-term, lasting only as long as the duration of construction activities in that area, and would be further minimized by the noise-reducing properties of building construction. It is anticipated that peak noise levels inside these buildings would be between 44 and 51 dBA. Note that these buildings lie within the 65-69 dB DNL aircraft noise contour; therefore, average baseline noise levels within the buildings is between 45-49 dB.

Areas adjacent to proposed construction activities would temporarily experience peak outside noise levels similar to those noted in Table 3-1. The closest potential residential noise-sensitive receptors are located 0.08 miles north of the project site. These residences are separated from the proposed project site by US Highway 90.

Due to the distance from the site, peak outside noise levels from construction activities would be approximately 67 dBA at the nearest residences. These residences are already located within the 65-69 dB noise contours from the active runway, and are therefore exposed to higher average noise levels on a daily basis. Sound levels within the residences would be even lower due to the sound transmission loss through building walls and windows. Noise levels within buildings are generally reduced by 20 dB, depending on the type of walls and windows (US Navy 2005). Therefore, interior noise levels from construction would be reduced to 47 dB, which is well below the levels which cause hearing loss and annoyance.

The Gateway Hills Golf Course (0.18 miles), located within the 65 – 69 dB noise contour, is also a potential noise-sensitive receptor adjacent to the construction site. Visitors to the golf course would experience peak construction noise levels around 61 dBA. The noise level is below the baseline range of 65-69 dB; therefore, construction noise levels would not cause additional impacts. The noise would last only as long as construction was occurring in the area, and the noise would return to normal levels as construction activities moved away from the site. This site is considered a recreational area and therefore is not a site of permanent residents. Visitors to these sites are intermittent and would only be exposed to elevated noise levels during their visit to the sites. In order to reduce noise exposure to visitors, signage could be posted at each

site during construction in the area, warning of elevated noise levels. Peak noise levels at potential noise-sensitive receptors would not be expected to exceed baseline conditions as a result of the Proposed Action.

The single residence located adjacent to the existing Growdon Road is located approximately 553 feet from the existing Growdon Road, and approximately 340 feet from the proposed Growdon Road. Assuming an average noise level of 80 dBA (at a distance of 49 feet) for medium to heavy trucks travelling less than 35 miles per hour, the residence currently experiences peak intermittent noise levels between 68 dBA and 71 dBA outside the house from the existing Growdon Road. Interior noise levels would be further reduced due to noise-reducing properties of building materials. Since there is no expected increase in traffic on the proposed Growdon Road, using the same noise levels, the residence would experience noise levels of approximately 71 dBA from the proposed Growdon Road, which is not notably louder than baseline conditions (USDOT 1995). Additionally, the residence is currently located within the aircraft noise contour of 75-79 dB DNL, so the average daily noise is currently greater than that of the intermittent traffic noise that would be experienced from the proposed Growdon Road.

4.3.1.2 No-action Alternative

Under the No-action Alternative, no construction activities would occur and there would be no change in the baseline conditions described in Section 3.3.1; however, it is unknown if there would be changes to future noise levels due to off-property development or traffic growth trends.

4.3.1.3 Measures to Reduce Impacts

No mitigation measures would be required. Noise-generating heavy equipment at the project site should be equipped with the manufacturer's standard noise control devices (i.e., mufflers, baffling, and/or engine enclosures). All equipment should be properly maintained to ensure that no additional noise from worn or improperly maintained equipment parts is generated. Construction activities would occur between 0700 and 1900 hours and would be conducted according to OSHA regulations 29 CFR 1910.95 and 29 CFR 1926.52. Occupational exposure to the noise from heavy equipment could be reduced by requiring workers to wear appropriate hearing protection. Hearing protective devices such as ear plugs or ear muffs should be worn at all locations where workers may be exposed to high noise levels.

4.3.2 Land Use

The following factors were considered in evaluating potential land use: (1) the degree to which the action would adversely affect existing sensitive land uses; (2) the degree to which construction and/or resultant road routes would interfere with the activities or functions of adjacent existing or proposed land uses; and (3) the degree to which any physical changes in land use would affect surrounding uses and compatibility with land use plans. The alternatives could have a significant effect if they: 1) conflict in substantial fashion with existing land uses and master planning efforts undertaken by the installation, or 2) conflict in substantial fashion with off-base land uses and master planning efforts of surrounding jurisdictions.

4.3.2.1 Proposed Action

Under the Proposed Action, the acquisition of the 232 acres under the Proposed Action would result in a land use designation change; however, this designation change is compatible with the existing land use.

The COSA property and private property that would be acquired by JBSA-Lackland would change to "Industrial" and "Open Space" land use designations. The portion of the private property that is currently used for production of hay (approximately 70 acres) would no longer be available as farmland. These 70 acres are included in a total of 212 acres of prime farmland that would be lost as a result of the Proposed Action. Since the majority of land surrounding the subject property is considered urban and approximately 70 percent of the subject property is not and has not recently been used for agricultural purposes, the loss of 212 acres of prime farmland would be considered a long-term, minor impact.

The 80 acres slated for the new 2,500 ft long by 1,500 ft wide CVIA/ECP would be designated as "Industrial" land use and the remaining acquired property would be designated as "Open Space" land use. Further, impacts from development of the remaining acres would be analyzed in a separate EA.

The land that would be used for the new 9,000-foot section of Growdon Road would be located primarily off-base. In order to relocate the road to COSA property, the COSA would grant JBSA-Lackland an easement to construct and use the new section of Growdon Road. It is not known if the COSA would change the current land use designation of "Agribusiness Tier" with construction and operation of the new Growdon Road.

The Proposed Action is not expected to result in conflict with existing land uses and master planning efforts undertaken by the installation or the COSA.

4.3.2.2 No-action Alternative

Under the No-action Alternative, there would be no change in the baseline land use designations described in Section 3.3.2.

4.3.2.3 Measures to Reduce Impacts

The Proposed Action would result in compatibility with existing land use in the vicinity; therefore, no mitigation measures or BMPs are proposed.

4.3.3 Air Quality

The following factors were considered in evaluating air quality: (1) the short- and long-term air emissions generated from road construction and demolition; building construction and demolition; and on-road vehicle activities; (2) the type of emissions generated; and (3) the potential for emissions to result in ambient air concentrations that exceed one of the NAAQS or SIP requirements. A conformity analysis is not required if the emissions of NO_x and VOC are emitted in quantities less than the corresponding *de minimis* level. For purposes of analysis, impacts to air quality would be considered significant if emissions from the alternatives would be

considered regionally significant by the USEPA. The air pollutant emission calculations for the Proposed and No-action Alternative included in the sections below are detailed in Appendix G.

4.3.3.1 Proposed Action

Emissions expected from the Proposed Action are summarized in Table 4-1 and would occur during the new Growdon Road construction, the demolition of existing Growdon Road, the construction of buildings and canopies associated with the new CVIA/ECP and the demolition of the existing Growdon Gate buildings and canopies. The only long-term activity associated with the Proposed Action is the vehicular traffic along the new Growdon Road; however, the traffic volumes are not expected to differ from the traffic volumes along the existing Growdon Road. Since the new CVIA/ECP would be more efficient at screening commercial vehicles, engine idling times would be lessened. This would result in a decrease in engine emissions associated with operation of the CVIA/ECP. Long-term emissions would not increase.

Under the Proposed Action it was estimated that the project would take 24 months to complete. For the purpose of this conformity determination, it has been assumed that all emissions associated with the Proposed Action would take place during a one year period.

Review of anticipated emissions from the Proposed Action in Table 4-1 indicates that the greatest impact to the annual local emissions during the project would be PM_{10} with a 63.6 tpy increase. The minor emissions would be temporary and would be eliminated after the activity is completed.

The emission of minor amounts of air pollution would be unavoidable; however, the individual and cumulative impacts during the Growdon Gate/Road relocation would have little impact when compared to the 2008 San Antonio MSA emissions, as shown in Table 4-1. All emissions would fall well below the 10 percent level that would be considered regionally significant by the USEPA.

Table 4-1 Expected Emissions per Construction Year

	CO	VOC	NO_x	SO_x[b]	PM_{10}	$PM_{2.5}$
Proposed Action (tpy)	8.2	1.3	3.0	0.93	63.6	6.6
Percent of Regional Emissions	2.71E-03	2.19E-03	5.00E-03	3.37E-03	0.066	0.052
2008 San Antonio MSA Emissions (tpy)[a]	303,123	59,419	60,045	27,571	95,688	12,659

Notes:
CO = carbon monoxide
MSA = Metropolitan Statistical Area
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter equal or less than 2.5 micrometers in diameter
PM_{10} = particulate matter equal or less than 10 micrometers in diameter
SO_x = sulfur oxides
tpy = tons per year
VOC = volatile organic compound
[a] Includes emissions from point, area, on-road, non-road mobile sources, and biogenic sources. San Antonio MSA consists of Bexar, Comal, Guadalupe, and Wilson Counties. Source: Emissions come from an extract of USEPA's National Emission Inventory (NEI). Data for year 2008 were extracted from the NEI, Version 1.5, May 2011. NEI is an emissions database developed by USEPA, 2008 is the latest year of emissions available. http://www.epa.gov/ttn/chief/net/2008inventory.html

4.3.3.1.1 Greenhouse Gases

Under the Proposed Action approximately 3,513 metric tons of CO_{2eq} would be released. The amount of CO_{2eq} released under the Proposed Action represents less than 0.00006 percent of the 2009 U.S. anthropogenic emissions of CO_{2eq}. This is a limited amount of emissions that would not contribute significantly to climate change, but any emission of GHGs represents an incremental increase in global GHG concentrations. The US Air Force is poised to support climate-changing initiatives globally, while preserving military operations, sustainability, and readiness by working, where possible, to reduce GHG emissions (AFCEE 2012).

Activities under the Proposed Action are not subject to the requirements of the USEPA National Greenhouse Gas Reporting Rule. The Proposed Action does include the construction of new facilities, renovation, or repair and alteration of facilities that might be subject to requirements under EO 13514; however, the construction activities and on-road vehicles associated with the Proposed Action would not be considered in GHG target reductions under E.O. 13514.

4.3.3.2 No-action Alternative

Under the No-action Alternative, there would be no change in the baseline air emissions described in Section 3.3.3. It is unknown if changes in future off-property development or traffic growth trends would affect air quality.

4.3.3.3 General Conformity

The General Conformity rule is set forth in the CFR, 40 CFR 51 Subpart W – Determining Conformity of General Federal Action to State and Federal Implementation Plans. According to 40 CFR 51.853(b), Federal actions require a conformity determination for each pollutant where the total of direct and indirect emissions in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs 40 CFR 51.853(b)1 or 2. The

emission calculations used in this general conformity applicability determination are in Appendix G.

The Proposed Action and No-action Alternative would be located in Bexar County, which is currently designated basic nonattainment area for O_3. All other criteria pollutants are in attainment. Effective July 20, 2012; Bexar County will be designated as unclassifiable/attainment. The three year average ozone concentrations in Bexar County are very close to exceeding the 8-hour ozone standard. Therefore, emissions associated with the Proposed Action and No-action Alternative have been compared to the General Conformity *de minimis* thresholds. The O_3 precursor (NO_x and VOC) emissions are subject to General Conformity requirements. In accordance with the requirements of 40 CFR 51.853(b)1, the *de minimis* threshold set for basic O_3 nonattainment areas is 100 tons per year for O_3 precursors VOC and NO_x.

The annual emission increases associated with the Proposed Action, No-action Alternative, and comparison with the *de minimis* thresholds are presented in Table 4-2. Table 4-2 shows that the annual emissions of NO_x and VOCs during the construction periods of the Proposed Action and No-action Alternative are less than the *de minimis* thresholds. Therefore, no further analysis is recommended.

Table 4-2 Comparison of Emissions to de minimis Thresholds

Pollutants	Proposed Action Emissions (tpy)	No Action Alternative Emissions (tpy)	De minimis Threshold (tpy)
NO_x	3.0	0.0	100
VOC	1.3	0.0	100

Notes:
NO_x = nitrogen oxides
tpy = tons per year
VOC = volatile organic compound

4.3.3.4 Measures to Reduce Impacts

Little impact to local air quality would be expected from the Proposed Action associated with the Growdon Gate/Road relocation at JBSA-Lackland. Therefore, no mitigative actions are proposed. BMPs would include watering the disturbed area of the construction, covering dirt and aggregate trucks and/or piles, prevention of dirt carryover to paved roads, the use of erosion barriers and wind breaks, and the use of low sulfur and bio-diesel fuel in construction/transport vehicles.

4.3.4 Earth Resources

Protection of unique geological features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards are considered when evaluating potential impacts of the alternatives on earth resources. Generally, impacts can be avoided or minimized if proper land conservation and erosion control measures are incorporated into project development.

Effects on geology and soils could be significant if they alter the lithology, stratigraphy, and geological structures or change the soil composition, structure, or function within the environment.

4.3.4.1 Proposed Action

Under the Proposed Action, construction of the new Growdon Road is anticipated to involve placement of new road base and asphalt along the northern and eastern edge of the Leon Creek floodplain buffer zone around to the new gate location. Construction vehicle traffic is expected to be limited to the footprint of the new Growdon Road and no separate haul routes would be constructed. The road construction areas anticipated to be disturbed would be undeveloped portions of COSA property adjacent to Leon Creek, from existing Growdon Road northwest to US Highway 90 at the Callaghan overpass (approximately 3,078 sf), and from the existing Growdon Road southwest to the new CVIA/ECP (approximately 4,427 sf). The proposed relocation of Growdon Road would also cross the man-made storm water ditch located on the boundary of the 232-acre area for acquisition. This crossing is anticipated to be similar to the crossing of that same man-made feature near the Growdon Road CVIA/ECP. The excavation and construction could temporarily increase the potential for erosion and sedimentation runoff into Leon Creek. The contractor would need to acquire a TPDES construction general permit (CGP) for excavation and construction within the ordinary high water mark. Coverage under this permit requires the submittal of a notice of intent (NOI), development and implementation of a SWPPP, and incorporation of BMPs within the SWPPP for sediment control during excavation and construction activities. From construction of the new Growdon Road and removal of the existing Growdon Road, there would be a short-term increase in soil disturbance and dust generated, which would be limited to those areas on or near construction operations and would occur only during the duration of construction.

Construction of the new CVIA/ECP gate would be located on 80 acres of the 232-acre property proposed for acquisition. Construction of the new gate would also generate dust and result in soil disturbance; however, this disturbance would be short-term, would fall off rapidly with distance from the construction site, and would last only as long as the duration of construction.

Additionally, approximately 249,033 sf of Growdon Road from the existing CVIA/ECP to the convergence of the old and new Growdon Road would be demolished. Areas where the roadway is removed would be susceptible to increased erosion. To minimize erosion, the contractor would be responsible for watering the area during demolition activities, as well as revegetation of the area once demolition is complete.

Construction and demolition activities would be expected to last approximately 24 months. All efforts would be made to minimize and suppress dust creation through the use of water trucks during site preparation and construction of the new Growdon Road and CVIA/ECP. Because the disturbed areas would be more than one acre in size, a TPDES general construction permit would be required. Additionally, a City of San Antonio storm water management plan would be required.

A total of 212 acres of prime farmland would be lost as a result of the Proposed Action. Since the majority of land surrounding the subject property is considered urban and approximately 70

percent of the subject property is not and has not recently been used for agricultural purposes, the loss of 212 acres of prime farmland would be considered a long-term, minor impact.

Due to the short duration of construction activities, no long-term or permanent effects to earth resources would be anticipated from vehicular traffic or ground disturbance associated with the Proposed Action. Therefore, it is anticipated that underlying soils would remain relatively intact. As a result of minimal disturbance in the project areas, the Proposed Action would not be expected to alter the lithology, stratigraphy, or geological structures; or change the soil composition, structure, or function.

4.3.4.2 No-action Alternative

Under the No-action Alternative, there would be no construction or demolition activities and therefore, no change in the baseline conditions described in Section 3.3.4.

4.3.4.3 Measures to Reduce Impacts

Construction impacts to earth resources from the Proposed Action are anticipated to be temporary in nature and would not require mitigation measures. However, proposed construction projects should include site-specific sediment and erosion control plans that detail BMPs to prevent soil disturbance, capture and contain loose soil, and slow the movement of storm water during heavy rains. Fugitive dust from construction and demolition activities would be minimized by watering of the soil, and areas where the existing Growdon Road is removed would be re-vegetated to prevent erosion.

4.3.5 Biological Resources

Impacts to biological resources would be considered significant if the Proposed Action or No-action Alternative resulted in

- An adverse effect to any Federal, state, or locally regulated or regionally sensitive species or valuable natural resource (sensitive plant/animal community)
- An adverse effect to endangered, threatened or candidate species or if it adversely modified or destroyed their critical habitat under ESA
- An impact to Federally protected wetlands as promulgated under Section 404 of the CWA through direct removal, filling, changes in hydrology, or other means
- Adverse effects on birds protected by the MBTA

4.3.5.1 Proposed Action

<u>Vegetation</u>
Under the Proposed Action, approximately 80 acres would be used for the construction of the new CVIA/ECP on the west side of the land acquisition. This area is already disturbed and does not support natural vegetation. The new portions of Growdon Road would be approximately 10,131 feet long and 50 feet wide (11.63 acres) and would be routed along the eastern edge of the Leon Creek floodplain buffer zone. The road would stay outside of the riparian habitat and replace land covered with grassland/pasture, mesquite woodland, or highly disturbed areas. The

disturbance of roughly 12 acres of moderate to poor quality vegetation would not pose an adverse impact on vegetation in the project area. Standard construction BMPs (e.g., rock filter dams/silt fences along the west edge of the ROW, drip pans under construction vehicles, hazardous waste/spill response plan, daily collection of human trash, portable toilets) would be used to protect adjacent habitat from degradation and contamination. The Proposed Action would not be expected to adversely affect vegetation communities within or adjacent to the project area.

During the 2011 field survey of the project area, invasive plant species were observed in every habitat type; therefore, the Proposed Action is unlikely to introduce any invasive species to areas where they do not presently exist.

Wildlife

The wildlife inhabiting the project area would be disturbed by the noise and activity (e.g., initial startle and avoidance of area adjacent to the activity) that would occur during the Proposed Action. Following construction completion, the noise and activity levels would be higher than pre-construction conditions because of vehicular traffic noise. Variable positive and negative impacts have been documented in the Federal Highway Administration report Highway Traffic Noise: Effects on Wildlife (Federal Highway Administration 2012). Some sensitive wildlife would move farther away from the new road while other less sensitive animals would not be affected or move closer to the road. Vehicular traffic noise may impact local wildlife, but the impacts would not result in the loss of a regional wildlife population. The area impacted by the action is small and similar wildlife habitat occurs in the immediate area; therefore, any impact on wildlife in the area would be short-term and would not adversely affect animals living in or adjacent to the project area. Note also that wildlife habitat in the project area is exposed to average aircraft noise levels of 65 to 79 dB DNL (See Figure 3-1); therefore, it is likely that wildlife in the area are acclimated to increased noise levels.

Wetlands

No wetlands exist along the proposed new route for Growdon Road, nor in the 80 acres where the new CVIA/ECP would be constructed; therefore, the Proposed Action would have no direct effect on wetlands. The increase in impervious area from the Proposed Action would increase water runoff into Leon Creek. The increased flow in Leon Creek would indirectly affect the wetlands associated with the riparian habitat along Leon Creek; however, the increase in impervious area is minor relative to the overall drainage area; therefore, the effect on the wetlands would be minor. Although the impervious area will increase, the amount of traffic along the road would not change as a result of the Proposed Action, therefore, impacts to surface water quality as a result of vehicle fluid leaks would be similar to baseline conditions.

Protected Species

The Proposed Action would not be expected to impact the three federally-listed endangered bird species (black-capped vireo, golden-cheeked warbler, and whooping crane) or the candidate species for listing (Sprague's pipit) because suitable breeding habitat is not present for these species within the project area. The habitat survey conducted in May 2011 identified suitable, but limited habitat along the proposed project corridor for the state-listed threatened canebrake rattlesnake and migratory habitat for the state-listed threatened bird species (American peregrine

falcon, white-faced ibis, whooping crane, wood stork, and zone-tailed hawk). Although limited suitable foraging habitat is present (primarily west of the project area), no individuals were observed during the surveys.

Most canebrake rattlesnakes occur in the eastern third of Texas where they prefer extensive areas of suitable habitat (Tennant 2006). The project area is on the edge of the known canebrake rattlesnake distribution and its occurrence is unlikely in the limited fragmented habitat present with and adjacent to the project area. The limited area of suitable habitat present for the listed migratory birds would not provide sufficient forage for these species for a long period of time and therefore these species, if they occur, would remain in the area for only a short time.

The riparian area west of the proposed Growdon Road route provides breeding, foraging and resting habitat for migratory birds. The Proposed Action is located primarily outside of the riparian habitat along Leon Creek and would not be expected to result in destruction of breeding nests; however, the noise and disturbance from construction could cause nesting birds to abandon their nests. To mitigate the potential loss of migratory bird nests during construction, clearing of all areas associated with the Proposed Action would be scheduled for a one to two month period during the non-breeding months (August through January). In addition, all standard construction best management practices (e.g., rock filter dams / silt fences along the west edge of the ROW, drip pans under construction vehicles, hazardous waste/spill response plan, daily collection of human trash, portable toilets) would be used to protect adjacent habitat from degradation and contamination. Overall, with the recommended mitigation, the project alternatives would not be expected to adversely affect the population of any occurring species.

4.3.5.2 No-action Alternative

Under the No-action Alternative, there would be no construction or demolition activities due to the Proposed Action and therefore, no change in the baseline conditions described in Section 3.3.5.

4.3.5.3 Measures to Reduce Impacts

Road construction clearing activities would be conducted during the non-breeding season for most migratory birds (August through January) to ensure compliance with the MBTA. This mitigation measure would be included in the Proposed Action to reduce the potential adverse impacts on biological resources, especially protected species. Standard construction BMPs (e.g., rock filter dams/silt fences along the west edge of the ROW, drip pans under construction vehicles, hazardous waste/spill response plan, daily collection of human trash, portable toilets) for runoff control and hazardous material spill control and clean up would also be implemented to prevent adverse impacts to wildlife habitat and waterways.

4.3.6 Cultural and Traditional Resources

Significant impacts to cultural properties would occur only if the Proposed Action or No-action Alternative would adversely affect historic properties. An adverse effect is an undertaking that diminishes the integrity of a property's location, design, setting, materials, workmanship, feeling, or association, or in other words, damages the qualities of the historic property that make it

eligible for listing in the NRHP. An adverse effect can occur through the destruction or alteration of the property, isolation from or alteration of the environment, introduction of intrusive elements (visual, audible, or atmospheric), neglect, and the transfer, lease or sale of the property (ACHP and GSA Interagency Training Center 1995).

The nature and potential significance of cultural resources in the potentially affected areas were identified by considering the following definition: Historic properties, under 36 CFR Part 800, are defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP." For the purpose of these regulations, this term includes artifacts, records, and remains that are related to and located within such properties. The term "eligible for inclusion in the National Register" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP-listing criteria.

4.3.6.1 Proposed Action

Archaeological Resources
Review of previous studies and archeological survey of the proposed APE resulted in the recording of one archeological site, 41BX1886. Since the site was recommended as ineligible for inclusion on the National Register of Historic Places and the State Historic Preservation Officer has concurred, no archeological historic properties are present within the APE. Therefore, the Proposed Action would have no effect on archaeological resources (Appendix E).

Historic Buildings and Structures
Under the Proposed Action, Buildings 1213 and 1217 would be demolished. However, neither is eligible for inclusion on the National Register of Historic Places. Since no eligible historic properties are present within the APE, the Proposed Action would have no effect on historic resources.

4.3.6.2 No-action Alternative

Under the No-action Alternative no archaeological resources or historic properties would be affected; therefore, there would be no change to baseline conditions as described in Section 3.3.6.

4.3.6.3 Measures to Reduce Impacts

Under the alternatives no archaeological resources or historic properties would be affected, therefore, no measures to reduce impacts are proposed.

4.3.7 Water Resources

Significant impacts to water resources resulting from the alternatives would potentially occur if project activities 1) reduce water availability or supply of water to existing users; 2) adversely affect water quality or endanger public health by creating or worsening adverse health hazard conditions; or 3) violate established laws or regulations that have been adopted to protect or manage water resources of an area.

4.3.7.1 Proposed Action

Groundwater

While the shallow alluvial aquifer is located between 5 and 15 feet bgs, and potable groundwater at the project location is estimated to be shallow (approximately 44 feet below ground surface), excavation activities related to the construction of the proposed road and demolition of the existing road, installation of the CVIA/ECP, and demolition of existing facility are not anticipated to reach greater than a depth of 5 feet below ground surface. Demolition waste materials would be properly inspected and disposed, as discussed in further detail in Section 4.3.9.1.3, so that groundwater would not be impacted. The Proposed Action would not reduce water availability or supply of water to existing users, nor would it adversely affect groundwater quality. Construction and demolition activities associated with the Proposed Action would not be expected to create adverse health hazard conditions that would endanger public health. Additionally, the Proposed Action would comply with all applicable laws and regulations that have been adopted to protect or manage water resources in the area. Groundwater is not likely to be encountered or impacted by the Proposed Action.

Surface Water

As part of the Proposed Action, the relocation of Growdon Road would include construction of the proposed road parallel to Leon Creek for approximately 7,500 feet (83%). All activities related to the construction of the road and demolition of the existing facilities and road would be located outside of the banks of Leon Creek. Therefore, the relocation of Growdon Road and demolition activities would have no direct impact on Leon Creek. However, during construction and excavation activities, exposed soils could create the temporary potential for erosion and increased sediment runoff into Leon Creek. Additionally, since the new Growdon Road would be longer than the existing Growdon Road to be demolished, there would be an overall increase in impervious cover. Storm water runoff from the new Growdon Road would drain to Leon Creek via overland sheet flow. Runoff from the additional impervious cover at the new CVIA/ECP would be discharged to Leon Creek via newly constructed storm sewers. The total amount of impervious cover on the project site would increase 70 percent under the Proposed Action. The increase in impervious cover would result in a total increase in storm water runoff by approximately 3.1 cubic feet per second; however, this increase is minor and could be accommodated by existing storm sewer infrastructure and drainage ditches. The quality of storm water runoff could also be impacted due to vehicle fluids that leak onto the newly constructed Growdon Road; however, since there is not expected to be an increase in traffic at the new gate, the impacts to surface water quality would be no different than baseline conditions from traffic on the existing Growdon Road and CVIA/ECP.

The proposed relocation of Growdon Road would also cross the man-made ditch located on the boundary of the 232-acre area for acquisition. This crossing is anticipated to be similar to the crossing of that same man-made feature near the Growdon Road CVIA/ECP. Since this road would cross a jurisdictional waterbody and would not be expected to result in a loss of waters of the U.S. greater than 0.10 acre, the construction activities would be covered under USACE Nationwide Permit 14 for Linear Transportation Projects with no pre-construction notification required. If construction activities were to result in a loss of 0.10 to 0.5 acres of waters of the U.S., pre-construction notification would be required.

Additionally, excavation and construction could temporarily increase the potential for erosion and sedimentation runoff into Leon Creek directly or via storm water ditches. Increased erosion and sedimentation could result in impacts to the water quality of Lower Leon Creek. The contractor would need to acquire a TPDES CGP for excavation and construction activities. Coverage under this permit requires the submittal of a NOI for projects over 5 acres in size, development and implementation of a SWPPP, and incorporation of BMPs within the SWPPP for sediment control during excavation and construction activities. The implemented BMPs would serve to minimize impacts to water quality. Completion of the Proposed Action would have no long-term impacts on surface water quality and quantity at the project location or downstream surface water bodies.

Floodplains

As discussed in Section 3.3.7.3 and depicted in Figure 3-3, approximately 4.7 acres and 8.3 acres of the proposed relocation of the Growdon Road would be located within the 100-year and 500-year floodplains, respectively. While the current Growdon Gate and facilities are located outside the 100-year and 500-year floodplains, approximately 0.07 acres and 0.15 acres of existing Growdon road to be demolished are located within the 100-year and 500-year floodplains, respectively (FEMA 2005).

Section 60.3 (d) (3) of the National Flood Insurance Program requires that communities prohibit encroachments, fill, new development, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through an engineering analysis using hydraulic modeling techniques that the proposed project would not result in any increase in flood levels within the community of the base flood (100-year) discharge. No major alterations to drainage patterns or flood carrying capacities of water courses would occur as part of the Proposed Action. The project would comply with any stipulated permit condition, including engineering analysis or No-Net Rise Certification (as required).

4.3.7.2 No-action Alternative

Under the No Action Alternative, there would be no change in the baseline conditions for ground water, surface water, and floodplains as described in Section 3.3.7.

4.3.7.3 Measures to Reduce Impacts

In accordance with permitting requirements and in order to minimize the potential for increased sediment loading of drainage areas and downstream surface waterbodies, a SWPPP would be developed for the construction of the Proposed Action. The SWPPP would include the implementation of appropriate BMPs, such as silt fencing and rock filter dams, during construction activities. Additionally, any FEMA stipulated permit conditions would be followed during Proposed Action activities. No mitigation measures are proposed.

4.3.8 Hazardous Materials and Wastes

The degree to which the proposed land acquisition, and construction and demolition activities associated with the Proposed Action could affect the existing environmental management practices was considered in evaluating potential impacts to hazardous materials and wastes,

including ERP sites. Significant impacts could result if non-hazardous/regulated and hazardous substances were collected, stored and /or disposed of improperly.

4.3.8.1 Proposed Action

4.3.8.1.1 Hazardous Materials

The use of hazardous materials during the implementation of the Proposed Action is expected to be limited to construction vehicle maintenance (fuel, oils, and lubricants) and construction activities (asphalt, paints, etc.). These materials would be required to be properly contained, manifested, and managed according to all federal, state, and local regulations, AFIs and DoD Directives. Authorization from the JBSA-Lackland 802 Civil Engineering Squadron would be required prior to use of hazardous materials. Additionally, prior to the construction of the new segment of Growdon Road and entrance gate, and the demolition of the current Growdon Road, gate and associated buildings, the contractor would be required to prepare a site/project specific SPCCP to guide construction activities. The plan would require TCEQ approval before work commences.

Asbestos
The buildings on JBSA-Lackland that are scheduled for demolition have not been assessed for ACM. Prior to demolition, an ACM assessment must be conducted in coordination with the Base Asbestos Program Officer. Since the buildings proposed for demolition were built in 2002 and 2005, asbestos is not expected to be found. However, if asbestos is found within the structures, the waste generated from demolition must be handled, accumulated and disposed of in accordance with all federal, state, and local regulations. Due to the size of the buildings proposed for demolition, it is expected that any ACM found within the buildings would be of minimal quantity.

The potential to encounter any previously unidentified ACM (other than the buildings on JBSA-Lackland that are scheduled for demolition) during the Proposed Action is minimal. The known ACM is identified by the investigations conducted for the October 2011 Phase II EBS (see Section 3.3.8.2). On the 232-acre property, the seven structures that have been identified to contain ACM would be included in the land acquisition and there are no plans under the Proposed Action to modify or demolish these structures. If the Air Force decides to demolish or renovate these structures at a later date, to include asbestos removal or abatement, these actions would be assessed under a separate NEPA document.

Under the Proposed Action, any hazardous substances, including asbestos, would be collected, stored and /or disposed of properly to avoid impacts to the environment.

Lead-based Paint
The buildings on JBSA-Lackland that are scheduled for demolition have not been assessed for LBP. Since the buildings proposed for demolition were built in 2002 and 2005, LBP is not expected to be found. However, prior to demolition, a LBP survey must be conducted in coordination with the LBP Management Officer. If LBP is found within the structures, the waste generated from demolition must be handled, accumulated and disposed of in accordance with all federal, state, and local regulations. Due to the size of the buildings proposed for demolition, it

is expected that any LBP found within the buildings would be of minimal quantity. The potential to encounter any previously unidentified LBP (other than the buildings on JBSA-Lackland that are scheduled for demolition) during the Proposed Action is minimal.

The nine LBP-containing buildings on the 232-acre property proposed for acquisition are not proposed for renovation or demolition as part of this Proposed Action. If the Air Force decides to demolish or renovate these structures at a later date, to include LBP removal or abatement, these actions would be assessed under a separate NEPA document, as appropriate.

Pesticides

Currently, the JBSA-Lackland Pest Management Plan applies only to commercially available pesticides. Base records indicate the historical applications of several pesticides that are no longer approved for use. Although these pesticides were used in accordance with manufacturers' guidance and directions, the potential exists for residual concentrations in the soil underlying on-base facilities. If it is necessary to remove soils for off-site disposal, a limited number of random samples would be collected to assess the presence or absence of pesticides in soil, and to properly categorize the soil for hazardous constituents per applicable state and federal regulations. Long-term impacts resulting from the Proposed Action would be positive in the removing of pesticide contaminated soils, if it is found.

Based upon the October 2011 Phase II EBS, there are pesticide-contaminated soils on a portion of the 232 acres proposed for acquisition (Parcel G). The soils identified as contaminated are present within the area that would be disturbed for construction of the new CVIA/ECP. Prior to construction of the CVIA/ECP, additional soil assessment activities must be conducted to determine the extent of contamination, as well as if the contamination concentrations are protective of human health. Additionally, any soils that would be removed and disposed off-site would require waste characterization prior to removal.

Note that other soils within the 232-acres proposed for acquisition could potentially be contaminated; however, additional soil assessment activities for areas not disturbed as part of the Proposed Action would not be required under this action, but would be required before development of those areas. Those actions would be assessed under a separate NEPA document.

4.3.8.1.2 Hazardous Waste

Hazardous wastes are not expected to be generated as a result of the Proposed Action. As discussed in Section 4.3.8.1.1, additional soil analysis should be conducted on the 232 acres proposed for acquisition to determine the extent and level of contamination, if any, so that contaminated soils may be disposed of per applicable federal, state, and JBSA-Lackland regulations. If other hazardous waste is encountered during the activities of the Proposed Action, JBSA-Lackland environmental personnel would be contacted and proper disposal procedures would be followed according to federal, state and JBSA-Lackland guidelines. No hazardous wastes are expected to be generated by the Proposed Action.

4.3.8.1.3 Environmental Restoration Program

As described in Section 3.3.8.6, there are four ERP sites that are located within ¼ mile of the proposed location of the new Growdon CVIA/ECP - Sites AL-722, SS-51, Building 933 and

Building 966. These sites are not likely to impact the new construction or the land acquisition of the Proposed Action in any way.

4.3.8.2 No-action Alternative

Under the No-action Alternative, there would be no change from the baseline conditions described in Section 3.3.8.

4.3.8.3 Measures to Reduce Impacts

Impacts with regard to hazardous materials and wastes would not be expected from the Proposed Action. All hazardous materials and wastes would be managed according to established plans and state and federal regulations. Therefore, no mitigative actions or BMPs are proposed.

4.3.9 Utilities and Infrastructure

The following factors were considered in evaluating potential impacts to infrastructure and utilities: (1) the degree to which a utility service would have to alter operating practices and personnel requirements; and (2) the degree to which the change in demands from implementation of the Proposed Action would impact the utility system's capacity. Impacts to utilities could be considered significant if implementation of the Proposed Action resulted in a change in demand which exceeded the capacity of the utility providers.

4.3.9.1 Proposed Action

4.3.9.1.1 Electricity

Implementation of the Proposed Action would not change overall electrical consumption on JBSA-Lackland or the project area; however, the Proposed Action would require the expansion of some existing electricity lines during the relocation of the Growdon Road CVIA/ECP. Due to the presence of the existing electricity lines at the current Growdon Gate location and limited distribution infrastructure within the acquisition area, it is assumed that electrical distribution components are currently in place within the vicinity of the new CVIA/ECP location. Due to the limited nature of the electrical distribution infrastructure, minor additional distribution electrical infrastructure may be required to tie to the proposed Growdon Road CVIA/ECP. JBSA-Lackland would consult with CPS Energy to ensure that the Growdon Road CVIA/ECP is provided suitable electrical infrastructure and capacity to meet the needs of the new facility.

While service to the existing Growdon Gate would be disconnected, the existing electrical distribution infrastructure maintained by CPS Energy would remain intact and in place. All activities would be coordinated with CPS Energy and all utilities would be located and clearly identified prior to construction. The Proposed Action would not be expected to produce a break in service to unrelated and nearby facilities. Additionally, construction of Growdon Road would not be expected to utilize electricity. There would be no change in electrical demand as a result of the Proposed Action.

4.3.9.1.2 Natural Gas

Implementation of the Proposed Action would have no impact on natural gas utilities as it would not change overall natural gas consumption on JBSA-Lackland or the project area. Additionally, the relocation of the Growdon Road CVIA/ECP would not alter the natural gas distribution infrastructure, as the Growdon Road CVIA/ECP would not be using natural gas. Heating and other utilities would be electrical. All activities would be coordinated with CPS Energy and all utilities would be located and clearly identified prior to construction. The Proposed Action would not be expected to produce a break-in service to unrelated and nearby facilities.

4.3.9.1.3 Solid Waste Disposal

The Proposed Action involves demolishing the existing Growdon Road CVIA/ECP (including Building 1213 and associated canopy, and Building 1217 and the Vehicle Inspection Canopy) and approximately 249,033 sf of the existing Growdon Road. Demolition of approximately 4,230 sf of building area would be expected to generate approximately 328 tons of demolition solid waste. This is based upon a USEPA non-residential demolition rate of 155 pounds per square foot (USEPA 1998). It is important to note that the estimate of 328 tons of solid waste generated is a conservative estimate, since a large portion of the buildings to be demolished are canopies which do not typically generate the same amount of waste as a typical building.

It is anticipated that the demolition of the existing Growdon Road CVIA/ECP would generate approximately 18,235 tons (14,070 cubic yards) of concrete and road-related materials over the life of the project. Additionally, generation of minor construction related material wastes are anticipated during the construction of the Growdon Road relocation and the new CVIA/ECP. The solid wastes generated during construction activities would consist of materials such as solid pieces of concrete and asphalt, metals, and lumber. Solid wastes generated during demolition and construction would be disposed of in accordance with all federal, state, and local laws. Depending on the construction debris materials, solid waste may be diverted from a landfill through recycling or reuse. For materials not diverted, the construction contractor would be responsible for dispose of materials at the Covel Gardens landfill.

The Covel Gardens landfill receives approximately 1.6 million tons of solid waste per year (USAF 2011c). If all the solid, non-hazardous waste generated from the Proposed Action were disposed of at the Covel Gardens landfill, and the waste was generated uniformly over the two year duration of the project, there would be a 0.5 percent increase by weight in the amount of waste disposed at Covel Gardens for that two year period. The Covel Gardens landfill currently has a life expectancy of 75 years (Covel Gardens 2012); therefore, there is sufficient capacity to handle the short-term increase in solid waste.

4.3.9.1.4 Water Supply and Wastewater

The Proposed Action would not adversely affect the volume of annual potable water consumed or wastewater generated at JBSA-Lackland; however, the Proposed Action would require the expansion of some potable water and wastewater distribution systems during the relocation of the Growdon Road CVIA/ECP.

Due to the presence of the existing water and wastewater lines at the current Growdon Gate location and limited infrastructure within the acquisition area, it is assumed that water and wastewater distribution components are currently in place within the vicinity of the new CVIA/ECP location. However, based on the minimal development in the 232-acre property, the current distribution and collection infrastructure would be limited. Therefore, minor additional distribution and collection lines may be required to tie to the proposed Growdon Road CVIA/ECP into the potable water and wastewater systems.

While services to the existing Growdon Road CVIA/ECP would be disconnected, the existing distribution and collection infrastructure, maintained by SAWS, would remain intact and in place. All activities would be coordinated with SAWS and all utilities would be located and clearly identified prior to construction. The Proposed Action would not be expected to produce a break in service to unrelated and nearby facilities.

4.3.9.1.5 Drainage of Storm Water

Short-term increases in soil erosion and sediment loadings in storm water runoff would be expected during the excavation and construction related to the relocation of the Growdon Road CVIA/ECP and removal of the existing Growdon Road. These short-term impacts would be covered under the TPDES CGP permit for large projects (greater than 5 acres) obtained from the TCEQ. The CGP authorizes storm water discharges from large and small construction-related activities where those discharges have a potential to enter surface waters or storm drain systems. Coverage under this permit requires the submittal of a NOI, development and implementation of a SWPPP, and incorporation of BMPs within the SWPPP for sediment control during excavation and construction activities. A SWPPP would be developed following the requirements of the TPDES General Permit (TXR150000) relating to storm water discharges associated with construction activities. For long-term management of storm water at the project site, storm sewers would be constructed in the vicinity of the new CVIA/ECP gate and would be anticipated to discharge to Leon Creek. Since the new Growdon Road would be longer than the existing Growdon Road to be demolished, there would be an overall increase in impervious cover. Storm water runoff from the new Growdon Road would drain to Leon Creek via overland sheet flow. Runoff from the additional impervious cover at the new CVIA/ECP would be discharged to Leon Creek via newly constructed storm sewers that would be designed to handle standard runoff from paved areas. The total amount of impervious cover on the project site would increase 70 percent under the Proposed Action. The increase in impervious cover would result in an increase in storm water runoff by approximately 3.1 cubic feet per second; however, this increase is minor and could be accommodated by existing storm sewer infrastructure and drainage ditches. The quality of storm water runoff could also be impacted due to vehicle fluids that leak onto the newly constructed Growdon Road; however, since there is not expected to be an increase in traffic at the new gate, the impacts to surface water quality would be no different than baseline conditions from traffic on the existing Growdon Road and CVIA/ECP.

4.3.9.1.6 Security

Currently the 232-acre acquisition area and proposed Growdon Road relocation area are unsecured and access is unrestricted from US Highway 90 to the north. The Proposed Action would relocate the secured entrance to the new CVIA/ECP. As part of the Proposed Action, the

secured entrance at the existing Growdon Road CVIA/ECP would remain open during construction activities. Access to the 232-acre acquisition area and proposed Growdon Road relocation area would remain open throughout construction activities. Once the new Growdon Road construction and the CVIA/ECP are complete, the 232-acre acquisition area would be secured and surrounded by security chain-link fences and patrolled and monitored by Air Force Security Forces with the rest of the installation. Following the completion of the relocated Growdon Road CVIA/ECP and Growdon Road, the existing security entrance would be permanently closed by connecting the adjacent security chain-link fences. The Proposed Action is not expected to result in any security breaches and contractors would be responsible for maintaining the security of their own work sites, if outside gated areas of JBSA-Lackland.

4.3.9.2 No-Action Alternative

Under the No Action Alternative, there would be no change in the baseline conditions for any utilities as described in Section 3.3.9.

4.3.9.3 Measures to Reduce Impacts

No mitigation measures are proposed for the Proposed Action. In accordance with permitting requirements and in order to minimize the potential for increased sediment loading of drainage areas and downstream surface waterbodies, a SWPPP would be developed for the construction of the Proposed Action. The SWPPP would include the implementation of appropriate BMPs, such as silt fencing and rock filter dams during construction activities. Likewise, all solid wastes generated during the construction phase and subsequent operation would be disposed of properly.

4.3.10 Transportation

The potential effects on transportation were evaluated by comparing the projected transportation conditions with the existing conditions. The assessment analyzes whether changes resulting from the Proposed Action would have adverse impacts on the transportation services within the ROI discussed in Section 3.3.10. Impacts to transportation would be significant if they would create major traffic hazards or increase traffic to an LOS E or worse.

4.3.10.1 Proposed Action

According to the 2011 traffic study prepared for the project area (Appendix F), relocation of Growdon Road and the CVIA/ECP would have little effect on the overall traffic situation within the ROI. The future condition analysis shows that after relocation of Growdon Road and the CVIA/ECP, the eastbound frontage road of US Highway 90 at Callaghan Road would remain at LOS A with only slightly longer delay times (Table 4-3). The intersection capacity for both eastbound and westbound US Highway 90 frontage roads at Callaghan Road would remain less than 50 percent utilized. In the event that large numbers of additional commercial trucks were to use the new CVIA/ECP, the percent utilization of the eastbound and westbound US Highway 90 frontage roads at Callaghan Road would increase, possibly affecting the LOS. However, with the current level of traffic within the ROI, the current roadways would have sufficient capacity to support the relocation of Growdon Road and CVIA/ECP. The Proposed Action would not be

expected to create major traffic hazards or increase traffic to a LOS E or worse. Permits for new road access would be cleared through state and federal agencies, as required.

Table 4-3 Traffic Conditions at Relocated Growdon Road Access to US Highway 90

US 90 Frontage Road at Callaghan	Peak Hours	Existing Conditions			Predicted Future Conditions		
		Level of Service	Delay (seconds)	% of capacity used	Level of Service	Delay (seconds)	% of capacity used[1]
Westbound	a.m.	A	0.23	23.2	A	0.41	40.8
Eastbound	a.m.	A	0.31	30.7	A	0.41	40.8
Westbound	p.m.	A	0.20	19.5	A	0.45	45.2
Eastbound	p.m.	A	0.26	26.1	A	0.45	45.2

Source: ARA-VEP 2011–Appendix C
Notes:
[1] Capacity utilization is the same for east and westbound frontage roads due to nature of the Synchro 7 model.

4.3.10.2 No-action Alternative

Under the No-action Alternative, the existing Growdon Road CVIA/ECP would continue to be used. Daily traffic volumes in the area would likely increase significantly under the No-action Alternative due to other installation development activities (yet to be evaluated under NEPA); however, the No-action Alternative would not be expected to create major traffic hazards or increase traffic to a LOS E or worse. Additionally, it is possible that there could be changes to future traffic levels due to off-installation development or traffic growth trends projected within the next few years.

4.3.10.3 Measures to Reduce Impacts

No mitigation measures or BMPs are proposed, as no adverse impacts were found for the Proposed Action. Some potential may exist for improvement of LOS at other gates if existing or future classes of traffic (e.g. commercial truck traffic) are redirected to the proposed Growdon Road CVIA/ECP.

4.3.11 Socioeconomic Resources

Since the Proposed Action would not affect local populations, housing, or education, the socioeconomic analysis in this EA was limited to effects on the economy. Socioeconomic impacts would be considered significant if long-term employment rates decreased or the amount of local business decreased.

4.3.11.1 Proposed Action

Under the Proposed Action, the local economy would benefit from expenditures incurred from the relocation of Growdon Gate and Growdon Road. Construction materials and goods (e.g, gasoline for equipment and trucks) would be expected to be purchased from the local area. However; it should be noted that employment in the area would not increase since it is expected that the construction companies would utilize their current employees. The Proposed Action would not affect long-term employment rates or decrease local business.

4.3.11.2 No-action Alternative

Under the No-action Alternative, there would be no change in the baseline conditions described in Section 3.3.11.

4.3.11.3 Measures to Reduce Impacts

The Proposed Action would have short-term positive impacts on the local economy; therefore, no mitigative actions or BMPs are proposed.

4.3.12 Environmental Justice

In order to comply with EO 12898, ethnicity and poverty status in the study area has been analyzed. The ROI for each resource area has been evaluated within the COC in order to identify the presence or absence of environmental justice populations. Environmental justice impacts would be considered significant if there are disproportionate and adverse impacts to minority or low-income populations as a result of the Proposed Action.

4.3.12.1 Proposed Action

As established in earlier sections, the ROI for the environmental justice analysis are the Census Tracts affected by the Proposed Action. There are minority and low-income populations present within the ROI that could be impacted by the Proposed Action. Since it is unknown which residences within these Census Tracts are minorities or low-income, for purposes of this analysis, it was assumed that all residences within Census Tracts 1614, 1616, 1716.01, and 1716.02 were minority or low-income. These populations are hereinafter referred to as environmental justice communities.

Most impacts would be localized to the project site and would not impact surrounding communities. Construction activities would result in a short-term increase in noise levels at residences of environmental justice communities; however, the distance of the construction activities to the environmental justice communities would result in an attenuation of outdoor construction noise to approximately 75 dB. Additionally, interior noise levels within residences would be reduced below 57 dB due to the properties of the building's construction materials. Since these residences are located within the 65 dB to 79 dB DNL noise contours, and are also located near US Highway 90 traffic, they are currently exposed to higher noise levels on a daily basis and the increase in construction noise over baseline conditions would be negligible. Construction noise would be limited to the hours of 7:00 a.m. and 7:00 p.m. and would last only as long as the duration of construction activities.

Under the Proposed Action there would not be an increase in traffic utilizing the newly constructed Growdon Road or CVIA/ECP. Vehicles accessing the new Growdon Road would turn off of the US Highway 90 Access Road approximately 0.7 miles west of the current Growdon Road access point at Acme Road. This new access point is directly across US Highway 90 from a residential neighborhood considered as an Environmental Justice community in this analysis. Since commercial vehicles utilizing both the existing and proposed Growdon CVIA/ECP would likely access the gate via the US Highway 90 Access Road, and there would

not be a change in commercial vehicle throughput at the gate, it is expected that there would not be an increase in commercial vehicle traffic on the US Highway 90 Access Road as a result of the Proposed Action. Therefore, there would be no change in noise levels as a result of modified commercial vehicle traffic patterns. Additionally, since these residences are located near US Highway 90 traffic, they are currently exposed to higher noise levels on a daily basis.

The single residence located adjacent to the existing Growdon Road is considered in this analysis for Environmental Justice impacts. The house located on the property is located approximately 553 feet from the existing Growdon Road, and approximately 340 feet from the proposed Growdon Road. The residence currently experiences exterior intermittent noise levels between 68 dBA and 71 dBA from the existing Growdon Road, and would experience noise levels of approximately 71 dBA from the proposed Growdon Road, which is not markedly louder (USDOT 1995). Additionally, the residence is already within the aircraft noise contour of 75-79 dB DNL, so the average daily noise is currently greater than that of the intermittent traffic noise that would be experienced from the proposed Growdon Road. There would be no disproportionate and adverse impacts to minority or low-income populations as a result of the Proposed Action.

4.3.12.2 No-action Alternative

Under the No-action Alternative, there would be no change to baseline conditions described in Section 3.3.12 and no impacts to environmental justice communities.

4.3.12.3 Measures to Reduce Impacts

No mitigation measures are proposed for the Proposed Action. However, for construction related noise, BMPs to reduce noise would include utilization of standard noise control devices on equipment and limitation of hours of construction. Additionally, noise level reduction properties of building's construction materials would serve to lessen noise impacts. Additionally, noise related to traffic may show improvements for receptors near other gates should additional traffic be directed through Growdon rather than one of the other gate (e.g. on Military Drive).

4.3.13 Cumulative Impacts

Noise

The actions of others (e.g. major known projects described in Section 2.5) are all principally construction projects of temporary duration and the noise would naturally dissipate with distance from the site. The only project close enough to potentially generate noise impacts in the same time frame as the Proposed Action is the SAWS Western Watershed Sewer Relief Line C project. Construction noise generated from this project would not be appreciably different from those projects that are part of the Proposed Action. The distance of construction activities from the Western Watershed Sewer Relief Line C to noise sensitive receptors located 0.08 miles from the Proposed Action is such that its construction noise would be expected to produce a peak SPL of approximately 49 dBA at the noise sensitive receptors. This SPL, in combination with that from construction and demolition associated with the Proposed Action (67 dBA) would be expected to produce a peak SPL of 67.08 dBA. This is only minimally higher than that from the Proposed Action and is still lower than the average noise levels generated from aircraft utilizing

the nearby runway. Therefore, the projects described in Section 2.5 like the SAWS project would have a negligible cumulative impact on existing noise levels in the area when combined with impacts from the Proposed Action. If future additional development were to occur within the project area, it is likely that increased traffic on the new Growdon Road and nearby roadways would result in increases in vehicle noise and congestion.

Land Use

Projects described in Section 2.5, when considered with the Proposed Action, would not adversely affect land use resources. The Proposed Action would result in land use designation changes that would remain compatible with existing land uses. These impacts would be limited to the project area and would not contribute to land use impacts from the reasonably foreseeable actions of others (e.g. the projects described in Section 2.5). The remaining 152 undeveloped acres under the Proposed Action is anticipated to be developed at some point in the future; however, it is not yet known how it will be developed. Future development would be assessed under a separate NEPA document. The two projects described in Section 2.5 that are nearest to the Proposed Action, the SAWS Western Watershed Sewer Relief Line C project and the Ambulatory Care Center would not result in changes to land use designations and would not change the footprint of developed areas. The SAWS Sewer Relief Line would be installed underground and would not impact land use. The Ambulatory Care Center would be constructed on a previously disturbed area.

Air Quality

The Proposed Action would not result in a long-term increase in emissions. The short term emissions from the Proposed Action would be from mobiles sources (equipment and vehicles) and fugitive dust. These emissions quickly dissipate within the vicinity of activity source, thereby resulting in a temporary minor impact when considering similar impacts from the reasonably foreseeable actions of others (such as form projects described in Section 2.5).

The limited amount of GHG emissions from the Proposed Action and the other foreseeable projects (e.g. Section 2.5) would not contribute significantly to climate change, but any emission of GHGs represents an incremental increase in global GHG concentrations.

Finally, the effect of vehicle emissions due to traffic is not anticipated to be significantly different from current conditions due to the Proposed Action. However, efficiencies in commercial vehicle screening at the new CVIA/ECP would lessen engine idling times, resulting in a decrease in engine emissions. This would help to improve air quality when considering various engine emissions resulting from other reasonably foreseeable projects.

Earth Resources

Construction and demolition activities occurring under the Proposed Action, would result in a short-term increase in soil disturbance and dust generated. These impacts would fall off rapidly with distance from the construction site, would last only as long as the duration of construction and would be managed through use of BMPs associated with a site specific SWPPP. Similar impacts would be expected for the other projects described in Section 2.5, including the project nearest to the Proposed Action – the SAWS Western Watershed Sewer Relief Line C. While the impacts to earth resources as a result of that project would be localized to the project site, a

portion of that project would occur within the project site of the Proposed Action. If these two projects were to occur during the same timeframe, it is possible that there could be increased erosion due to soil disturbance from construction. The area of project overlap is located approximately 600 feet from Leon Creek, indicating potential for sediment loading of the creek during heavy rain events. Contractors should take care to implement BMPs on both projects to help avoid impacts to water quality from sediment loading. The cumulative effect of loss of soils due to erosion from the combined actions of the proposed project and others is not known; however, it is anticipated that should all similar projects utilize local/state/federal BMPs, that the effect would be minimized. Finally, the Proposed Action would reduce the amount of Prime Farmlands available for agricultural use by approximately 212 acres (70 of which are currently used for agricultural purposes), while the other projects listed in Section 2.5 would be constructed on areas already urbanized or on military lands. Therefore, there would not be a cumulative impact to Prime Farmlands.

Biological Resources

The riparian area west of the proposed Growdon Road route provides breeding sites and foraging and resting habitat for migratory birds. The Proposed Action would create noise and disturbance during construction that could cause nesting birds to abandon their nests. The cumulative effect of the nearest other project (SAWS Sewer Line C) if performed around the same time could, due to its location along the western edge of Leon Creek, have a similar potential to disturb nesting migratory birds The Proposed Action would mitigate the potential loss of migratory bird nests during construction by scheduling construction in that area for the non-breeding months (August through January); therefore, the Proposed Action would not be anticipated to have an adverse effect on migratory birds alone or cumulatively with the SAWS project. It is however reasonable to assume that minor incremental loss of even low-quality habitat such as within the proposed project foot print may contribute to regional development trends within JBSA and COSA and could have a adverse cumulative effect on habitats and foraging areas within the county. This effect is insignificant compared to the total acreage of undeveloped habitats across the state.

Cultural and Traditional Resources

Since there are no known eligible archeological resources or historic properties within the APE, the Proposed Action would not contribute to any cumulative effects trends for these resources in the area.

Water Resources

The Proposed Action would not impact groundwater and would contribute minimal impacts to surface water. The actions of others (section 2.5) in conjunction with the minimal impact of the Proposed Action could result in adverse impacts to the water quality of Lower Leon Creek. The Proposed Action would not permanently alter or affect Leon Creek or surface water flows or geomorphic features. Under the Proposed Action, construction and demolition activities would incorporate BMPs to address sediment control and runoff to minimize impacts to the current floodplain and Leon Creek water quality.

Hazardous Materials and Wastes

The Proposed Action would require the management of minimal amounts of potential hazardous materials, including ACM and LBP, if found during surveys of buildings to be demolished. Management of these materials would occur under the existing JBSA-Lackland management programs and would not result in adverse effects. Hazardous wastes are not expected to be generated as a result of the Proposed Action. Therefore, the Proposed Action would not contribute to cumulative effects to hazardous materials and wastes in or around JBSA-Lackland. The actions of others (e.g. section 2.5 projects) and the Proposed Action are anticipated to cumulatively contribute over time to a reduced capacity in the nearest hazardous waste landfill and or increased use of treatment systems to reduce the materials to non-hazardous or less hazardous constituents which may ultimately displace capacity in a more common solid waste landfill (i.e. Covel Gardens Landfill). This effect is anticipated to be minimal and minor.

Utilities and Infrastructure

The Proposed Action would not change overall wastewater generation, potable water usage, installation communications, electricity/natural gas consumption, or security and therefore, would not contribute to cumulative effects to these resources.

Temporary increases in solid waste disposal resulting from the Proposed Action, combined with solid waste generated from the actions of others described in Section 2.5 would generate an additional load on the Covel Gardens landfill. The amount of waste generated by the Proposed Action would be minor in comparison to the waste generated from the other four projects considered for cumulative effects analysis. It should be noted that the construction and demolition of all of these projects would not likely occur simultaneously; therefore, the increased load on the Covel Garden landfill operations would be distributed over several years and would only last as long as the duration of construction and demolition activities. Currently, the Covel Garden landfill has a life expectancy of 75 years. The waste disposed from these projects could slightly shorten the landfill life expectancy; however, there is sufficient capacity at the landfill to accommodate this increase.

The actions of others (section 2.5) in conjunction with the minimal impact to surface water from the Proposed Action could result in adverse impacts to the water quality of Lower Leon Creek due to increased erosion and sedimentation. Under the Proposed Action, construction and demolition activities would incorporate BMPs to address sediment control and runoff to minimize impacts to water quality of the Lower Leon Creek.

Transportation

The Proposed Action is not expected to adversely affect the transportation systems within the ROI. Future conditions, including the other installation projects described in Section 2.5, are likely to have an adverse impact on traffic in the ROI. The effect on the intersection of US Highway 90 and Callahan Road would be minor. The cumulative changes in the traffic conditions at some of the other intersections would be severe. The cumulative impact on the intersection of westbound US Highway 90 at Military Drive would be reduced to an unacceptable LOS if not mitigated. Mitigation measures to help alleviate these conditions are recommended in the Transportation Impact Study in Appendix C (ARA-VEP 2011). As the other

installation or regional projects are planned, JBSA-Lackland would need to implement the measures identified for mitigating the traffic impact on this intersection. It is anticipated that capacity and LOS for the primary arteries and highways serving JBSA-Lackland could degrade due to increased regional development and population growth demand increase in the region, however participation in local and regional transportation planning agencies and programs (e.g. metropolitan planning organizations and State long-range planning documents) could mitigate these cumulative effects through planned facility or system improvements. Specifically, improvements to 36th Street could serve to improve traffic conditions in the area near US Highway 90.

Socioeconomic Resources

The Proposed Action would not affect local populations, housing or education; therefore, it would not contribute to cumulative effects for these components of Socioeconomic Resources. However, short-term economic expenditures associated with the construction of the Proposed Action and other installation development projects described in Section 2.5 would cumulatively have beneficial socioeconomic effects in and around the area of JBSA-Lackland.

Environmental Justice

There is an environmental justice population in the ROI. Most impacts to resources would be localized to the project site and would not impact surrounding communities. Cumulative construction noise impacts to minority populations from the Proposed Action or those reasonably forseeable actions of others (i.e. section 2.5 projects) would be temporary and would not exceed baseline conditions. Impacts due to local and regional transportation noise are not anticipated to change due to the proposed project or those projects of others identified in Section 2.5; however, increased ambient noise levels may be experienced within the entire JBSA area due to regional trends. Therefore, cumulative noise impacts would not disproportionately and adversely impact minority or low-income populations identified nearest to the proposed project.

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CHAPTER 5
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CHAPTER 6
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Covel Gardens Landfill
Byran Turner

CHAPTER 7
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