Draft

Standard Army Qualification Ranges at Nellis AFB Small Arms Range Environmental Assessment

Prepared for

Nevada Army National Guard and Nellis AFB

March 2010

ACRONYMS AND ABBREVIATIONS

ACC	Air Combat Command
AFB	Air Force Base
AFI	Air Force Instruction
AQRV	Air Quality Related Value
AR	Army Regulation
BAQ	Bureau of Air Quality
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAT-M	Combat Arms Training and Maintenance
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CPQC	Combat Pistol Qualification Course
CWA	Clean Water Act
dB	Decibel
DoD	Department of Defense
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FNSI	Finding of No Significant Impact
FONSI	Finding of No Significant Impact
ft	Foot/Feet
FY	Fiscal Year
Hp	Horsepower
H_2S	Hydrogen Sulfide
H_2SO_4	Sulfuric acid mist
HAPs	Hazardous Air Pollutants
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
km	Kilometer
LEED	Leadership in Energy & Environmental Design
$\mu g/m^3$	micrograms per cubic meter
METL	Mission Essential Task List
MK	Mark (as in MK-240 machine gun)
MRF	Modified Record Fire
MPMG	Multipurpose Machine Gun
NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station
NDEP	Nevada Division of Environmental Protection
NEPA	National Environmental Policy Act
NOA	Notice of Availability
NOI	Notice of Intent
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxide
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NSR	New Source Review
NTTR	Nevada Test and Training Range
NVARNG	Nevada Army National Guard
O_3	Ozone
OSHA	Occupational Health and Safety Act
Pb	Lead
$PM_{2.5}$	Particulate Matter less than 2.5 Microns
PM_{10}	Particulate Matter less than 10 Microns
ppm	Parts Per Million
PSD	Prevention of Significant Deterioration
Q/D	Quality/Distance
RCRA	Resource Conservation and Recovery Act
ROCA	Range Operations and Control Area
SAR	Small Arms Range
SAW	Squad Automatic Weapon
SDZ	Surface Danger Zone
SF	Square Foot/Feet
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SRM	Short-range Marksmanship
TC	Training Circular
U.S.	United States
USACE	United States Army Corps of Engineers
USAR	United States Army Reserve
USCHPPM	United States Center For Health Promotion and Preventative Medicine
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WoUS	Waters of the United States

Privacy Advisory for Draft EA

Public comments on the draft Environmental Assessment (EA) are requested. Written comments received during the comment period will be considered during preparation of the final EA. Private address information provided with comments will be used solely to develop a mailing list for the final EA distribution and will not be otherwise released.

DRAFT FINDING OF NO SIGNIFICANT IMPACT (FNSI)
NEVADA ARMY NATIONAL GUARD STANDARD ARMY QUALIFICATION RANGES AT NELLIS AIR FORCE BASE, NEVADA.

1.0 INTRODUCTION

The Nevada Army National Guard (NVARNG) prepared an Environmental Assessment (EA) to identify and evaluate potential environmental effects from construction and operation of new Standard Army Qualification Ranges at the existing Nellis AFB Small Arms Range (SAR). The NVARNG prepared the EA in accordance with the National Environmental Policy Act (NEPA, 42 U.S. Code [USC] § 4321 to 4370e), Council on Environmental Quality (CEQ) Regulations for Implementing the Provisions of NEPA (CEQ Regulations, 40 Code of Federal Regulations [CFR] Parts 1500-1508), *Environmental Analysis of Army Actions* (32 CFR 651), and Air Force Instruction 32-7061 as promulgated in 32 CFR 989.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND NO-ACTION ALTERNATIVE

NVARNG proposes to construct and operate new Standard Army Qualification Ranges at the existing Nellis AFB SAR. Construction would include building ranges and support facilities and would take place in three phases. The first phase of the proposed action would include construction of three separate ranges, one eight-lane Combat Pistol Qualification Course, and two 10-lane 25 m Zero Ranges. Phase I of the project would require a total of approximately 67 acres of ground clearing activities and is planned for construction in FY 2010 upon completion of this EA. Phase II of the project would construct one 16-lane 300 m Modified Record of Fire (MRF) range and would be built within the 67 acre footprint of Phase I. Construction for Phase II would take place in FY 2010 also upon completion of this EA. Phase III of the project would construct a multi-purpose machine gun (MPMG) range immediately to the east of the existing range. Although the MPMG range would be constructed in accordance with Army Training Circular-25-8, specific design has not been initiated and the amount and exact locations of clearing and grubbing is still unknown but is estimated at 35 acres. The MPMG range would be an independent action constructed in FY 2012 or 2013 upon completion of a tiered or separate NEPA document. Three options for crossing a Jurisdictional Waters of the United States (WoUS) are proposed; avoidance by going around the WoUS, crossing at the grade level of the WoUS, and crossing over the top of the WoUS using a culvert. NVARNG would exercise the avoidance option. Several alternative sites were considered but not carried forward. Under the no-action alternative, the Nellis AFB SAR would not be constructed and Soldiers would continue to train at Fallon Nevada.

3.0 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The EA provides an analysis of the potential environmental consequences resulting from implementation of the proposed action. Seven resource categories were thoroughly analyzed to identify potential impacts. According to the analysis in this EA, implementation of the proposed action would not result in significant impacts to any resource category. The potential impacts under the proposed action and the no-action alternative are summarized below.

Air Quality. Impacts to air quality associated with construction activities would be short-term and contribute less than 0.0001 percent to the regional air emissions, thereby resulting in negligible adverse impacts to regional air quality. Under the no-action alternative, impacts to air quality would not be expected since baseline emissions would remain unchanged; therefore, implementing the no-action alternative would not result in adverse effects to the regional air quality.

Soils and Water Resources. Some soil erosion could occur, but no long-term adverse impacts to soils or surface water would occur. Groundwater sources would not be affected from construction activities associated with the proposed action. Under the no-action alternative, the Standard Army Qualification Range would not be constructed on Nellis AFB at this time; therefore, impacts to these resources beyond baseline conditions would not be expected.

Biological Resources. The desert tortoise a federally threatened reptile is known to exist on the proposed action location. No other threatened, endangered, or sensitive species are known to occur on proposed Standard Army Qualification Range site on the Nellis AFB SAR. Terms and Conditions of the Programmatic Biological Opinion (USFWS 2007) for the Desert Tortoise would be implemented and as a result, no significant impacts to the desert tortoise or habitat are expected. Under the no-action alternative, no changes to existing biological resources would occur since the proposed construction would not take place.

Socioeconomics. A short-term, positive input into the regional economy would occur during the construction period. No changes would be anticipated with implementation of the no-action alternative.

Hazardous Materials and Waste Management. Under the proposed action, no changes to hazardous materials or waste streams would occur. No Environmental Restoration Program sites would be disturbed as none are found in the project area. No impacts to the handling of hazardous materials or waste management would occur through implementation of the no-action alternative since the Standard Army Qualification Range would not be constructed.

Health and Safety. Additional Surface Danger Zones (SDZs) would be established for the proposed action, but all of the Phase I, II and III SDZs fall on Nellis AFB controlled property and would not affect safety to the general public or military personnel. Under the no-action alternative, no changes to safety would occur since the proposed construction would not take place.

Cultural Resources. The entire base has been surveyed for archeological resources and the proposed action location is several miles away from the sole potentially eligible site. A letter providing the appropriate documentation and concurrence by the associated tribes was forwarded to the State Historic Preservation Office (SHPO) in 2001. SHPO concurred with the determination and no further SHPO or Native American consultation is required. No changes would be anticipated with implementation of the no-action alternative.

4.0 REGULATIONS

This EA is compliant with NEPA, 42 USC § 4321 et seq., CEQ regulations, 40 CFR Parts 1500-1508, 32 CFR Parts 651 and 989. The Proposed Action would not violate any Federal, State, or local environmental regulations.

5.0 COMMITMENT TO IMPLEMENTATION

The National Guard Bureau (NGB) and NVARNG affirm their commitment to implement the Proposed Action consistent with the recommendations and requirements outlined in this NEPA-compliant EA. Implementation of the action will be dependent on funding. The NVARNG and the NGB's Environmental Programs, Training, and Installations Divisions will ensure that adequate funds are requested in future years' budgets to achieve the goals and objectives set forth in this EA.

6.0 PUBLIC REVIEW AND COMMENT

The draft EA was made available for review and comment from March 26, 2010 to April 26, 2010 at the Las Vegas Library Reference Section, Las Vegas, NV. Comments received TBD

7.0 DRAFT FINDING OF NO SIGNIFICANT IMPACT

After careful review of the EA, I have concluded that implementation of the Proposed Action will not generate significant controversy or have a significant impact on the quality of the human or natural environment. Per CFR Part 651, the draft FNSI will be made available for a 30-day public review and comment period. Once any public comments have been addressed and if a determination is made that the Proposed Action will have no significant impact, the FNSI will be signed and the action will be implemented upon appropriation of adequate funding. This analysis fulfills requirements of NEPA and CEQ Regulations. An Environmental Impact Statement will not be prepared, and the NGB is issuing this FNSI.

On the basis of the findings of the EA, and after careful review of the potential impacts of the proposed action and no-action alternative, I find that there would be no significant impact on the quality of the human or natural environment from the implementation of the proposed action or no-action alternative described in the EA. Therefore, I find there is no requirement to develop an Environmental Impact Statement. In accordance with Executive Order 11990, *Protection of Wetlands*, and the written delegations accomplished pursuant to the order, I find that there would no impact on wetland environments from this construction since the NVARNG would avoid disturbing the WoUS. If at a later date, this proves to be impracticable, a Finding of No Practicable Alternative would be prepared.

_____	_____
Date	Michael Bennett
	COL, US Army
	Chief, Environmental Programs Division

DRAFT

FINDING OF NO SIGNIFICANT IMPACT

1.0 NAME OF THE PROPOSED ACTION

Nevada Army National Guard Standard Army Qualification Ranges Environmental Assessment at Nellis Air Force Base, Nevada.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND NO-ACTION ALTERNATIVE

NVARNG proposes to establish and operate new Standard Army Qualification Ranges immediately adjacent to the existing Nellis AFB Small Arms Range (SAR). Construction would include building ranges and support facilities and would take place in three phases. The first phase of the proposed action would include construction of three separate ranges, one eight-lane combat pistol qualification range, and two 10- lane 25 m ranges. Phase I of the project would require a total of approximately 67 acres of ground clearing activities and is planned for construction in FY 2010 upon completion of this EA. Phase II of the project would construct one 16-lane 300 m Modified Record of Fire (MRF) range and would be built within the 67 acre footprint of Phase I. Construction for Phase II would take place in FY 2010 also upon completion of this EA. Phase III of the project would construct a multi-purpose machine gun (MPMG) range immediately to the east of the existing range. Although the MPMG range would be constructed in accordance with Army Training Circular-25-8, specific design has not been initiated and the amount and exact locations of clearing and grubbing is still unknown but is estimated at 35 acres. The MPMG range would be an independent action constructed in FY 2012 or 2013 upon completion of a tiered or separate NEPA document. Three options for crossing a Jurisdictional Waters of the United States (WoUS) are proposed; avoidance by going around the WoUS, crossing at the grade level of the WoUS, and crossing over the top of the WoUS using a culvert. NVARNG would exercise the avoidance option. Several alternative sites were considered but not carried forward. Under the no-action alternative, the Nellis AFB SAR would not be constructed and Soldiers would continue to train at Fallon Nevada.

3.0 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The Environmental Assessment (EA) provides an analysis of the potential environmental consequences resulting from implementation of the proposed action. Seven resource categories were thoroughly analyzed to identify potential impacts. According to the analysis in this EA, implementation of the proposed action would not result in significant impacts to any resource category. The potential impacts under the proposed action and the no-action alternative are summarized below.

Air Quality. Impacts to air quality associated with construction activities would be short-term and contribute less than 0.0001 percent to the regional air emissions, thereby resulting in negligible adverse impacts to regional air quality. Under the no-action alternative, impacts to air quality would not be expected since baseline emissions would remain unchanged; therefore, implementing the no-action alternative would not result in adverse effects to the regional air quality.

Soils and Water Resources. Some soil erosion could occur, but no long-term adverse impacts to soils or surface water would occur. Groundwater sources would not be affected from construction activities associated with the proposed action. Under the no-action alternative, the Standard Army Qualification Ranges would not be constructed on Nellis AFB at this time; therefore, impacts to these resources beyond baseline conditions would not be expected.

Biological Resources. The desert tortoise a federally threatened reptile is known to exist on the proposed action location. No other threatened, endangered, or sensitive species are known to occur on proposed Standard Army Qualification Ranges site on the Nellis AFB SAR. Terms and Conditions of the Programmatic Biological Opinion (USFWS 2007) for the Desert Tortoise would be implemented and as a result, no significant impacts to the desert tortoise or habitat are expected. Under the no-action alternative, no changes to existing biological resources would occur since the proposed construction would not take place.

Socioeconomics. A short-term, positive input into the regional economy would occur during the construction period. No changes would be anticipated with implementation of the no-action alternative.

Hazardous Materials and Waste Management. Under the proposed action, no changes to hazardous materials or waste streams would occur. No Environmental Restoration Program sites would be disturbed as none are found in the project area. No impacts to the handling of hazardous materials or waste management would occur through implementation of the no-action alternative since the Standard Army Qualification Ranges would not be constructed.

Health and Safety. Additional Surface Danger Zones (SDZs) would be established for the proposed action, but all SDZs fall on Nellis AFB controlled property and would not affect safety to the general public or military personnel. Under the no-action alternative, no changes to safety would occur.

Cultural Resources. The entire base has been surveyed for archeological resources and the proposed action location is several miles away from the sole potentially eligible site. A letter providing the appropriate documentation and concurrence by the associated tribes was forwarded to the State Historic Preservation Office (SHPO) in 2001. SHPO concurred with the determination and no further SHPO or Native American consultation is required. No changes would be anticipated with implementation of the no-action alternative.

4.0 FINDINGS

On the basis of the findings of the EA, conducted in accordance with the requirement of the National Environmental Policy Act, the Council on Environmental Quality regulations, and Air Force Instruction 32-7061 as promulgated in 32 Code of Federal Regulations Part 989, and after careful review of the potential impacts of the proposed action and no-action alternative, I find that there would be no

significant impact on the quality of the human or natural environment from the implementation of the proposed action or no-action alternative described in the EA. Therefore, I find there is no requirement to develop an Environmental Impact Statement. In accordance with Executive Order 11990, *Protection of Wetlands* authority delegated in the Secretary of the Air Force Order 791.1, and the written redelegations accomplished pursuant to the order, I find that there would no impact on wetland environments from this construction since the NVARNG would avoid disturbing the WoUS. If at a later date, this proves to be impracticable, a Finding of No Practicable Alternative would be prepared.

_____ _____

DIMASALANG F. JUNIO, Colonel, USAF Date
Chief, Programs Division
HQ ACC/A7P

Proposed NVARNG Standard Army Qualification Ranges
At Nellis Air Force Base, Nevada
Environmental Assessment
Signature Page

Reviewed By: _____ **Date:** _____

William R. Burks
BG, NVMD
The Adjutant General

_____ **Date:** _____

Clayton Chappell
LTC, NVMD
Construction and Facilities Management Office

_____ **Date:** _____

Forrest Fox
Environmental Program Manager
Nevada Army National Guard

COVER SHEET
NVARNG STANDARD ARMY QUALIFICATION RANGES
ENVIRONMENTAL ASSESSMENT

Responsible Agency: Nevada Army National Guard (NVARNG)

Proposed Action: The Nevada Army National Guard (NVARNG) proposes the development of Standard Army Qualification Ranges as part of permanent beddown at the Combat Arms Training and Maintenance (CAT-M) Range Complex on Nellis Air Force Base (AFB) Small Arms Range (SAR). The development of the Standard Army Qualification Ranges would allow the NVARNG to meet the minimum training qualifications in this "train as we fight" environment.

Written comments and inquiries regarding this document should be directed to:

Office of the Adjutant General
2460 Fairview Drive
Carson City, Nevada 89701-6807
Attention: Mr. Chad Stephens

Designation: Draft Environmental Assessment (EA)

Abstract: The purpose of the proposed action is to construct the Standard Army Qualification Ranges as part of permanent beddown at the Combat Arms Training and Maintenance Range Complex on Nellis AFB Small Arms Range. Currently NVARNG is critically short in qualification ranges that are available during Annual Training periods for southern Nevada units. Minimum required training cannot be conducted in a "train as we fight" environment with the current resources. This EA analyzed the potential environmental consequences of implementing the proposed action and alternatives. The analysis indicates that implementing the proposed action (i.e., construct and operate the Standard Army Qualification Ranges) at Nellis AFB SAR would not result in a significant impact to any resource category. In addition, no significant cumulative impacts would be anticipated from implementation of the proposal with other reasonably foreseeable actions.

Draft

NVARNG STANDARD ARMY QUALIFICATION RANGES AT NELLIS AFB SMALL ARMS RANGE ENVIRONMENTAL ASSESSMENT

March 2010

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This Environmental Assessment (EA) analyzes the potential environmental consequences resulting from the Nevada Army National Guard (NVARNG) proposal to construct and operate Standard Army Qualification Ranges at Nellis Air Force Base (AFB) Small Arms Range (SAR). The proposed action would provide additional training opportunities to troops allowing them to meet minimum training requirements in the current "train as we fight" environment without excessive travel.

This EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321 *et seq.*), Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations (CFR) Part 1500-1508); Air Force Instruction (AFI) 32-7061, *The Environmental Impact Analysis Process* (EIAP), as codified in 32 CFR Part 989, and Army Regulations (ARs) 32 CFR Part 651 (Environmental Analysis of Army Actions).

PURPOSE AND NEED FOR THE NVARNG STANDARD ARMY QUALIFICATION RANGES

Recently, the NVARNG has not been able to meet the training and qualification needs of its troops with current available facilities. The current "train as we fight" environment requires accelerated training of troops and the available non-modernized, nonstandard weapons training facilities violate United States Army Forces Command/ Army National Guard/ United States Army Reserve (USAR) Regulation 350-2, Reserve Component Training Guidance due to excessive travel time to troops stationed in southern Nevada. Construction and operation of the Standard Army Qualification Ranges at the Nellis AFB SAR would eliminate the excessive travel time for qualification training.

PROPOSED ACTION AND ALTERNATIVES

The proposed action is to establish and operate new Standard Army Qualification Range immediately adjacent to the existing Air Force Combat Arms Training and Maintenance (CAT-M) Range Complex on Nellis AFB SAR. Construction would include building ranges and support facilities and would take place in three phases. The first phase of the proposed action would include construction of three separate ranges, one eight-lane Combat Pistol Qualification Course and two 10-lane 25 m Zero Ranges. Phase I of the project would require a total of approximately 67 acres of ground clearing activities and is planned for construction in FY 2010 upon completion of this EA. Phase II of the project would construct one 16-lane 300 m Modified Record Fire (MRF) range and would be built into the 67 acre footprint of Phase I. Phase II would also take place in FY 2010 upon completion of this EA. Phase III would construct a Multi-Purpose Machine Gun (MPMG) range. The MPMG range would be constructed in FY 2012 or 2013. Although the MPMG range would be constructed in accordance with AR TC-25-8, specific design has not been initiated; the amount of clearing and grubbing is estimated to be 35 acres. The MPMG range

would be an independent action constructed in FY 2012 or 2013 upon completion of a tiered or separate NEPA document. Several alternative sites were considered but not carried forward.

The EA also assesses the no-action alternative. The no-action alternative represents baseline conditions. Under the no-action alternative, the NVARNG Standard Army Qualification Ranges proposal would not be implemented and a nearby training facility would remain unavailable to NVARNG troops stationed in southern Nevada. This alternative would not meet the training needs of the NVARNG as it would continue to be in violation of USAR 350-2.

MITIGATION MEASURES

In accordance with 32 CFR Parts 361 and 989.22, NVARNG and the Air Force must indicate if any mitigation measures would be needed to implement the proposed action at Nellis AFB. For purposes of this EA, construction and operation of a Standard Army Qualification Ranges would require no mitigation measures to arrive at a Finding of No Significant Impact.

SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS

According to the analysis in this EA, implementation of the proposed action would not result in long-term adverse or significant impacts to any resource category. The potential environmental impacts under the proposed action and the no-action alternative are summarized below.

Air Quality. Impacts to air quality associated with construction activities would be short-term and contribute less than 0.0001 percent to the regional air emissions and greenhouses gases would reduce by about 90 tons per year, thereby resulting in negligible adverse impacts to regional air quality. Under the no-action alternative, impacts to air quality would not be expected since baseline emissions would remain unchanged; therefore, implementing the no-action alternative would not result in adverse effects to the regional air quality.

Soils and Water Resources. Some soil erosion could occur, but no long-term adverse impacts to soils or surface water would occur. Groundwater sources would not be affected from construction activities associated with the proposed action. Under the no-action alternative, the Standard Army Qualification Range would not be constructed on Nellis AFB at this time; therefore, impacts to these resources beyond baseline conditions would not be expected.

Biological Resources. Some impacts to vegetation or wildlife would be expected. The desert tortoise a federally threatened reptile is known to exist on the proposed action location. No other threatened, endangered, or sensitive species are known to occur on proposed Standard Army Qualification Range site on the Nellis AFB SAR. Terms and Conditions of the Programmatic Biological Opinion (USFWS 2007)

for the Desert Tortoise would be implemented and as a result, no significant impacts to the desert tortoise or habitat are expected. Under the no-action alternative, no changes to existing biological resources would occur since the proposed construction would not take place.

Socioeconomics. A short-term, positive input into the regional economy would occur during the construction period. No changes would be anticipated with implementation of the no-action alternative.

Hazardous Materials and Waste Management. Under the proposed action, no changes to hazardous materials or waste streams would occur. No Environmental Restoration Program sites would be disturbed as none are found in the project area. No impacts to the handling of hazardous materials or waste management would occur through implementation of the no-action alternative since the Standard Army Qualification Range would not be constructed.

Health and Safety. Additional Surface Danger Zones (SDZs) would be established for the proposed action, but all of the Phase I, II and III SDZs fall on Nellis AFB controlled property and would not affect safety to the general public or military personnel. Under the no-action alternative, no changes to safety would occur since the proposed construction would not take place.

Cultural Resources. The entire base has been surveyed for archeological resources and the proposed action location is several miles away from the sole potentially eligible site. A letter providing the appropriate documentation and concurrence by the associated tribes was forwarded to the State Historic Preservation Office (SHPO) in 2001. SHPO concurred with the determination and no further SHPO or Native American consultation is required. No changes would be anticipated with implementation of the no-action alternative.

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CHAPTER 1

PURPOSE AND NEED FOR THE PROPOSED ACTION

CHAPTER 1
PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The Nevada Army National Guard (NVARNG) proposes development of Standard Army Qualification Ranges as part of permanent basing at the Combat Arms Training and Maintenance (CAT-M) Range Complex on Nellis Air Force Base (AFB) Small Arms Range (SAR). Development of the Standard Army Qualification Ranges would allow the NVARNG to meet the minimum training qualifications in this "train as we fight" environment. Under the no-action alternative, NVARNG would not construct the Standard Army Qualification Ranges at the Nellis AFB SAR.

1.2 BACKGROUND

Nellis AFB, located in the southeast corner of the state of Nevada, lies within Clark County adjacent to the city of North Las Vegas and 8 miles northeast of the City of Las Vegas. The unincorporated town of Sunrise Manor and undeveloped portions of Clark County surround the majority of the base, although open space dominates to the northeast. The base is the center for Air Combat Command's (ACC) training and testing activities at the Nevada Test and Training Range (NTTR). It provides logistical and organizational support for NTTR, aircraft training, and personnel. Occupying approximately 12,160 acres, the Nellis AFB SAR is located 4 miles north of the main base immediately north of the NVARNG property (Figure 1-1). Nellis Security Forces Group uses the SAR for their CAT-M training. Five ranges are currently used on the Nellis SAR (USACHPPM 2008), with the remainder consisting of open space. Including the safety arcs, the CAT-M ranges occupy a little over 10 percent of the SAR. Land adjacent to the SAR is also currently open space, but rapid growth of the Las Vegas valley may put development pressures on the City of North Las Vegas to initiate development on their part of the adjacent properties. There is a possibility of a satellite University of Las Vegas (UNLV) campus being located along, and adjacent to, the western side of the SAR. Lands to the north are part of the Desert National Wildlife Range controlled by the United States (U.S.) Fish and Wildlife Service (USFWS). Lands south of the SAR are currently NVARNG property and used for other training activities for southern Nevada Guardsmen. A SAR on this existing NVARNG property is not possible due to the safety constraints of a SAR. Range configuration and Surface Danger Zones (SDZ) associated with a SAR cannot be placed in the NVARNG property without posing safety conflicts with the existing CAT-M range, pipeline and power easements, roads, or current NVARNG operations.

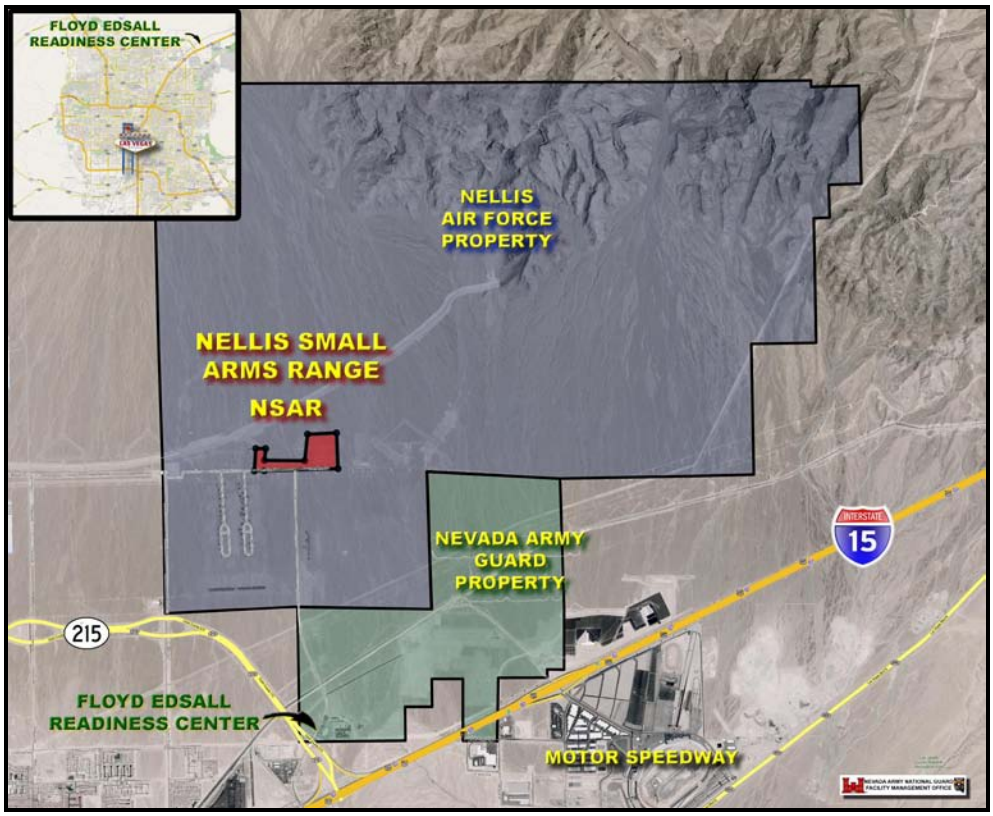

Figure 1-1. General Location of Nellis AFB Small Arms Range

1.3 PURPOSE OF THE PROPOSED ACTION

The purpose of the proposed action is to establish and operate the Standard Army Qualification Ranges for the NVARNG as part of permanent basing at the CAT-M Range Complex on Nellis AFB SAR. The proposed NVARNG action includes construction of firing ranges and support facilities, in addition to execution of a license between the NVARNG and Nellis AFB. After the initial construction, the NVARNG would operate and maintain the facilities. The proposed new facilities would be constructed in three phases immediately adjacent to the existing Nellis AFB CAT-M Range.

The small arms intended for use on the proposed ranges include M16 and M4 series rifles; 9 millimeter (mm) pistol; M249 squad automatic weapon (SAW) (5.56mm); the M240B machine gun; and the MK19 automatic grenade launcher. These ranges would be used by the Soldiers living in southern Nevada assigned to the NVARNG. U.S. Army Training Circular Number 25-8, *Training Ranges*, (DAF 2004) specifies the design for each type of the Standard Qualification Ranges by the NVARNG. The following provides the specific purpose and need for each range type and its associated weapon.

Basic 10-Meter/25-Meter Firing Range (Zero) – Phase I

The purpose of the 25 meter (m) Zero Range is to provide a year-round, comprehensive and realistic training and range facility for the training of Soldiers in basic rifle marksmanship skills. This range is used to train individual Soldiers on the skills necessary to align the weapon sights to the strike of the projectile and practice basic marksmanship techniques against stationary targets. The range is designed for training shot-grouping and zeroing exercises with the M16 and M4 series rifles, as well as crew-served machine guns. This range would also be used for short range marksmanship (SRM) training and qualification.

Combat Pistol Qualification Course – Phase I

NVARNG proposes to construct, operate, and maintain a Combat Pistol Qualification Course (CPQC) range on the Nellis SAR. The CPQC would provide year-round, comprehensive and realistic training and range facilities for the training of Soldiers in basic pistol marksmanship skills. The range would be used to train and test individual Soldiers on the skills necessary to identify, engage, and defeat stationary infantry targets with a pistol.

Modified Record Fire – Phase II

NVARNG proposes to construct, operate, and maintain a Modified Record Fire (MRF) range. The MRF range would meet critical live-fire individual marksmanship training necessary to identify, engage, and defeat stationary infantry targets, for both day and night qualification requirements with both the M16 and M4 rifles.

Multi-Purpose Machine Gun Range – Phase III

NVARNG would construct, operate, and maintain a Multi-Purpose Machine Gun (MPMG) range. The MPMG range would provide critical live-fire individual marksmanship training necessary to identify, engage with a machine gun, and defeat stationary infantry targets. Weapons used on this range include the M249 SAW, the M240B machine gun, and the MK19 automatic grenade launcher.

1.4 NEED FOR THE PROPOSED ACTION

Soldiers must enter engagements with the best possible assurance of success and survival. Therefore, the U.S. Army and the NVARNG require Soldiers to be proficient in individual live-fire, marksmanship skills with their assigned small arms. This allows them to conduct operations effectively in wartime and to be prepared for future global combat operations. Small arms proficiency is gained through implementation of the Mission Essential Task List (METL).

The NVARNG identified a critical need for a SAR based on its METL training in southern Nevada. METL training is required for the Armor, Signal, Military Police, Transportation, Civil Support Team, Maintenance, and Engineers. Currently NVARNG is critically short in qualification ranges that are available during training periods for southern Nevada units. Minimum required training cannot be conducted in a "train as we fight" environment with the current ranges. The most serious long-term issue that affects training for the NVARNG is adherence to U.S. Army Forces Command/ Army National Guard/ United States Army Reserve (USAR) Regulation 350-2 (Army 1996), *Reserve Component Training Guidance*. USAR 350-2 states that training should occur within 2 hours travel (one way) from the Inactive Duty Training or Annual Training site. There should not be more than 25 percent of the total training period during a multiple unit training assembly to reach an Army standard range. Waivers may be granted for units not having access to standard ranges, however training could occur on non-modernized or nonstandard ranges and the units would end up dispersed because there is no single range that can accommodate the NVARNG throughput of 1,800 Soldiers. Furthermore, providing waivers for each of the 1,800 Soldiers living in southern Nevada is neither practicable nor acceptable and cannot ensure Soldiers would "train as they fight". As a result, current southern Nevada Guard units must travel by bus to the nearest existing Guard Standard Army Qualification Range located in Fallon, NV on Naval Air Station (NAS) Fallon. Travel time to the existing range is about 7 hours or more each way, well exceeding the 25 percent maximum travel time requirement. Devoting much of the total training time for travel limits the available on-site training time to accomplish only minimum training requirements. NVARNG currently provides 41 round-trip buses to NAS Fallon annually at a cost of $82,000. The proposed action would; a) alleviate the amount of travel time for units located within 100 miles of Las Vegas, and thus meet USAR 350-2 requirements; b) allow more time for training; and c) eliminate the expense of busing Soldiers to NAS Fallon.

1.5 SCOPE OF THE ENVIRONMENTAL ANALYSIS AND DECISION TO BE MADE

This Environmental Assessment (EA) considers direct, indirect, and cumulative effects of the proposed action and the no action alternative. It was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 [42 USC 4321 et seq.], Council on Environmental Quality (CEQ) Regulations 40 Code of Federal Regulations (CFR) Parts 1500-1508, and Army Regulations (ARs) 32 CFR Part 651 (Environmental Analysis of Army Actions). Since the proposed action location would be on USAF property, this EA also follows the Air Force *Environmental Impact Analysis Process* (EIAP) as codified in 32 CFR Part 989. A specific requirement for this EA is an appraisal of impacts of the proposed project, including a determination of a Finding of No Significant Impact (FNSI for the Army, or FONSI, for the Air Force) or a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS). The NVARNG will prepare an EA, in accordance with the NEPA and Army and Air Force regulations for NEPA actions (32 CFR Part 651 and 32 CFR Part 989), to analyze potential environmental consequences associated with this proposed range project.

CHAPTER 2

DESCRIPTION OF THE PROPOSED ACTION AND NO-ACTION ALTERNATIVE

CHAPTER 2
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This chapter describes the NVARNG proposal to establish and operate new Standard Army Qualification Ranges as part of permanent beddown at the CAT-M Range Complex on Nellis AFB SAR. The construction of the range would allow the NVANG to meet minimum training qualifications.

2.1 PROPOSED ACTION AND ALTERNATIVES

2.1.1 Alternative 1 – No Action Alternative

Under the no action alternative, southern Nevada NVARNG troops would continue to conduct METL training at the NAS Fallon and Fort Irwin sites and thus, continue training in violation of USAR 350-2 (Army 1999). Inability to gain access to a Standard Army Qualification Range located in southern Nevada results in Solders requiring additional time at mobilization stations prior to deployment. Weapons qualification is a critical skill requirement and just meeting minimum standards is not the goal of range use, the NVARNG needs to "train as we fight." Access to quality ranges, currently not available in southern Nevada, does not allow realistic training to occur.

2.1.2 Alternative 2 – Preferred Alternative

The proposed action is to establish and operate new Standard Army Qualification Ranges immediately adjacent to the existing Nellis AFB SAR. Construction and operation of ranges and targets and the Range Operations Control Area (ROCA), power and utilities, access to the CPQC, Surface Danger Zones, and expected range usage comprise all of the elements of the proposed action. Construction would include building ranges and targets, and support facilities called a ROCA. The proposed project would occur in three phases; Phase I and Phase II would require a total of approximately 67 acres of ground clearing activities. The first phase of the proposed action would include construction of three ranges, one eight-lane Combat Pistol Qualification Course, and two 10-lane 25m Zero Ranges. Phase I construction would begin in FY2010 up completion of the environmental impact analysis process. Phase II of the project would be to construct one 16-lane 300m MRF range and would be built into the 67 acre footprint. Phase II of the project would also take place during FY 2010. Phase III of the project would construct an MPMG range immediately to the east of the existing range Nellis CAT-M range. The MPMG would be constructed in FY 2012 and 2013. Although the MPMG range would be constructed in accordance with AR TC-25-8, specific design has not been initiated; the amount of clearing and grubbing is estimated to be 35 acres. The MPMG range would be an independent action constructed in FY 2012 or 2013 upon completion of a tiered or separate NEPA document. The layout of the proposed ranges and Surface Danger Zones (SDZ) for each range is shown on Figure 2-1.

Ranges and Targets

The proposed action is to construct, operate, and maintain various ranges and targets. Total number of targets for all Phase I and Phase II proposed ranges would be approximately 373 targets. Targets would be mounted on either 4 feet x 4 feet plywood sheets anchored into the ground on top of two 4 inch x 4 inch wooden posts that rise 6 feet above ground level, or on automated pop-up targets that are activated via low voltage buried electrical conduit. Power for the pop-up targets would be provided by portable generators. The following describes the proposed ranges.

Basic 10-meter/25-meter Firing (Zero) Range

During Phase I, this range would be designed and constructed to train individual Soldiers in basic marksmanship in the M-16 and M4 rifle live-fire training tasks and crew served machine guns they require to sustain combat proficiency. Zeroing a weapon means to adjust the sights to ensure the accuracy and precision of the weapon. This is one of the primary functions of this range. All targets are fixed at

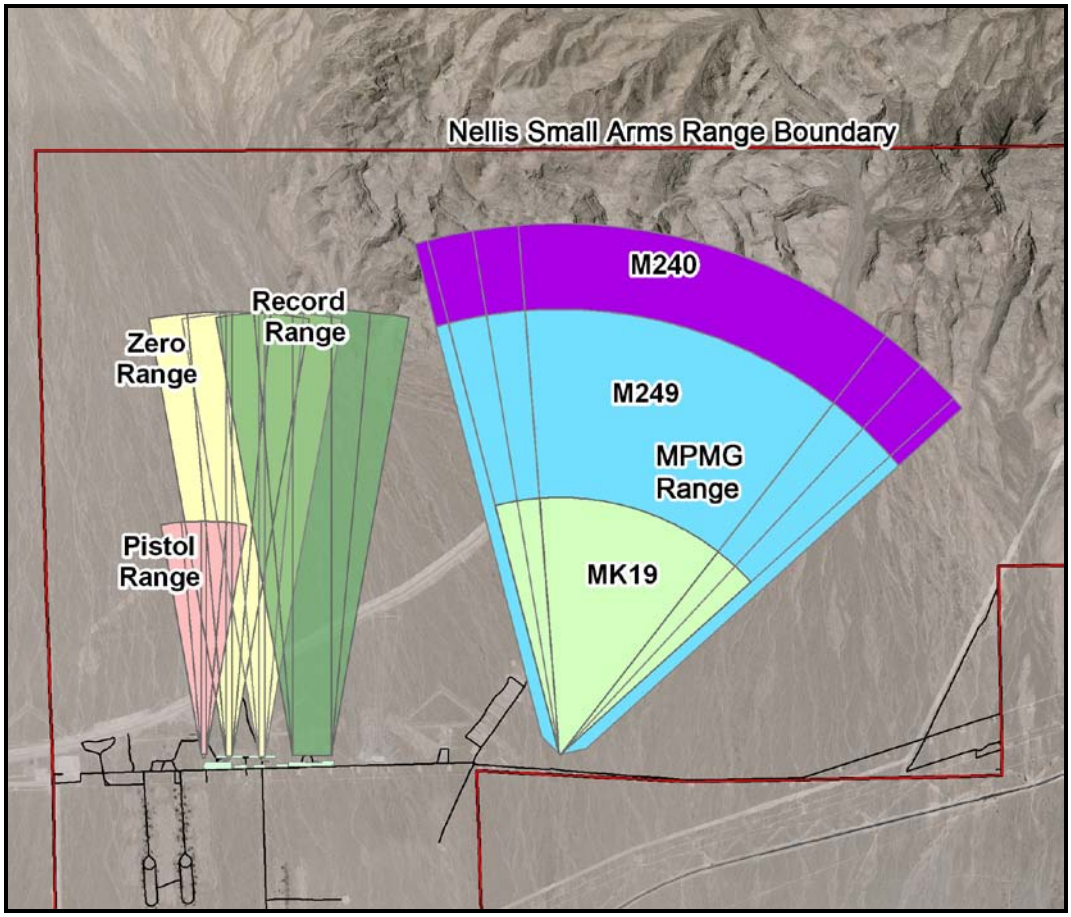

Figure 2-1. Layout of Proposed Ranges

25 meters from the firing line for M16/M4 and fixed at 10 meters for machine gun. There would be one 25 m target per firing position and one 10 m target on alternating firing positions for both proposed two 36-lane 25-meter Zero Ranges for a total of 106 targets. The ammunition requirement for the Zero Ranges is 18 rounds to zero the weapon for each Soldier. Figure 2-1 depicts this range as Zero Range.

CPQC Range

Also during Phase I, a CPQC range would be designed and constructed to train individual Soldiers and military police in the basic live-fire training tasks they require to sustain combat proficiency. Used for 9mm pistol training, the primary features of this range include stationary infantry targets, stationary silhouette targets, and pop-up targets. The total number of targets for the proposed Combat Pistol Qualification Course would be approximately 25. The ammunition requirement for this range is 40 instructional rounds and 40 qualification rounds. This range is depicted as the Pistol range on Figure 2-1.

MRF Range

Designed to train individual Soldiers in the basic live-fire training tasks they require, the MRF range would sustain combat proficiency with M-16 and M4 rifles. Primary features of this range include 224 stationary infantry targets and 16 fighting positions (foxholes). Automated pop-up targets would be required for this range. Allotted ammunition for this range is 40 rounds for practice and 40 for qualification. Construction and operation of this range would occur during Phase II and is shown as the Record Range on Figure 2-1.

MPMG Range

This range would be slated for construction as Phase III of the proposed action and would be designed to train individual Soldiers in the basic machine gun live-fire training tasks they require to sustain combat proficiency. The machines guns planned for this range would be the MK-19 grenade machine gun, the MK-240 7.62 mm machine gun, and the MK-249 5.56mm machine gun. Primary features of this range include 180 stationary infantry targets, 20 moving infantry targets, 20 stationary armor targets, and 10 firing lanes. All targets would be fully automated, and the event specific target scenario would be computer driven and scored from the range operations center. The range would provide immediate performance feedback to the Soldiers using the range. Allotted ammunition for the weapons used on the MPMG would be 252 rounds for the MK-249, 612 MK-240 rounds, and 120 for the MK-19. Of these, 18 MK-249 round and 52 MK-240 round would be fired on the Zero Range to calibrate weapon sights. This range is shown as the MPMG Range on Fig 2-1.

Range Operations and Control Area (ROCA)

Operating a small arms range requires certain facilities to maintain safety and control of the range, areas for student evaluation, and to provide basic amenities for the Soldiers training on the range. Located immediately behind the firing lines, the ROCA facilities to support range use would include the following; four 290 square-feet (SF) control towers (12 feet high); 11,000 SF of vehicle parking split on

either side of the range; one 800 SF range operations center (ROC) building; two 185 SF ammo breakdown buildings; three 200 SF latrines; exterior lighting; one 800 SF mess shelter; four 726 SF bleachers (placed under shade structures covering firing positions); one 800 SF general instruction building, and a range flagpole (this could be a single flagpole or four individual flagpoles). Proposed configuration of the facilities for Phases I and II is shown on Figure 2-2. Phase III of the project would also require one each of the above facilities. Since this range has not yet been designed, exact layout of the ROCA hasn't been determined.

Power and Utilities

The feasibility of solar power alternatives is under consideration to meet requirements of Executive Order 13514 Federal Leadership in Environmental, Energy, and Economic Performance. If feasible, solar electricity would be used to meet power requirements for all Phase I and Phase II ranges and facilities. Solar collectors would be south of the range between the range road and property line. Three 5-KW portable generators would supply the power until solar power come on-line or is deemed not to be feasible for this purpose. Depending on the power requirements related to Phase I and Phase II and performance of the Phase I and Phase II power system, additional utilities may be brought to the site during Phase III of the project. If required, a powerline would be brought in from the NVARNG facilities on Range Road 2 miles to the south. Power for lighting for night firing qualification on Phase I ranges would be provided by one of the

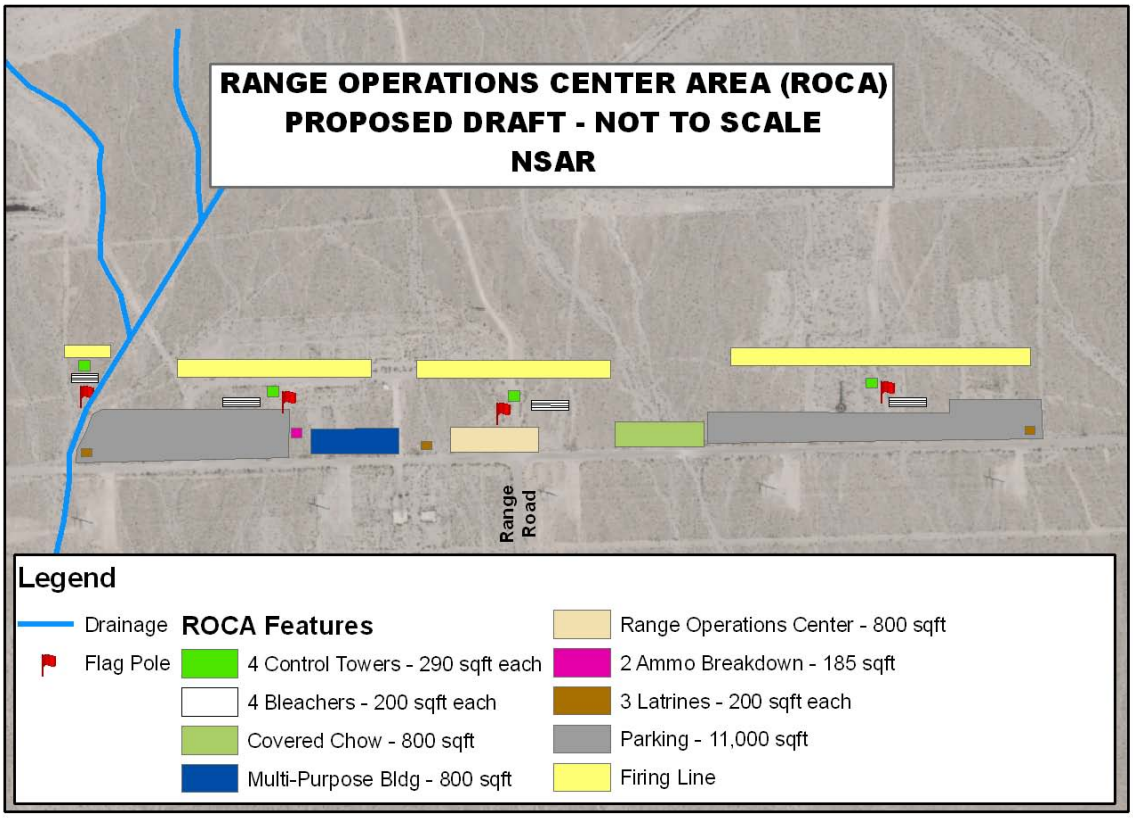

Figure 2-2. Proposed Phase I and II Range Operations Control Area (Not to scale)

portable generators. Lighting would be necessary to allow movement of Soldiers to and from the firing line after qualification. At this time, no utilities (water, power, sewer, and communications) are proposed to be brought to the site for Phases I or II. Drinking water would be brought on site as needed by NVARNG for Phases I & II. There are no plans for sewer for Phases I & II as vault toilets that require pumping for disposal would be installed. Cost for installation and use of any required utilities would be paid by the NVARNG. The power for Phase III has not yet been designed, but is expected to be similar to Phases I and II.

Access to the CPQC

An existing drainage ditch bisects the west side of the parcel and is considered Jurisdictional Waters of the U.S. (WoUS), see Section 3.3 for details. Access by road between the CPQC and the rest of the facilities would cross the WoUS. Three options for crossing the WoUS are being investigated. The first option would be to grade a road to the bottom of the drainage ditch crossing at a 90 degree angle to the WoUS; the second would be to build a culvert and road across; the last option would be avoidance and not cross disturb the WoUS. Figure 2-3 shows the two crossing options. Access to the CPQC range by

avoiding the WoUS would be accomplished at the extreme southwest corner of the NVARNG range by crossing the WoUS on the existing road.

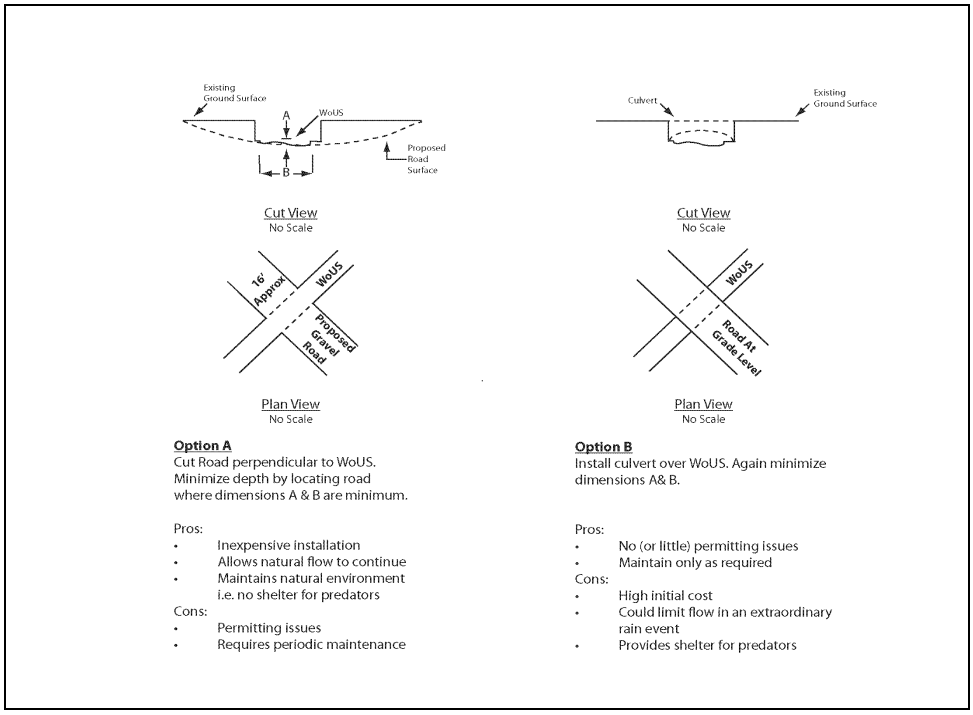

Figure 2-3. Proposed Crossing Options of WoUS

Surface Danger Zones

The proposed range construction and training exercises would increase the Surface Danger Zones (SDZ) over the existing CAT-m ranges SDZs, as shown on Figure 2-4. Figure 2-4 shows the proposed SDZs for Phase I, II, and III along with the existing SDZs for the Nellis AFB SAR. On the right side of the figure the MPMG (including the MK-19, MK-240, and MK-249) range SDZ is shown. Explained further in Section 3-8, SDZs are calculated by using the farthest point where someone could be in danger from projectiles fired on the range. The SDZs shown are calculated assuming flat terrain. Natural barriers, such as mountains, decrease the distance projectiles and fragments travel and the resulting SDZ. Design of the range, including firing restrictions and angles, could also reduce the area of SDZs. During the final design of the MPMG, the actual SDZ would be calculated with the mountains down-range from the MPMG considered in the calculation. Army Regulation (AR) 385-63 allows for reduced SDZs when terrain or other natural obstacles warrant a deviation from the standard SDZs.

Expected Range Usage

Troops requiring annual range qualification are anticipated to use the proposed ranges during 10 events per year with minimum 2 day events. However, troop strength is expected to grow commensurate with population growth in southern Nevada, which is one of the fastest growing areas in the nation. Therefore, use of the proposed NVARNG training ranges is projected to increase through time. The projected proposed use of the ranges by NVARNG Soldiers is estimated at 1,800 per year. Also, experience at the

NAS Fallon range indicates that other military and public safety agencies could request access to the ranges, subject to availability.

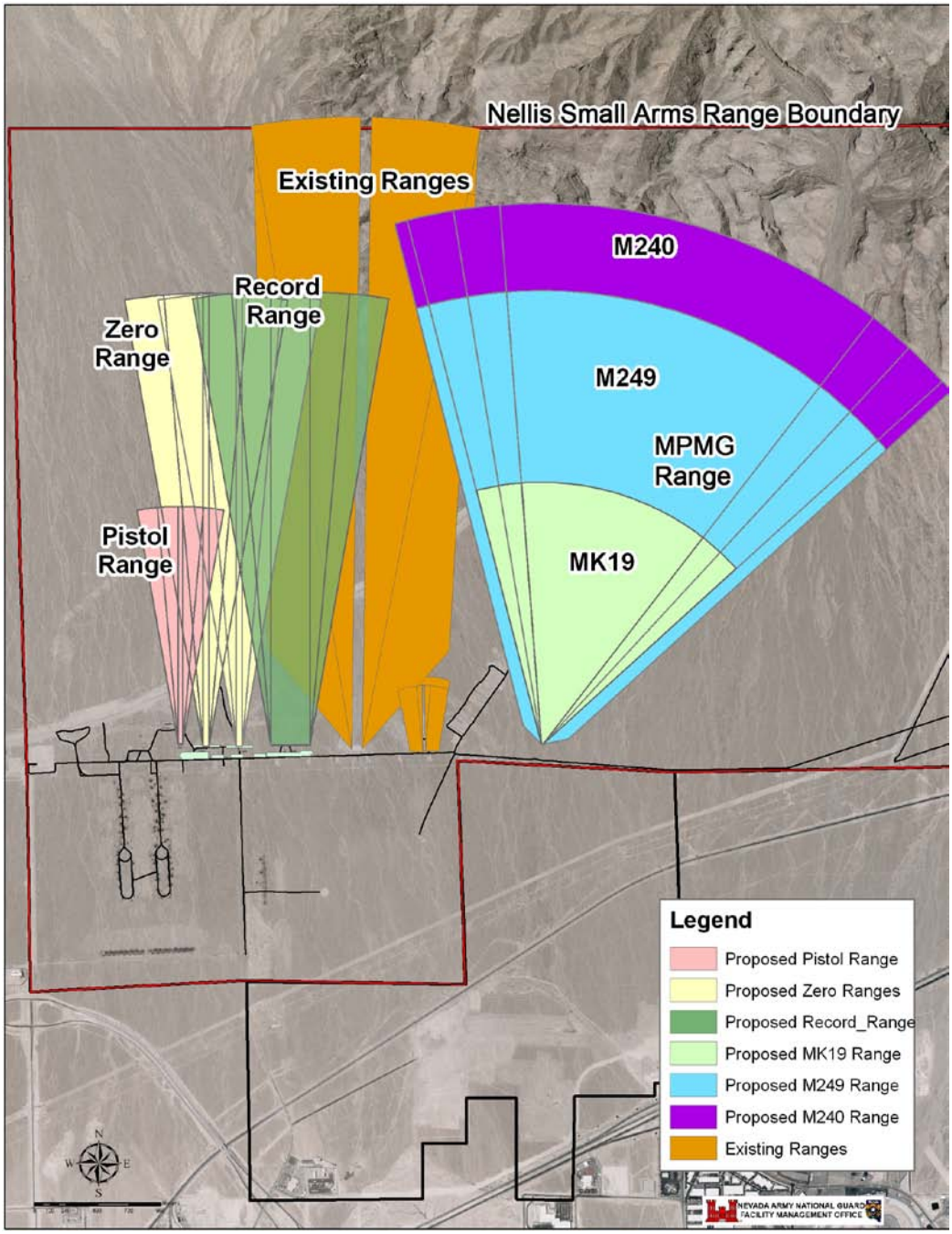

Figure 2-4. Existing and Proposed Surface Danger Zones

2.2 Criteria for Evaluating Alternative Sites

Siting criteria is based upon how well the site meets the purpose and need for the action. The criteria for the NVARNG SAR require the ranges to be within 100 miles of the majority of NVARNG Soldiers living in Southern Nevada. Range layouts and construction must meet the specifications set forth in Training Circular 25-8, *Army Ranges.* They must also meet the mission and safety requirements; design of the range supports Army training requirements (TC 25-8-1 and 25-8, respectively). They must be environmentally sound and mitigation, if required, can be accomplished and is fiscally feasible. Overall economic feasibility of constructing and operating the range is the final criteria.

2.3 Alternatives Considered and Eliminated from Detailed Study

Several alternatives were investigated that would satisfy all or part of the purpose and need for the proposed action. Two involve using other DoD assets and two would use non-DoD ranges in Las Vegas valley. None of the alternatives fully satisfy the purpose and need or are unavailable for use by the NVARNG.

2.3.1 Use of Other DoD Assets

Silver Flag Alpha

The firing range complex located at the Silver Flag Alpha (SFA) Training Area and Firing Training Complex, owned and operated by Nellis AFB, has been used by NVARNG in the past. SFA is located approximately 42 miles north of Nellis AFB along I-95. The facility consists of 11 basic weapons marksmanship range and one special live-fire range. The US Air Force (USAF) administers the Expeditionary Readiness Training (ExpeRT) Course at SFA, and all deploying airmen must complete this course prior to deployment. Due to current world conflicts, NVARNG access to the SFA Firing Training Complex has been severely limited, requiring southern Nevada NVARNG troops to travel to NAS Fallon ranges where scheduled access is possible. The excessive travel distance for southern Nevada troops when SFA ranges are not available violates the USAR 350-2 travel time restriction.

Fort Irwin Ranges

Fort Irwin is a national training center for deploying units. Use of Fort Irwin ranges for NVARNG is restricted to only the few NVARNG troops belonging to the 221 Calvary Unit, which is assigned to that location. However, access to the ranges is not always available due to limited time on site for the NVARNG and conflicts with other units also attempting to access the ranges during their limited training time. In addition, distance from home station to Fort Irwin is 200 miles, which also conflicts with the USAR 350-2 travel time restriction.

2.3.2 Use of Non-DoD Ranges

Sunrise Metro Ranges

The Sunrise Metro Police Range was evaluated for possible use for NVARNG METL training. Existing encroachment issues, limiting SDZ placement, and extensive earthmoving requirements associated with constructing a Standard Army Qualification Range eliminated this site from further consideration.

Clark County Sport Shooting Complex

NVARNG also approached the Clark County Sport Shooting Complex regarding development of an agreement to allow NVANRG METL training. Due to constraints related to land ownership and use agreements, Federal funds cannot be used to support NVARNG qualifications on the Sport Shooting Complex ranges. Thus, the complex was eliminated from further consideration.

2.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

This EA examines the affected environment for establishment and operation of a new Standard Army Qualification Range at Nellis AFB. It considers the current conditions of the affected environment and compares those to the no-action alternative. It also examines the cumulative impacts within the affected environment of these alternatives as well as past, present, and reasonably foreseeable actions of the Army, Air Force and other federal, state, and local agencies. The steps involved in the EIAP used to prepare this EA are outlined below.

1. *Conduct Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).* IICEP requires comments to be solicited from local governments as well as federal and state agencies to ensure their concerns and issues about the Standard Army Qualification Range proposal are included in the analysis. It also requires that the public in the region local to the proposed action be solicited for their comments as well. In April 2009, NVARNG sent IICEP letters to these agencies requesting their input on the proposal. Chapter 6 provides the list of people and agencies contacted and Appendix A provides copies of IICEP correspondence.

2. *Prepare a draft EA and Finding of No Significant Impact (FNSI/FONSI).* The first comprehensive document for public and agency review is the draft EA and FNSI/FONSI. This document examines the environmental impacts of the proposed action and no-action alternative.

3. *Announce that the draft EA and draft FNSI/FONSI have been prepared.* Advertisements were placed in the Las Vegas Review Journal notifying the public as to the availability of the draft EA and draft FNSI/FONSI for review in local libraries and on the Nellis Air Force Base home page. After the draft EA and draft FNSI/FONSI is distributed, a 30-day public comment period will commence.

4. *Provide a public comment period.* The goal during this process is to solicit comments concerning the analysis presented in the draft EA and draft FNSI/FONSI.

5. *Prepare a final EA.* Following the public comment period, a final EA is prepared. This document is a revision (if necessary) of the draft EA, includes consideration of public and agency comments, and provides the decision maker with a comprehensive review of the proposed action and the potential environmental impacts.

6. *Issue a Finding of No Significant Impact (FNSI/FONSI).* The final step in the process is either a signed FNSI/FONSI, if the analysis supports this conclusion, or a determination that an environmental impact statement (EIS) would be required for the proposal.

2.5 OTHER REGULATORY AND PERMIT REQUIREMENTS

This EA has been prepared in compliance with NEPA, other federal statutes, such as the Clean Air Act (CAA), the Clean Water Act (CWA), Endangered Species Act (ESA), the National Historic Preservation Act, Executive Orders, and other applicable statutes and regulations. Discussions with the USFWS (USFWS 2008) indicate that the Programmatic Biological Opinion (USFWS 2007) for Nellis AFB would apply to this action. The U.S. Army Corps of Engineers (USACE 2009) was onsite during the surveys of the proposed action location and subsequent correspondence indicates a Nationwide Section 404 Permit would be applicable if the NVARNG installs an on-grade crossing of the WoUS. Table 2.1 lists the applicable federal, state, and local regulatory requirements and potential for permit requirements if the proposed action were undertaken. NVARNG proposes to use three 5-KW portable generators to meet the power requirements. Since the combined horsepower (hp) is less than 35 horsepower, they are below the permitting threshold (person communication, Beckstead, 2010). If plans change, an Authority to Construct and Operating Permit (ATC/OP) may be required. The NVARNG would consult with the Nellis AFB Air Quality manager to determine permit requirements.

Table 2.1 Review and Permit Requirements

Resource	*Permit Title*	*Administering Agency*
Air Quality	Dust Control Permit; Authority to Construct/Operating Permit (ATC/OP) (possible),	Clark County Department of Air Quality and Environmental Management (DAQEM) for Air Quality Resources
Air Quality	Clark County Surface Disturbance Permit	Clark County Department of Air Quality
Storm water	National Pollution Discharge Elimination System (NPDES) Storm water Discharge Permit	Nevada Department of Environmental Protection
Endangered Species (desert tortoise)	The Nellis AFB Programmatic Biological Opinion (USFWS 2007)	U.S. Fish and Wildlife Service
Wetlands and Waters of the United States	Nationwide Section 404 Permit	U.S. Army Corps of Engineers

2.6 MITIGATION MEASURES

In accordance with Army and Air Force regulations, NVARNG and the Air Force must indicate if any mitigation measures would be needed to implement the proposed action at Nellis AFB. For purposes of this EA, to construct the Standard Army Qualification Ranges at Nellis AFB, no mitigation measures would be needed to arrive at a FONSI.

2.7 SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS

According to the analysis in this EA, implementation of the proposed action would not result in long-term adverse or significant impacts to any resource category. The potential environmental impacts under the proposed action and the no-action alternative are summarized below.

Air Quality

Impacts to air quality associated with construction activities would be short-term and contribute less than 0.0001 percent to the regional air emissions, thereby resulting in negligible adverse impacts to regional air quality. Greenhouse gases would be reduced by about 90 tons per year by eliminating 41 round trip bus trips between Las Vegas and NAS Fallon. Under the no-action alternative, impacts to air quality would not be expected since baseline emissions would remain unchanged; therefore, implementing the no-action alternative would not result in adverse effects to the regional air quality.

Soils and Water Resources

Minimal soil erosion could occur because shallow slopes and a flood control dike lies uphill, but no long-term adverse impacts to soils or surface water would occur. Groundwater sources would not be affected from construction activities associated with the proposed action. Under the no-action alternative, the Standard Army Qualification Range would not be constructed on Nellis AFB at this time; therefore, impacts to these resources beyond baseline conditions would not be expected.

Biological Resources

The desert tortoise a federally threatened reptile is known to exist on the proposed action location. No other threatened, endangered, or sensitive species are known to occur on the proposed Standard Army Qualification Range site on Nellis AFB. Terms and Conditions of the Programmatic Biological Opinion (USFWS 2007) for the Desert Tortoise would be implemented and as a result, no significant impacts to the desert tortoise or habitat are expected. Under the no-action alternative, no changes to existing biological resources would occur since the proposed construction would not take place.

Socioeconomics

A short-term, positive input into the regional economy would occur during the construction period. No changes would be anticipated with implementation of the no-action alternative.

Hazardous Materials and Waste Management

No changes to hazardous materials or waste streams would occur. No Environmental Restoration Program sites would be disturbed as none are found in the project area. No impacts to the handling of hazardous materials or waste management would occur through implementation of the no-action alternative since the Standard Army Qualification Range would not be constructed.

Health and Safety

Additional SDZs would be established for the proposed action, but all of the SDZs fall on Nellis AFB controlled property and would not affect safety to the general public or military personnel.

Cultural Resources

The entire base has been surveyed for archeological resources and the proposed action location is several miles away from the sole potentially eligible site. A letter providing the appropriate documentation and concurrence by the associated tribes was forwarded to the State Historic Preservation Office (SHPO) in 2001. SHPO concurred with the determination and no further SHPO or Native American consultation is required.

CHAPTER 3

DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

CHAPTER 3

DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 ANALYSIS APPROACH

NEPA requires focused analysis of the areas and resources potentially affected by an action or alternative. It also provides that an EA should consider, but not analyze in detail, those areas or resources not potentially affected by the proposal. Therefore, an EA should not be encyclopedic; rather, it should be succinct. NEPA also requires a comparative analysis that allows decision makers and the public to differentiate among the alternatives. This EA therefore, focuses on those resources that would be affected by the proposed construction of a Standard Army Qualification Range at Nellis AFB, Nevada.

CEQ regulations (40 CFR Parts 1500-1508) for NEPA also require an EA to discuss impacts in proportion to their significance and present only enough discussion of other than significant issues to show why more study is not warranted. The analysis in this EA considers the current conditions of the affected environment and compares those to conditions that might occur should either of the alternatives (i.e., proposed action and no-action) be implemented.

Affected Environment

Evaluation and analysis of the proposed action indicate that resources generally subject to ground disturbing activities have the highest potential to be affected. For this EA, the potentially affected environment centers on the proposed construction location as well as the natural, cultural, and socioeconomic resources they contain or support.

Resources Analyzed

Table 3-1 presents the results of the process of identifying resources to be analyzed in this EA. Activities associated with installing a SAR include; clearing and grubbing the area for firing lanes, targets and in between (where applicable), installing targets and firing lanes, constructing support facilities such as restrooms, storage/operations building, control towers and lights, solar panels or portable generators to be used for power, parking areas, and use of the range for training. This assessment evaluates air quality; soils and water resources; biological resources; socioeconomics; hazardous materials and waste management; health and safety; and cultural resources. These resources are analyzed because they may be potentially affected by implementation of the proposed action.

Table 3-1. Resources Analyzed in the Environmental Impact Analysis Process		
Resource	***Potentially Affected by Proposed Action Activities***	***Analyzed in this EA***
Air Quality	Yes	Yes
Soils and Water Resources	Yes	Yes
Biological Resources	Yes	Yes
Socioeconomics	Yes	Yes
Hazardous Materials and Waste Management	Yes	Yes
Health and Safety	Yes	Yes
Cultural Resources	Yes	Yes
Infrastructure and Transportation	No	No
Aesthetics and Visual Resources	No	No
Land Management and Use	No	No
Airspace	No	No
Noise	No	No
Environmental Justice/Protection of Children	No	No
Floodplains	No	No

Resources Eliminated from Further Analysis

Numerous resources were assessed (refer to Table 3-1) that, in accordance with CEQ regulations, 40 CFR 1501.7(a)(3), warrant no further examination in this EA. The following provides these resources and describes the rationale for this approach.

Infrastructure and Transportation

Impacts to infrastructure and transportation resources involve how the proposed action would affect existing utilities, facilities and roads. Utilities at the proposed action site are minimal and the NVARNG would use solar power or portable generators for electricity and vault-toilets for human waste, therefore there would be no impacts to utilities. Phase III may include installation of a powerline from the existing NVARNG facility at the base of Range Road but a need has not yet been determined. Should the need arise, a separate NEPA analysis would be performed. Other than the existing ranges, there are no facilities that would be impacted by the proposal. Transportation resources include roads, railways, and traffic. Due to its remote location, the roadway and traffic network surrounding the Nellis AFB SAR is minimal. The SAR is accessible through Range Road off of Clark County Route 215.

Aesthetics and Visual Resources

The proposed action location would not be located in any valuable visual resource viewsheds. A Bureau of Land Management visual resources survey was conducted in 2004 for the preparation of the Las Vegas Valley Land Disposal Boundary EIS. One of the survey points was immediately to the west of the SAR and classified the area as Visual Resource Management Class III (BLM 2004) allowing for a moderate change to the characteristic landscape. The SAR is located on relatively flat ground on an alluvial fan and the nearest viewpoint would be by motorists driving along CC-215.

Land Management and Use

The proposed action would be located immediately adjacent to the Nellis AFB SAR and would also be used as a SAR; therefore land use would not change. Land management would remain the responsibility of the Air Force, with range operations led by the NVARNG in coordination with the Nellis CAT-M range managers. The proposed action may affect training operations conducted by Nellis AFB in a training Landing Zone (LZ) called Winner LZ. Winner LZ is currently utilized for training associated with helicopter operations and combat tactics which is conducted by the 66th Rescue Squadron (RQS) and the 58th RQS. The operations are conducted Monday through Friday starting at 12:00 and ending at 24:00. The total usage of this area is estimated to be approximately 6-8 hours per day. The MPMG range is currently the only range with the potential to impact the LZ. However, use of the ranges by the NVARNG would be primarily on the weekends and would not interfere with the normal operations around Winner LZ. A memorandum of understanding between the 66th and 58th RQS and the NVARNG covering usage outside of normal operating hours would be prepared.

Airspace

Changes to airspace management and use are not involved with the proposed action. However, Nellis AFB uses the area for several air operations including arrival and departure routes, as well as Jettison Hill and the aforementioned Winner LZ. Use of the NVARNG Small Arms Qualification Ranges would be similar to the existing CAT-M and any potential conflicts would be similarly addressed through the appropriate Nellis AFB channels.

Noise

Noise is often defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, diminishes the quality of the environment, or is otherwise annoying. Human response to noise varies by the type and characteristics of the noise source, the distance from the source, receptor sensitivity, and time of day. Noise can be intermittent or continuous, steady or impulsive, and it may be generated by stationary or mobile sources. Sound levels are expressed in decibels (dB), usually weighted for human hearing. Construction activities are not likely to be noticeable because of the distance to the nearest receptor. Similarly, noise associated with operations on the range could be heard off the installation but the distance to sensitive receptors is almost 2 miles to cause a perceptible change. According to USCHPPM, noise levels at 800m (2,625 ft) should not be high enough to annoy people (USACHPPM 2006). Another factor regarding noise from operations that would make the impact negligible is that the direction of fire would be in the opposite direction of any receptor. There is a proposal to construct a northern campus of UNLV to the west of the Nellis AFB Small Arms Range. Impacts to the proposed UNLV campus are presented in the cumulative impacts section since this project is still in the planning stages.

Environmental Justice and Protection of Children

In 1994, EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, was issued to focus attention of federal agencies on human health and environmental conditions in minority and low-income communities and to ensure that disproportionately high and adverse human health or environmental effects on these communities were addressed. In 1997, EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks (Protection of Children)*, was issued to ensure the protection of children. Environmental justice addresses the disproportionate effect of a federal action on low-income or minority populations. If implementation of the proposed action were to have the potential to significantly affect people, those effects would have to be evaluated for how they adversely or disproportionately affect low-income or minority communities. Because the proposed action takes place within the confines of the base, no disproportionate populations occur within the areas affected by the proposed action; minority or low-income groups would not be disproportionately affected by implementation of the proposed action. No aspect of this construction proposal would place children at risk. In summary, there would be no anticipated disproportionate impact to the human health or environmental conditions in minority or low-income communities. Neither the proposed action nor no-action alternative would result in an adverse impact to the health and safety of children; therefore, further analysis of this resource is not warranted for this EA.

Floodplains

Floodplains are, in general, those lands most subject to recurring floods, situated adjacent to rivers and streams, and coastal areas. As a topographic category, a floodplain is quite flat and lies adjacent to the stream or river. Floods are usually described in terms of their statistical frequency. A “100-year flood” or “100-year floodplain” describes an event or an area subject to a percent probability of a certain size flood occurring in any given year. Because floodplains can be mapped, the boundary of the 100-year flood is commonly used in floodplain mitigation programs to identify areas where the risk of flooding is significant. The Nellis AFB SAR lies in the northeastern portion of the Las Vegas Valley and natural surface waters and perennial streams are nonexistent on the SAR. The proposed action location is not located on a floodplain.

3.2 AIR QUALITY

Air quality in a given location is described by the concentration of various pollutants in the atmosphere. A region’s air quality is influenced by many factors including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

The 1970 Clean Air Act and its subsequent amendments (CAAA) established the National Ambient Air Quality Standards (NAAQS) for seven “criteria” pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter equal to or less than 10 and 2.5 microns (PM_{10} and

$PM_{2.5}$), and lead (Pb). These standards represent the maximum allowable atmospheric concentrations that may occur while ensuring protection of public health and welfare, with a reasonable margin of safety. Short-term standards (1-, 8-, and 24-hour periods) are established for pollutants contributing to acute health effects, while long-term standards (quarterly and annual averages) are established for pollutants contributing to chronic health effects. On March 12, 2008, the U.S. Environmental Protection Agency (USEPA) promulgated a revision to the 8-hour ozone standard for ground-level ozone, reducing it from 0.08 parts per million (ppm) to 0.075 ppm. It became effective on June 12, 2008. The Bureau of Air Pollution Control (BAPC), Bureau of Air Quality (BAQ) has adopted the NAAQS, with the following exceptions and additions: 1) the state annual SO_2 standard is more stringent than the national standard; 2) Nevada has added an 8-hour CO standard specific to elevations greater than 5,000 feet above mean sea level; and 3) Nevada has added standards for visibility impairment and 1-hour hydrogen sulfide (H_2S) concentrations.

In addition to the ambient air quality standards for criteria pollutants, national standards exist for hazardous air pollutants (HAPs). Examples of HAPs include benzene, which is found in gasoline; perchlorethlyene, which is emitted from some dry cleaning facilities; and methylene chloride, which is used as a solvent and paint stripper. Examples of other listed air toxics include dioxin, asbestos, toluene, and metals such as cadmium, mercury, chromium, and lead compounds. The majority of HAPs are volatile organic compounds (VOCs).

Based on measured ambient criteria pollutant data, the USEPA designates all areas of the U.S. as having air quality better than (attainment) or worse than (nonattainment) the NAAQS. The CAA requires each state to develop a State Implementation Plan (SIP) that is its primary mechanism for ensuring that the NAAQS are achieved and maintained within that state. According to plans outlined in the SIP, designated state and local agencies implement regulations to control sources of criteria pollutants. The CAA provides that federal actions in nonattainment and maintenance areas will not hinder future attainment with the NAAQS and must conform to the applicable SIP (i.e., Nevada SIP).

As part of the CAAA of 1977, Congress established the New Source Review (NSR) program. This program is designed to ensure that air quality is not significantly degraded from the addition of new and modified factories, industrial boilers, and power plants. In areas with unhealthy air, NSR assures that new emissions do not slow progress toward cleaner air. In areas with clean air, especially pristine areas like designated Class I areas, NSR assures that new emissions do not significantly worsen air quality.

Class I areas are defined as those areas where any appreciable degradation in air quality or associated visibility impairment is considered significant. As a part of the Prevention of Significant Deterioration (PSD) Program, Congress assigned mandatory Class I status to all national parks, national wilderness areas (excluding wilderness study areas or wild and scenic rivers), and memorial parks greater than 5,000 acres and national parks greater than 6,000 acres in existence in 1977. In Class I areas, visibility

impairment is defined as atmospheric discoloration (such as from an industrial smokestack) and a reduction in regional visual range. Visibility impairment or haze results from smoke, dust, moisture, and vapor suspended in the air. Very small particles are either formed from gases (sulfates, nitrates) or are emitted directly into the atmosphere from sources like electric utilities, industrial fuel burning processes, and vehicle emissions.

Pollutants considered in the analysis for this EA include the criteria pollutants measured by state and federal standards. These pollutants are generated by numerous sources, including diesel exhaust from construction equipment and operations such as fueling and painting. Additionally, HAPs may be present in indoor air due to off-gassing of new materials (furniture, carpet) and are present in fuel. These include VOCs and NO_x, which are precursors (indicators of) O_3, and other compounds such as CO, SO_2, and PM_{10}. Airborne emissions of H_2S are not addressed because the affected environment (i.e., Nellis AFB SAR) contains no significant sources of this criteria pollutant, it is not located within a nonattainment area for H_2S, nor is H_2S associated with the proposed action construction activities and no-action alternative.

3.2.1 Affected Environment

The affected environment varies according to pollutant. For pollutants that do not undergo a chemical reaction after being emitted from a source (PM_{10}, CO, and SO_2), the affected area is generally restricted to a region in the immediate vicinity of the base. However, the region of concern for O_3 and its precursors (NO_x and VOCs) is a larger regional area because they undergo a chemical reaction and change as they disperse from the source. This change can take hours, so depending upon weather conditions, the pollutants could be some distance from the source. Impacts of the proposed action can be evaluated in the context of the existing local air quality, the baseline emissions for the base and region, and the relative contribution of the proposed action to regional emissions.

Baseline Emissions

Baseline emissions associated with the existing conditions include bus trips to and from NAS Fallon and Soldiers commuting from their residences to the NVARNG facility on Range Road where the board the buses. Soldiers would commute from their residences to the NVARNG facility on Range Road adjacent to Clark County Route 215. Using an average commute distance of 25 miles (average distance between Summerlin and/or Green Valley to the NVARNG facility) each way for 1,800 Soldiers. Baseline emissions are shown in Table 3-2.

Table 3-2. Baseline Emissions					
	VOC	**CO**	**NOx**	**SO2**	**PM_{10}**
	lb	lb	lb	lb	lb
Bus	241	958	2,975	330	143
Commute	269	2507	268	2	14
Total (lb/year)	**510**	**3465**	**3243**	**332**	**157**
Total (tons/year)	**0.26**	**1.73**	**1.62**	**0.17**	**0.08**

Regional Environment

Since Nellis AFB is located in Clark County, the area of effect for air quality is the Las Vegas Valley. The Clark County DAQEM is the regulator and enforcement agency in Clark County, Nevada. In accordance with the USEPA General Conformity Rule, the Las Vegas Valley hydrographic area is designated as "serious" nonattainment for PM_{10}, and basic nonattainment for the 8 hour O_3 standard. Las Vegas Valley is in attainment or meeting national standards for the remaining criteria pollutants, including NO_2, SO_2, and Pb. Las Vegas Valley was in non-attainment for CO, but Clark County has been able to demonstrate attainment and in 2008, DAQEM submitted to USEPA a Maintenance Plan for CO (DAQEM 2008). In 2001, DAQEM submitted a SIP for PM_{10} and regulates PM_{10} emissions in accordance with this plan.

The closest Class I Areas to the proposed action are Grand Canyon and Death Valley National Parks. Both the Grand Canyon and Death Valley are beyond the 100 km distance limitation from Nellis AFB for implementing additional PSD source requirements.

Green House Gases

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere. These emissions occur from natural processes as well as human activities. The accumulation of GHGs in the atmosphere regulates, in part, the earth's temperature. Scientific evidence suggests a trend of increasing global temperature over the past century potentially due to an increase in GHG emissions from human activities. Potential climate change associated with GHGs may produce negative economic and social consequences across the globe.

The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydro fluorocarbons and perfluorocarbons) and sulfur hexafluoride. Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has a value of one. For example, CH_4 has a GWP of 21, which means that it has a global warming effect 21 times greater than CO_2 on an equal-mass basis. Total GHG emissions from a source are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emission of each GHG by its GWP

and adding the results together to produce a single, combined emission rate representing all GHGs. On a national scale, federal agencies are addressing emissions of GHGs by reductions mandated in federal laws and EOs. Most recently, EO 13423 Strengthening Federal Environmental, Energy, and Transportation Management, and EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance, were enacted to address GHG in detail, including GHG emissions inventory, reduction, and reporting.

This EA uses the World Resources Institute (WRI), GHG Protocol for Mobile Combustion (WRI 2008) to calculate the GHG emissions. The emission factors used in this tool come from the UK Dept. for Environment, Food and Rural Affairs (DEFRA), the USEPA and the Intergovernmental Panel on Climate Change's (IPCC) 2006 Guidelines for National Greenhouse Gas Inventories. The tool was developed by Clear Standards Inc. in collaboration with WRI.

Currently, the NVARNG buses the Soldiers for training from Las Vegas to NAS Fallon requiring 41 bus trips annually. The distance between Las Vegas and NAS Fallon is 383 miles. When multiplied by 41 trips and doubled for round trips, the total equates to 31,000 miles annually. GHGs produced by buses are 96 tons/year (86.2 metric tons), primarily carbon dioxide (CO_2) with trace amounts of methane (CH_4) and nitrous oxide (N_2O). Soldiers commuting from their residences to the NVARNG facility on Range Road average 25 miles each way for 1,800 Soldiers, GHG emissions would be 39.1 tons per year (35.5 metric tons per year) for commuter emissions. Therefore, total existing GHG emissions are 135.1 tons per year (121.7 metric tons per year).

3.2.2 Environmental Consequences

The CAA prohibits federal agencies from supporting activities that do not conform to a SIP that has been approved by the USEPA. To assess the effects of the proposed action, analysis must include direct and indirect emissions from all activities that would affect the regional air quality. Emissions from proposed actions are either "presumed to conform" (based on emissions levels which are considered insignificant in the context of overall regional emissions) or must demonstrate conformity with approved SIP provisions.

Proposed Action

Air quality impacts would be significant if emissions associated with the proposed action would: 1) increase ambient air pollution concentrations above the NAAQS; 2) contribute to an existing violation of the NAAQS; 3) interfere with, or delay timely attainment of the NAAQS; 4) impair visibility within federally-mandated PSD Class I areas; or 5) result in the potential for any stationary source to be considered a major source of emissions as defined in 40 CFR 52.21 (total emissions of any pollutant subject to regulation under the CAA is greater than 250 tons per year for attainment areas).

The air quality analysis for the proposed action at Nellis AFB quantifies the changes (increases and decreases) due to construction and operational activities associated with the proposed Standard Army Qualification Range. The approach used under air quality analysis was to first evaluate construction activities (grading; filling; buildings; and parking). The construction phase would occur primarily in FY 2010 for Phase I and II and in FY 2012-2013 for Phase III. Next, the analyses considered operations. Once construction is complete, operations would commence, with resultant operational emissions associated with commuting troops and range operations. Table 3-3 provides the estimated emissions from construction under the proposed action. The emissions associated with the proposed action include fugitive dust (PM_{10} and $PM_{2.5}$) from construction, fill, grading, and combustion (primarily CO and NO_x and smaller amounts of VOCs, SO_2, PM_{10}, and $PM_{2.5}$) from heavy-duty diesel construction equipment exhaust (e.g., trucks, dozers, cranes, and rollers).

Table 3-3. Proposed Action Construction Emissions Compared to Nellis AFB and Clark County Emissions (tons per year)

Source	*VOCs*	*NO_x*	*CO*	*PM_{10}*	*$PM_{2.5}$*
Clark County[1]	50,376	76,295	387,851	53,292	9,613
Nellis AFB Total[2]	346.07	468.47	942.52	63.0	NA
Proposed Action Emissions	0.43	3.43	1.47	45	4.5
NVARNG SAR Percent Regional Contribution	0.001	>0.001	>0.001	>0.001	0.05

Sources:
[1]Clark County 2002 Emissions (USEPA 2009)
[2]Stationary emissions from Nellis AFB Air Emissions Inventory (U.S. Air Force 2006).
Emission amounts are the actual or estimated emission rather than the potential to emit emissions.

Construction

During the construction period, five separate ranges, one 25-lane/25m range, one four-lane/combat pistol qualification course, two 36-lane/25m ranges would be constructed and one MPMG range. Phases I and II of the project would require a total of approximately 44 acres of ground clearing activities assuming two thirds of the 67-acres site would entail earthwork. An additional 35 acres are assumed to be graded for Phase III. In general, VOC, CO, NO_x, and SO_2 emissions are primarily generated by diesel-fueled heavy equipment operating in the construction areas. Particulate matter emissions, in the form of PM_{10} and $PM_{2.5}$ are released by heavy equipment and also are due to fugitive dust created by land disturbance activities, which include land clearing; soil excavation; cutting and filling; trenching; and grading. The fugitive dust emission factor for PM_{10} (which is used as part of the $PM_{2.5}$ calculation) is assumed to include the effects of typical control measures such as routine site watering for dust control. A dust

control effectiveness of 50 percent is assumed, based on the estimated control effectiveness of watering. The construction emission totals were compared to the baseline of the Clark County emission inventory to assess the impact of the construction emissions to the local air quality. The comparison is expressed as a percentage of the baseline inventory for Clark County.

Impacts to air quality associated with construction and operational activities would be short-term and contribute imperceptible emissions (0.001 percent) to the regional air emissions, thereby not contributing any adverse or significant impacts to regional air quality. During construction, fugitive dust would be minimized through implementation of dust control measures (i.e., water application on soil). As indicated in Table 3-2, the construction emissions are insubstantial in comparison to the county baseline, with none of the pollutant emissions projected to even account for 0.001 percent (VOCs including Nellis AFB baseline emissions) of the baseline. The result of the construction emission analysis indicates very little impact on the air quality. Thus, there would be negligible change in impacts on a regional basis. NVARNG is required to obtain a Dust Control Permit from Clark County prior to beginning construction activities. Prior to construction, the NVARNG would contact the Nellis AFB Air Quality Program Manager to verify that there is no additional air permits required.

Operations

Range operations include the firing of weapons and the operations of three 5-kilowatt portable generators. An ATC/OP for the portable generators would not be required since the total hp rating would be less than permit requirements (personal communication, DAQEM 2010). Table 3-4 provides the emissions due to operations of the firing ranges and Table 3-5 lists the commuter and generator emissions.

Table 3-4. Operational Emissions from Weapons Firing

			CO_2	CO	Pb	CH4	$PM_{2.5}$	PM_{10}
	Rds/task	**Total Rds[1]**	**lb**	**lb**	**lb**	**lb**	**lb**	**lb**
9mm	80	144,000	29	45	1	0	3	3
M-16	98	176,400	153	282	1	2	5	7
M249	252	453,600	395	726	2	4	13	18
M240	612	1,101,600	1,624	2,836	7	15	54	80
MK19	124	223,200	1,094	893	18	20	1,138	2,120
		Total (lbs/year)	**3,295**	**4,782**	**29**	**41**	**1,213**	**2,229**
		Total (tons/year)	**1.65**	**2.39**	**0.01**	**0.02**	**0.61**	**1.11**

Source: AP-42 Chapters 15.1 and 15.2
[1]Total rounds are rounds per task multiplied by 1,800 Soldiers.

Table 3-5. Commuter and Generator Emissions					
	VOC	**CO**	**NO_x**	**SO_x**	**PM_{10}**
	lb	**lb**	**lb**	**lb**	**lb**
Commuter	291	2707	289	2	15
Generators	1	1	1	0	0
Total (lb/year)	**292**	**2708**	**290**	**2**	**16**
Total (tons/year)	**0.15**	**1.35**	**0.15**	**0.00**	**0.01**

Green House Gases

The proposed action would eliminate the need for busing the Soldiers from Las Vegas to NAS Fallon, but the commute to the SAR would add 4 miles per round trip for each Soldier. The additional 4 miles increase GHG for the commute by 6.3 tons per year (5.7 metric tons per year) totaling 45.4 tons per year (41.2 metric tons per year). Overall the resulting GHG emissions would be reduced from 135.1 tons per year (121.7 metric tons per year) to 45.4 tons per year (41.2 metric tons per year) for a total reduction of about 90 tons per year.

Conclusion

In conclusion, construction and operation of the Standard Army Qualification Range would result in negligible impacts to air quality in the region if the proposed action were implemented. Construction would last about 4 months for Phase I and Phase II in FY2010 and another four for Phase III in FY2012 and FY2013. Once completed, there would be only the emissions from weapons use, generators, and commuting emissions by Soldiers. Table 3-6 shows the total proposed action operational emissions. GHGs would be greatly reduced by implementing the proposed action.

Table 3-6. Total Annual Proposed Action Operational Emissions Compared to Clark County Emissions (tons per year)							
Source	***VOCs***	***CO***	***NO_x***	**Pb**	**SO_x**	***PM_{10}***	***$PM_{2.5}$***
Clark County[1]	50,376	387,851	76,295	5	52,782	53,292	9,613
Proposed Action Emissions	0.15	3.74	.15	0.01	0.00	45	1.12
NVARNG SAR Percent Regional Contribution	0.001	>0.001	>0.001	0.2	>0.001	>0.001	>0.001

Sources:
[1]Clark County 2002 Emissions (USEPA 2009)
Emission amounts are the actual or estimated emissions rather than the potential to emit emissions.

No-Action Alternative

Under the no-action alternative, the Standard Army Qualification Range would not be constructed at Nellis AFB SAR at this time. Air quality impacts for criteria air pollutants from commuters and bus trips

to NAS Fallon would continue under the no action alternative. Therefore, implementing the no-action alternative would not result in any changes to the existing local and regional air quality.

3.3 SOILS AND WATER RESOURCES

Soils and water resources for this EA refer to soil type and its potential for erosion and surface and subsurface water, including lakes, ponds, rivers, and streams. These resources are investigated within a watershed affected by existing and potential soil erosion and runoff from the SAR. Subsurface water, commonly referred to as groundwater, is typically found in areas known as aquifers. Groundwater is typically recharged during precipitation events and is withdrawn for domestic, agricultural, and industrial purposes.

Wetlands are considered special category sensitive habitats and are subject to regulatory authority under Section 404 of the CWA and EO 11990 *Protection of Wetlands*. They include jurisdictional and non-jurisdictional wetlands. Jurisdictional wetlands are those defined by the U.S. Army Corps of Engineers (USACE) and USEPA as those areas that meet all the criteria defined in the USACE's 1987 *Wetlands Delineation Manual* and under the jurisdiction of the USACE (USACE 1987). The CWA of 1972 is the primary federal law that protects the nation's waters, including lakes, rivers, aquifers, and coastal areas. The primary objective of the CWA is to restore and maintain the integrity of the nation's waters.

3.3.1 Affected Environment

Nellis AFB is located in the northeastern part of the Las Vegas Valley. The elevation of Nellis AFB is approximately 2,000 feet above mean sea level.

Soils

Nellis AFB SAR lies primarily on Weiser soil types with a texture of very gravelly, sandy loam (USACHPPM 2009). The geology consists of Quaternary young alluvial fan associated with the Holocene and latest Pleistocene eras. The soil type includes attributes including moderate permeability, well drained with moderately course textures. These attributes indicate that ground disturbance at Nellis AFB, such as construction, could lead to a high degree of wind erosion. Erosion from precipitation and runoff is minimal due to soil characteristics and shallow slope of Nellis AFB. A Clark County Regional Flood Control District dike bisects the Nellis AFB SAR and crosses the SAR immediately uphill from the proposed site.

Water Resources

The water resources section describes the surface water resources, storm water runoff, and includes a discussion on wetlands. Water resources are surface and subsurface resources that are finite but renewable. Physical disturbances and material releases from construction activities may affect water resources. Under NEPA guidelines, any alteration or degradation of a surface water body, aquifer, groundwater table, or recharge rate resulting in measurable and persistent change in water quality is a significant impact. Violation of federal or state water quality criteria resulting from the proposed action also would be considered a significant impact.

Groundwater recharge is the amount of water from precipitation that reached the groundwater aquifer and is dependent upon evaporation and infiltration. Evaporation depends upon heat and humidity and is the amount of water lost to the atmosphere. Infiltration rates depend on factors such as soil type, soil moisture, antecedent rainfall, cover type, impervious surfaces and surface retention. Travel time is determined primarily by slope, length of flow path, depth of flow, and roughness of flow surfaces. The size of the drainage area, infiltration rates, and runoff travel time control the rate of peak discharge. The location of the proposed development, the effects of natural or manmade active or passive control works, and the time distribution of rainfall during a given storm event can reduce water infiltration rates and speed up runoff travel time. Incremental increases of impervious surface may combine to significantly alter peak events or baseline flow in a watershed.

Groundwater

Nevada's groundwater is typically found in unconsolidated deposits of sand, gravel, silt and clay that partly fills the many basins. Most groundwater development is in basins where water is readily obtained from shallow unconsolidated deposits where well yields are more predictable than in the mountains. Sources of groundwater are available from the principal alluvial-fill aquifer underlying the Las Vegas Valley. The only well near the proposed action location is a monitoring well associated with Landfill 34, an Environmental Restoration Program site approximately ¾ miles south of proposed action location. No production wells are located within 1 mile of the proposed action site (USCHPPM 2009)

Surface Water/ Stormwater

Natural surface water doesn't exist on or around the Nellis AFB SAR. Average annual precipitation is approximately 4 inches. Evaporation rates in the area are very high and have been estimated at approximately 58 to 69 inches per year (Air Force 1999b). A few ephemeral stream channels occur on Nellis AFB SAR.

Stormwater run-off from precipitation can affect soil erosion as discussed earlier and water quality by transporting pollutants and sediments from the site to downstream water bodies. As discussed in the soils section, a flood control dike crosses the Nellis AFB SAR and is prominently noticeable by a wide linear

feature shown on Figure 1-1. Stormwater surface flow is primarily southward towards I-15 and eventually flows into the Sloan Channel which leads to the Las Vegas Wash that, in turn, flows into Lake Mead.

Wetlands and Jurisdictional Waters

The USACE regulates discharges of dredged or fill material into waters of the United States (WoUS), which include wetlands and non wetland bodies of water that meet specific criteria. The USACE takes regulatory jurisdiction under Section 404 of the federal CWA of waters with a surface connection or significant nexus, between the water body in question and a navigable waterway. A jurisdictional WoUS exists on the proposed site bisecting the western side of the range as shown on Figure 3-2.

3.3.2 Environmental Consequences

Impacts to soils are considered significant if any ground disturbance or other activities would violate applicable Federal or state laws and regulations and the potential for Notices of Violation (NOV) for the failure to receive applicable state permits, such as a NPDES construction permits, prior to initiating a proposed action. Potential adverse effects to soils could result from ground disturbance leading to soil erosion, fugitive dust propagation, sedimentation, and pollutants such as hazardous materials and/or waste. The threshold level of significance for water quality is the violation of applicable federal or state laws and regulations, such as the CWA and the potential for NOV for the failure to receive applicable federal and state permits, such as a NPDES permit (required for all projects 1 acre or more in size), prior to initiating site development activities.

Proposed Action

Soils

Slopes within the project area are slight; however, water and wind erosion could occur during construction activities. Use of best management practices would reduce these impacts. Lead used on Department of Defense ranges is not considered waste until the range is converted to a closed status. When the range is ultimately closed, site investigations and remediation would be performed in accordance with all applicable regulations. No long term impacts to site soils would be expected.

Water Resources

Water resources are surface and subsurface resources that are finite but renewable. Physical disturbances and material releases from construction activities may affect water resources. Under NEPA guidelines, any alteration or degradation of a surface water body, aquifer, groundwater table, or recharge rate resulting in measurable and persistent change in water quality is a significant impact. Violation of federal or state water quality criteria resulting from the proposed action also would be considered a significant impact.

Groundwater

The proposed action would not be expected to significantly impact the pre-existing status of groundwater resources at the Nellis AFB SAR. Excavations would be shallow and would not intersect groundwater. The solubility of lead is dependent on pH, alkalinity, salinity, and the presence of organic matter; lead is more highly soluble in low alkalinity, low pH water. Lead adsorbs strongly to soil, which limits leaching to subsurface soil and groundwater (ATSDR 2007). Short-term impacts due to leaks or spills of contaminants during construction (e.g., fuels, lubricants) could possibly impact shallow perched zones; however, they would not be expected to enter the deeper confined aquifers and can be readily mitigated through implementation of appropriate construction/maintenance best management practices.

Surface Water/Stormwater

Short-term impacts to surface water could potentially occur during construction. These potential impacts could include increased turbidity in surface waters that are adjacent to construction activities and potential contamination due to leaks and spills of fuels and lubricants from construction equipment. Use of best management practices and engineering controls as prescribed in the required Storm Water Pollution Prevention Plan, (Air Force 2006) and the conditions of the Stormwater Discharge Permit would minimize these impacts.

Wetlands and Jurisdictional Waters of the United States

A jurisdictional WoUS exists on the proposed site, bisecting the western side of the range as shown on Figure 3-1. The CPQC range and associated ROCA lies to the west of the WoUS and the remainder of the ranges and ROCA would be east of the WoUS. A crossing of the WoUS may be constructed to provide access to the CPQC. If the WoUS are avoided by going around the WoUS via the access from Grand Teton, then there would be no impacts. Alternatively, Option A, shown in Figure 3-2, consists of the NVARNG grading the surrounding uplands to the level of the WoUS and minimizing impacts to the channel. This option would impact approximately 20 linear feet of the WoUS. Permit requirements for this option would be limited to a Nationwide Permit issued by the U.S. Army Corps of Engineers. Option B consists of the NVARNG installing a culvert to span the WoUS at the narrowest point, which is approximately 10 feet. Option B affectively avoids any impacts to the WoUS from the road and therefore does not require any permitting.

No-Action Alternative

Under the no-action alternative, the Standard Army Qualification Range would not be constructed at this time. Existing conditions (as described under the affected environment) would remain unchanged. As a result, there would be no impacts to soils or water resources at the Nellis AFB SAR if the proposed action were not implemented. No impacts to wetlands or jurisdictional WoUS would occur with implementation of the no-action alternative.

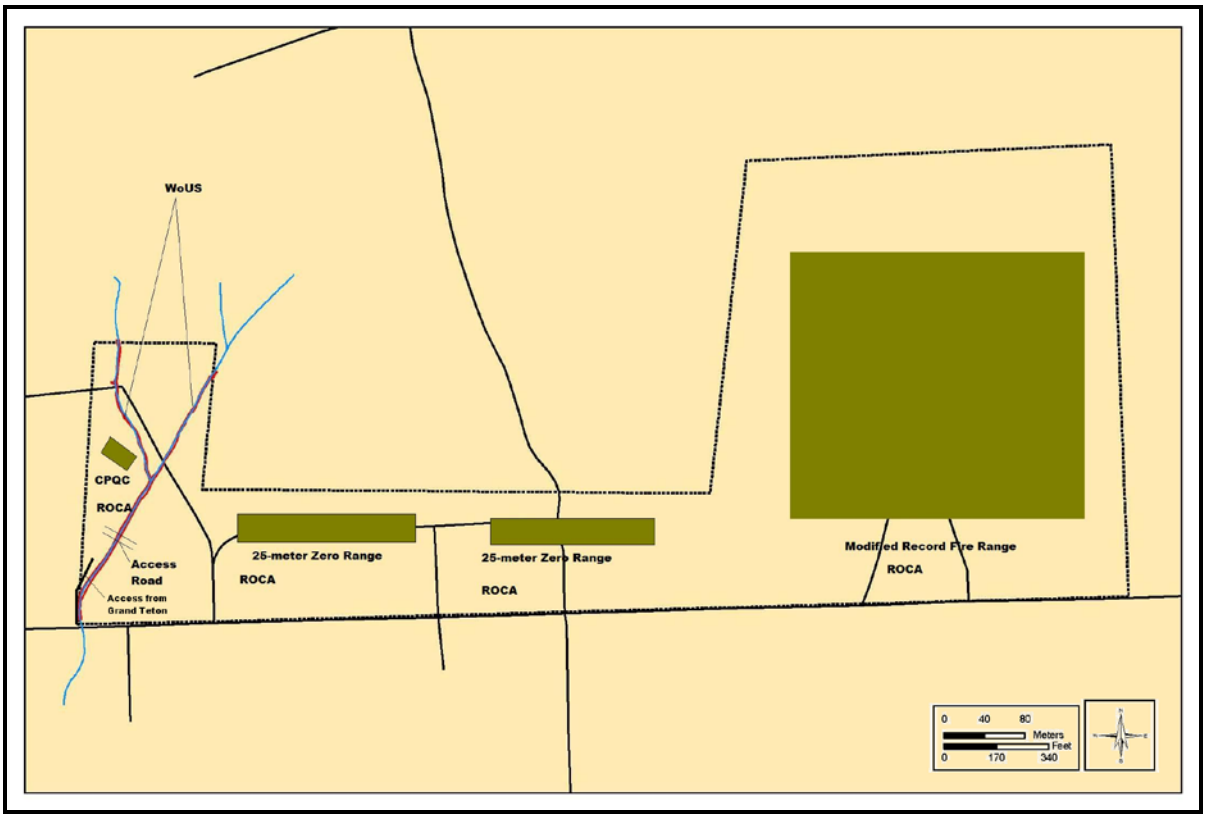

Figure 3-1. Waters of the United States (WoUS) in the Proposed SAR

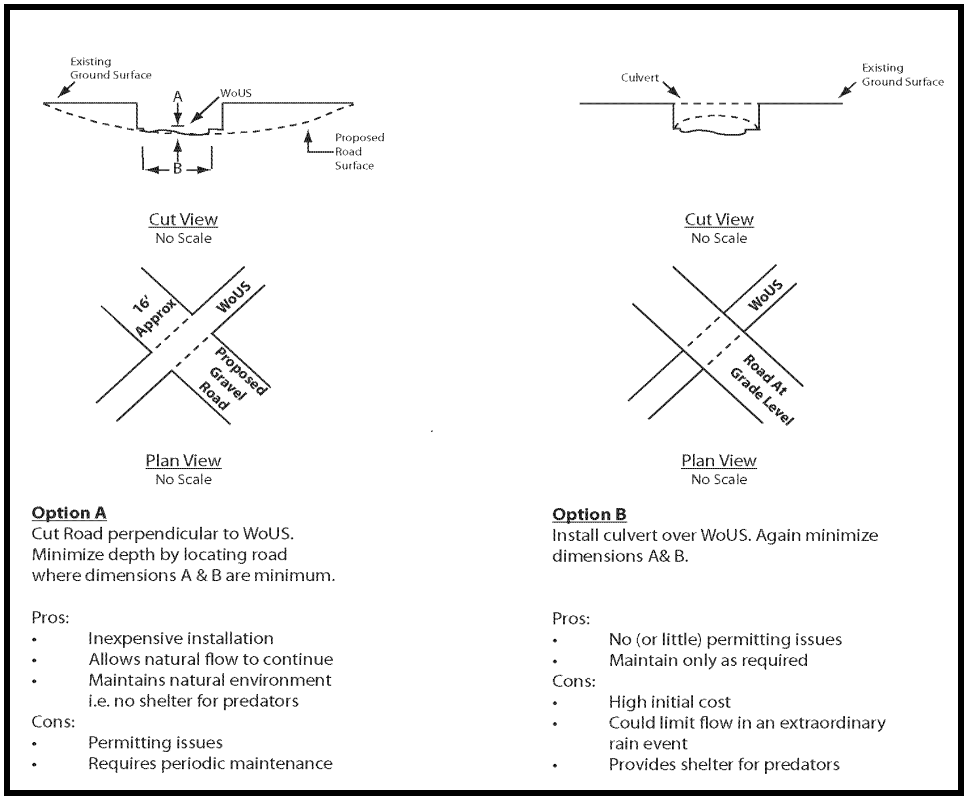

Figure 3-2. Options Considered for Crossing the WoUS

3.4 BIOLOGICAL RESOURCES

Biological resources encompass plant and animal species and the habitats within which they occur. Plant species are often referred to as vegetation and animal species are referred to as wildlife. Habitat can be defined as the area or environment where the resources and conditions are present that cause or allow a plant or animal to live there (Hall *et al.* 1997). Biological resources for this EA include vegetation, wildlife, and special-status species occurring on Nellis AFB in the vicinity of the proposed construction.

Vegetation includes all existing upland terrestrial plant communities and submerged aquatic vegetation with the exception of special-status species. The affected environment for vegetation includes those areas subject to construction disturbance. Wetlands are discussed in Section 3.3, *Soils and Water Resources*.

Wildlife includes all vertebrate animals with the exception of those identified as threatened or endangered or sensitive. Wildlife includes fish, amphibians, reptiles, birds, and mammals.

Special-Status Species are defined as those plant and animal species listed as threatened, endangered, or proposed as such by the USFWS. The federal ESA protects federally listed, threatened, and endangered plant and animal species. Species of concern are not protected by the ESA; however, these species could become listed and protected at any time. Their consideration early in the planning process could avoid future conflicts that might otherwise occur. The discussion of special-status species focuses on those species with the potential to be affected by construction and construction-related noise.

3.4.1 Affected Environment

The affected environment includes the location proposed for the Standard Army Qualification Range construction. Those biological resources that may potentially be impacted by the proposed action are discussed in the following pages.

Vegetation

Nellis AFB is located in the Mojave Desert. The surrounding landscape is typical of the Mojave Desert; the vegetation is typically dominated by creosote bush (*Larrea tridentaat)* and white bursage (*Ambrosia dumosa*) desert scrub community. This desert scrub community can still be found in the less developed areas of Nellis AFB such as the SAR. Vast areas of the basins and bajadas in the Mojave Desert, below approximately 3,940 feet support plant communities dominated by creosote bush and white bursage. Saltbush species,ephedras (*Ephedra* spp.), brittlebush (*Encelia virginensis*), desert mallow (*Sphaeralcea ambigua*), cacti (especially prickly pears and chollas [*Opuntia* spp.]), and Mojave yucca (*Yucca shidigera*) may also occur in this community (USAF 1999a). During the site inspection on January 10, 2009 a number of species of cacti were observed on SAR.

Wildlife

Coyote (*Canis latrans*), Gambel's quail (*Callipepla gambelii*), mourning dove (*Zenaida macroura*), desert spiny lizard (*Scelopours magister*) and side-blotched lizard (*Uta stansburiana*) are common wildlife species found in the vicinity of the Nellis AFB SAR (Air Force 1999b).

Special-Status Species

The desert tortoise (*Gopherus agassizii*) is the only federally listed plant or animal species known, or likely, to occur in the areas around Nellis AFB. The desert tortoise was listed by the USFWS as threatened on April 2, 1990. It is the largest reptile in the arid southwestern U.S. Tortoises spend much of their lives in underground burrows that they excavate to escape the harsh summer and winter desert conditions. They usually emerge in late winter or early spring and again in the fall to feed and mate, although they may be active during summer when temperatures are moderate. Desert tortoises are herbivorous, eating a wide variety of herbaceous vegetation, especially flowers of annual plants. Historically the tortoise occupied a variety of desert communities in southeastern California, southern Nevada, western and southern Arizona, southwestern Utah, and through Sonora and northern Sinaloa, Mexico. Today it can still be found in these areas, although the populations are fragmented and declining over most of its former range (Air Force 1999b). The desert tortoise is present on the base in low densities in undeveloped portions of Area II and on the Nellis AFB Small Arm Range.

Two plant and two other animal Federal species of concern have been observed or occur on Nellis AFB. These are the Las Vegas Bearpoppy (*Arctomecon californica*), Las Vegas buckwheat (*Eriogonum corymbosum),* chuckwalla (*Sauromalus obesus*), and western burrowing owl (*Athene cunicularia*). Four populations of Las Vegas Bearpoppy have been located on Nellis AFB: three small populations in Area II and one large population in Area III. The Presence of chuckwalla on Nellis AFB has been confirmed due to the observations of scat on the Sunrise Mountain foothills in the eastern portion of Area II. The chuckwallas inhabit rocky hillsides, talus slopes, and rock outcrops in areas dominated by creosote. Western burrowing owl is a species native to southern Nevada that adapts well to urban environments. The species prefer flat, previously disturbed areas like those found around the southern boundary of Nellis AFB where loose soil allows for excavation of burrows. The Gila monster (*Heloderma suspectum*), classified as protected by the state of Nevada, could be found in Area II. State protocols would be implemented if Gila monsters are encountered during construction.

3.4.2 Environmental Consequences

Determination of the significance of potential impacts to biological resources is based on: 1) the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource: 2) the proportion of the resource that would be affected relative to its occurrence in the region; 3) the sensitivity of the resource to proposed activities; and 4) the duration of ecological ramifications. Impacts to

biological resources are significant if species or habitats of concern are adversely affected over relatively large areas or disturbances cause reductions in population size or distribution of a species of concern. Analysis of potential on-base impacts focuses on whether and how ground-disturbing activities and changes in the noise environment may affect biological resources.

Proposed Action

Vegetation

Although the total acreage for Phases I and II would be 67 acres, only 45 acres would require clearing and grubbing. Clearing and grubbing activities would clear approximately 80 acres for all Phases of the project including 35 acres from Phase III. Many cacti and yucca would be disturbed. The NVARNG would transplant as much of the cacti and yucca for landscaping purposes around the ROCA. The remainder would be offered to Nellis AFB for their use. Any valuable plants remaining would be donated to the local communities. Due to these efforts minimal impacts to vegetation would be attributed to the proposed action.

Wildlife

The proposed action would disturb about 80 acres of habitat, but the area is wide open and wildlife would move to adjacent areas. Furthermore, the majority use of the ranges would be during the weekend and wildlife like rodents and coyotes would still frequent the area. Impacts to wildlife would be minimal.

Special Status Species

The proposed SAR is located in known desert tortoise habitat. On January 19, 2009 a survey was performed to determine the extent of the presence of desert tortoise in the proposed location of the ranges. Eleven desert tortoise burrows and one old tortoise carcass were found on the project site. Two of the burrows were in poor condition, one in fair condition, and eight of the burrows were in good condition. Of the eight burrows in good condition, two of the burrows seemed especially clean and there may have been old tracks in the tunnel. The ends of three burrows could not be observed so it is unknown if they were in use by a tortoise at the time of the survey (including the two very clean burrows). Eighteen scat (feces) were observed in the tunnels of four burrows. No scat were observed away from burrows. Because the scat were in tunnels and protected from the sun it is unknown when they were deposited. One carcass was located on the site. The carcass was of an adult of unknown sex. The cause of death is unknown and the time of death was approximately 10 years before observation. Two of the burrows were in the large berm in the northeast portion of the site. Five burrows (numbers 7 thru 11) were all in the washbanks of one wash system in the western portion of the site. This is in the wash that is considered WoUS and would be largely avoided. The ends of two of the burrows were not visible.

Nellis AFB has a Programmatic Biological Opinion (USFWS 2007) for Desert Tortoise on the SAR and because the NVARNG would be a tenant organization of Nellis AFB, the Biological Opinion also applies

to the NVARNG for this proposed action (personal communication, Burroughs, 2008). Terms and conditions require a qualified desert tortoise monitor to be onsite during all earth disturbing activities. Remuneration fees for each acre of disturbance also apply. The NVARNG would comply with all of the terms and conditions of the Biological Opinion. As a result, no significant impact to desert tortoise would be expected due to implementing the proposed action.

Burrowing owls were not observed on the project site but they are known to be on the SAR. They were seen on 10 of the 42 relative abundance transects walked in 2005 (Woodman 2006). Burrowing owls were most commonly seen in old coyote and kit fox (*Vulpes macrotis*) dens. Burrowing owls were most common in the west-central portion of the site and generally not seen around the practice facilities.

The western burrowing owl is common on the SAR and provisions of the Migratory Bird Treaty Act would be followed prior to the start of construction. These provisions include surveys and removal and limiting ground disturbing activities to non-breeding season for the owls. Following these provisions would preclude significant impacts to the burrowing owl.

No-Action Alternative

Under the no-action alternative, the Army Standard Qualification Range at Nellis AFB would not be constructed at this time. No adverse impacts to vegetation, wildlife, or special-status species are anticipated through implementation of the no-action alternative.

3.5 SOCIOECONOMICS

Socioeconomic resources are defined as the basic attributes associated with the human environment, and distribution of people. Economic activity is typically composed of employment distribution, personal income, and business growth. Socioeconomics for this EA focus on the general features of the local economy that could be affected by the proposed action or alternative. The analysis of potential impacts is based on the best available information at the time of writing.

3.5.1 Affected Environment

Analyses of impacts to socioeconomic characteristics potentially resulting from implementation of the proposed projects requires establishment of an affected environment – a primary geographical area within which direct and secondary socioeconomic effects associated with the implementation of the proposed action and the alternative actions or no action would be noticed. The primary focus for socioeconomic affect for Nellis AFB is Las Vegas Valley, Clark County, and the U.S. 95 corridor from Las Vegas to Fallon.

Guardsmen currently must travel from southern Nevada to NAS Fallon on U.S. 95 to receive their required training. About 1,800 Guardsmen live in southern Nevada and travel by 44-passenger buses to NAS Fallon for their weekend duty. Forty-one trips are made annually from Las Vegas to Fallon, at a cost of $2,000 per trip, the NVARNG spends $81,000 annually for transportation.

3.5.2 Environmental Consequences

Proposed Action

The construction activities under the proposed action would contribute minimally to the local economy through temporary construction contracts because the project size is tiny compared to the current development in the Las Vegas Valley. This employment would not affect the population currently working for the DoD. Long term socioeconomic impacts would be for the Soldiers who would considerably shorten their travel time and distance to achieve their required training. In addition, the NVARNG would save $82,000 annually by eliminating busing the Soldiers all the way to NAS Fallon. The existing bus trips occasionally stop at the smaller towns along the route from Las Vegas to NAS Fallon and there would be a slight impact to businesses along the route, but the impact would be spread out amongst many businesses.

No-Action Alternative

Socioeconomic resources would not be affected by implementation of the no-action alternative. NVARNG would continue to bus Soldiers for training to NAS Fallon and continue to spend $82,000 annually for these bus trips. Soldiers would continue to get minimal training because of the time required to get to their training site. Impacts to businesses along U.S. 95 would remain unchanged.

3.6 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

Hazardous materials are identified and regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); the Occupational Safety and Health Act (OSHA); and the Emergency Planning and Community Right-to-Know-Act. Resource Conservation and Recovery Act (RCRA) defines hazardous waste as any solid, liquid, contained gaseous or semisolid waste, or any combination of waste that could or do pose a substantial hazard to human health or the environment. Waste may be classified as hazardous because of its toxicity, reactivity, ignitability, or corrosiveness. In addition, certain types of waste are “listed” or identified as hazardous in Code of Federal Regulations at 40 CFR Part 261. Executive Order 12088, *Federal Compliance with Pollution Control Standards*, ensures that necessary actions are taken for the prevention, management, and abatement of environmental pollution from hazardous materials or hazardous waste due to federal activities. Other topics commonly addressed under hazardous materials and waste includes Underground Storage Tanks and potential

contaminated sites designated under the Air Force's Environmental Restoration Program (ERP). Solid waste management refers to the disposal of materials from the demolition of existing facilities.

The majority of hazardous materials used by the Air Force and contractor personnel at Nellis AFB are controlled through an Air Force pollution prevention process called Hazardous Material Pharmacy (HAZMART). This process provides centralized management of the procurement, handling, storage, and issuing of hazardous materials and turn-in, recovery, reuse, recycling, or disposal of hazardous materials. The HAZMART process includes review and approval by Air Force personnel to ensure users are aware of exposure and safety risks.

3.6.1 Affected Environment

Activities at Nellis AFB require the use and storage of a variety of hazardous materials that include flammable and combustible liquids, acids, corrosives, caustics, anti-icing chemicals, compressed gases, solvents, paints, paint thinners, and pesticides. The Nellis AFB Hazardous Waste Management Plan-12 provides guidance and procedures for proper management of RCRA and non-RCRA hazardous waste generated on the base to ensure compliance with applicable regulations. To manage these materials, Nellis AFB uses a (HAZMART pollution prevention system. This process provides centralized management of the procurement, handling, storage, and issuing of hazardous materials, as well as the turn-in recovery, reuse, recycling, and disposal of hazardous wastes. The HAZMART approval process also includes review and approval by Air Force personnel. In addition, the base has Facilities Response Plan, (Air Force 2002a), which includes site specific contingency plans.

Nellis AFB is considered a large quantity generator by the USEPA. Hazardous waste at Nellis AFB is accumulated at an approved 90-day storage area on the base, or at satellite accumulation points. Approximately 100 satellite accumulation points are located at Nellis AFB (Air Force 2002b). One 90-day storage area is operated at Nellis AFB as a collection area for waste received from satellite accumulation points. Each accumulation point must comply with requirements for sitting, physical construction, operation, marking, labeling, and inspection and must maintain a container inspection log. Generators of hazardous wastes are responsible for openly segregating, storing, characterizing, labeling, marking, and packaging all hazardous waste for disposal as mandated in the Hazardous Materials Table in 49 CFR Part 172.101. All base personnel, tenants and contractors are required to comply with Nellis AFB Plan 12 for hazardous waste issues and procedures. Additionally, all activities involving hazardous materials are required to follow issues and procedures promulgated in Nellis AFB Plan 32-7086.

ERP sites are those sites where contamination occurred prior to 1985 and thus, remediation efforts are directed by CERCLA. Remediation measures require containment and could include contaminant removal and disposal. ERP sites on Nellis AFB include abandoned landfills, underground contaminant plumes, and ordnance disposal pits. There are currently four ERP sites and four Munitions Response

Areas (MRA) on the Nellis AFB SAR (USCHPPM 2008), with none located near the proposed action location.

3.6.2 Environmental Consequences

The significance of potential impacts associated with hazardous materials and wastes is based on the toxicity, transportation, storage, and disposal of these substances. Hazardous materials and hazardous waste impacts are considered significant if the storage, use, transportation, or disposal of these substances substantially increases the human health risk or environmental exposure. An increase in the quantity or toxicity of hazardous materials and/or hazardous waste handled by a facility may also signify a potentially significant impact, especially if a facility was not equipped to handle the new waste streams.

Proposed Action

Hazardous Materials and Waste

Construction of the Standard Army Qualification Range may require the use of hazardous materials such as paints, adhesives, and batteries by construction personnel. In accordance with the base's HAZMART procedure, copies of Material Safety Data Sheets must be provided to the base and maintained on the construction site. Construction personnel would comply with federal, state, and local environmental laws and would employ affirmative procurement practices when economically and technically feasible.

Lead projectiles from small arms usage would be utilized on the range. No catchments to collect bullets are planned for the range since the area is currently used in the same manner. An Environmental Baseline Survey (EBS) has been conducted for the area and the entire SAR contains evidence of range use (USCHPPM 2009). NVARNG would use Nellis AFB SAR property, and at such time when the range is no longer needed by the NVARNG, a second EBS would then be conducted to document the environmental conditions at that time. Any difference in the environmental conditions would be the responsibility of the NVARNG to revert the range to preexisting conditions. Lead used on DoD ranges is not considered waste until the range is converted to a closed status. When the range is ultimately closed, site investigations and remediation would be performed in accordance with all applicable regulations.

The amounts and types of hazardous wastes generated by personnel during the operation and maintenance of the Standard Army Qualification Range would be small quantities and typical of standard activities. The Nellis AFB SAR does contain several ERP and MRA sites, but the proposed ranges would not be located on any of the ERP or MRA sites.

No-Action Alternative

Under this alternative, the Standard Army Qualification Range would not be constructed. No changes to hazardous materials or waste management would be expected. In addition, no change to the base's ERP would occur.

3.7 HEALTH AND SAFETY

Range safety covers prevention of accidents on Army ranges. AR 385-63, *Range Safety*, (Army 2003) prescribes policies and responsibilities for ranges on the use of live firing of small arms and grenades, and provides guidance for using risk management. Surface Danger Zones are a key aspect of providing safe range operations. An SDZ is an area downrange from a firing line which is an exclusion area for other activities and personnel such that bullets, fragments, and debris from the use of the range would stay contained within the SDZ. Figure 3.3 shows a typical layout of an SDZ.

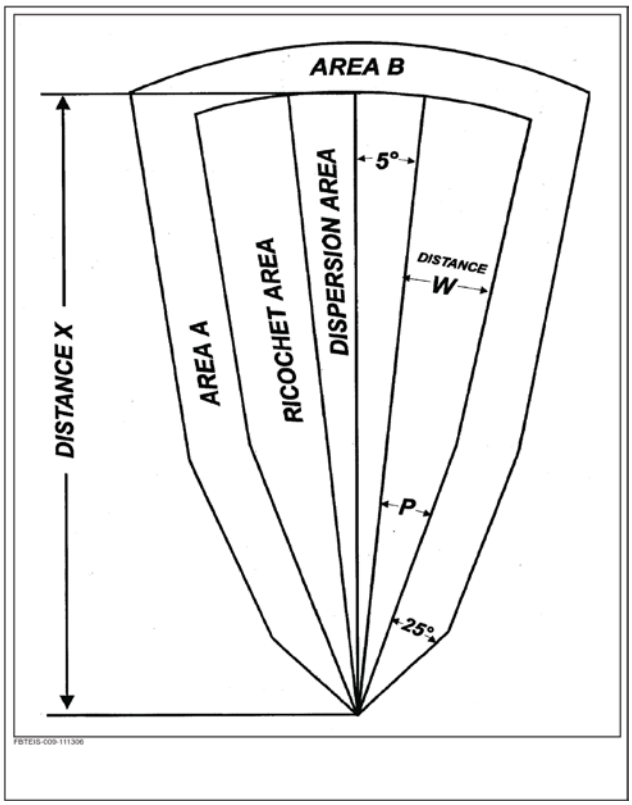

Figure 3-3. Typical SDZ

3.7.1 Affected Environment

Analysis of safety impacts include potentially hazardous activities of the existing conditions and proposed actions to cause unintended harm to personnel, both military and civilian populations, and property. The

affected area for safety encompasses the small arms ranges associated with the Nellis AFB SAR. The hazardous activities are the firing ranges and the SDZs associated with the ranges.

Range Safety - Surface Danger Zones

The SDZ is an "invisible" line that surrounds the firing range and ordnance impact area portions of a range, and provides a buffer area to protect personnel from the non-dud producing rounds that may be ricocheted during operation of the range. For each training scenario on a range, the SDZ is computed to take into account the firing positions and ordnance used, so the SDZ exclusion zone would vary. For the purpose of this analysis, the cumulative/maximum SDZ possible for the action alternative would be utilized. The SDZ is an "exclusion" or safety zone for personnel on or in the vicinity of the range. Its function is to provide a buffer zone that contains projectiles, fragments, debris, and components resulting from the firing of weapon systems; these items have an approximately one in a million chance of landing outside of the SDZ (Army 2003). SDZs are updated on the basis of data derived from research and development, testing, and/or actual firing experience and differ depending on the type of activity occurring on the range (small arms training versus grenades) and the type of ammunition being fired on the range (AR 385-63). The area comprising the SDZ is closed to all personnel not directly using the range complex during ongoing exercises. Figure 3-4 shows the current ranges and SDZs.

3.7.2 Environmental Consequences

Proposed Action

Range Safety - Surface Danger Zones

Under the proposed action, there would be SDZs associated with the proposed ammunition. Figure 3-5 shows the ranges and SDZs associated with the proposed action. Among the duties of a Range Safety Officer (RSO), present at each active firing range, is to ensure there are no unauthorized personnel or equipment located downrange while the range is being used. An additional security measure and a long-term solution would be to enclose the small unfenced area on the range's northern border to prevent unauthorized entry onto the range.

In summary, there would be increased safety risks introduced within the training areas due to the increased small arms and grenade use, but implementation of all existing safety programs should minimize any safety hazards. Unauthorized entry onto base lands could be minimized by completely fencing all range boundaries and ensuring that RSOs undertake thorough review of downrange activities prior to range use. Natural barriers, such as mountains, decrease the distance projectiles and fragments travel and the resulting SDZ. Design of the range including firing restrictions and angles could also reduce the area of SDZs. During the final design of the MPMG, the actual SDZ would be calculated with

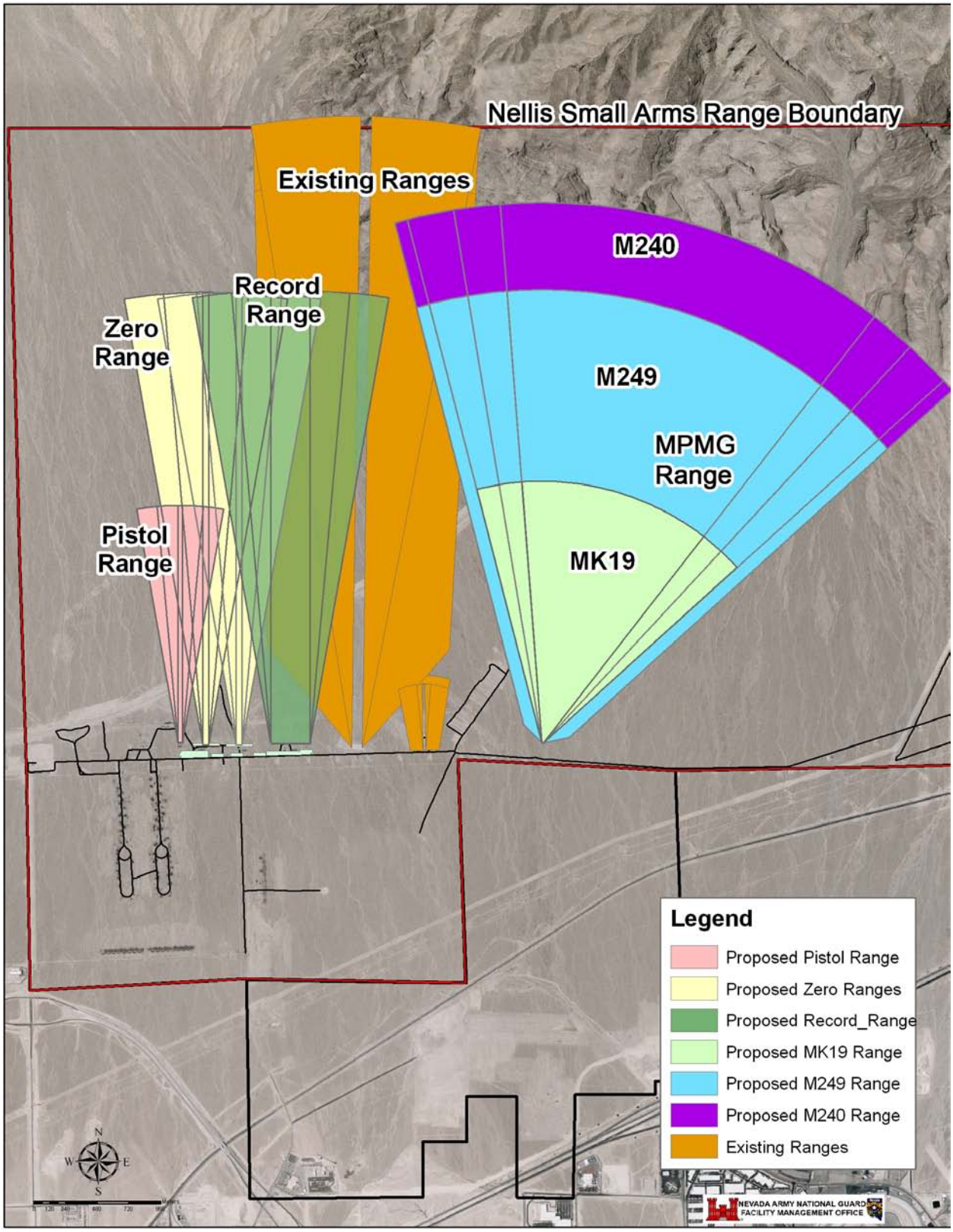

Figure 3-4. Existing Nellis AFB CAT-M Range SDZs and Proposed NVARNG SDZs

the mountains down-range from the MPMG considered in the calculation. Army Regulation (AR) 385-63 allows for reduced SDZs when terrain or other natural obstacles warrant a deviation from the standard SDZs. Under these circumstances, safety would be ensured and not be significantly impacted.

No-Action Alternative

There would be no change under the no action alternative from current conditions as described under the affected environment sections. Therefore, there would be no impacts to safety.

3.8 CULTURAL RESOURCES

Cultural resources management is directed by federal laws. Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires that federal agencies take into account the effects of their undertakings on historic properties, which are locations, features, and objects older than 50 years and determined eligible for nomination to the National Register of Historic Places (NRHP).

Cultural resources are divided into three categories: archaeological resources, architectural resources, and traditional cultural resources or properties. Archaeological resources are places where people changed the ground surface or left artifacts or other physical remains (e.g., arrowheads or bottles). Archaeological resources can be classed as either sites or isolates and may be either prehistoric or historic in age. Isolates often contain only one or two artifacts, while sites are usually larger and contain more artifacts. Architectural resources are standing buildings, dams, canals, bridges, and other structures. Traditional cultural properties are resources associated with the cultural practices and beliefs of a living community that link that community to its past and help maintain its cultural identity. Traditional cultural properties may include archaeological resources, locations of historic events, sacred areas, sources of raw materials for making tools, sacred objects, or traditional hunting and gathering areas.

3.8.1 Affected Environment

The Area of Potential Effect for this action is defined as the region of influence, or affected environment, since the proposed action and alternatives are unlikely to affect setting or be visually intrusive to NRHP-eligible resources beyond Nellis AFB.

Methods for inventory and evaluation are described in Appendix I of the Nellis AFB Integrated Cultural Resources Management Plan (NAFB 2009). Efforts to identify and evaluate cultural resources properties for the base according to 36 CFR 800.4 were initiated in 1978 and continue to the present. Nellis AFB initiated a Native American Program in 1996 as a foundation for government-to-government consultation. Activities have included Annual Meetings, NTTR field trips, participation in professional meetings, and

the formation in 1999 of a Document Review Committee which reads and comments on cultural resources reports prior to SHPO reviews.

The affected environment for cultural resources includes the Air Force-managed land within the boundaries of Nellis AFB where construction projects under the proposed action could have an impact.

Nellis AFB

All of Nellis AFB, which includes the Small Arms Range, has been surveyed for archaeological resources and all sites evaluated. One NRHP-eligible site, a quarry, is located on Nellis AFB, but well away from the SAR. All other sites were determined through SHPO consultation (letter dated April 12, 2001) to be ineligible for nomination. The Nevada SHPO has concurred with these determinations (Nevada SHPO 2004).

There are only a couple of structures located on the Nellis AFB SAR that belong to the CAT-M range. No existing structures would be affected by the proposed action.

3.8.2 Environmental Consequences

Procedures for assessing adverse effects to cultural resources are discussed in regulations for 36 CFR Part 800 of the NHPA. An action results in adverse effects to a cultural resource eligible to the National Register when it alters the resource characteristics that qualify it for inclusion in the register. Adverse effects are most often a result of physical destruction, damage, or alteration of a resource; alteration of the character of the surrounding environment that contributes to the resource's eligibility; introduction of visual, audible, or atmospheric intrusions out of character with the resource or its setting; and neglect of the resource resulting in its deterioration or destruction; or transfer, lease, or sale of the property.

Under the proposed action, five ranges would be constructed. Proposals for federal actions are reviewed following 36 CFR 800 guidelines by the Nellis AFB Cultural Resources Manager. The proposed action has been reviewed by the base archaeologists and has determined previous SHPO and Native American consultation has been completed for the lands encompassing all of Nellis AFB and no further consultation is required. Appendix E provides the letter to SHPO requesting concurrence, concurrence was granted via email on 12 April 2001.

CHAPTER 4

CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

CHAPTER 4

CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.1 CUMULATIVE EFFECTS

CEQ regulations stipulate that the cumulative effects analysis within an EA should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR Part 1508.7). Assessing cumulative effects involves defining the scope of the other actions and their interrelationship with the proposed action and alternatives, if they overlap in space and time.

Cumulative effects are most likely to arise when a proposed action is related to other actions that occur in the same location or at a similar time. Actions geographically overlapping or close to the proposed action and alternatives would likely have more potential for a relationship than those farther away. Similarly, actions coinciding in time with the proposed action and alternatives would have a higher potential for cumulative effects.

To identify cumulative effects, three fundamental questions need to be addressed:

1. Does a relationship exist such that affected resource areas of the proposed action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
2. If one or more of the affected resource areas of the proposed action and another action could be expected to interact, would the proposed action affect or be affected by impacts of the other action?
3. If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

4.2 SCOPE OF CUMULATIVE EFFECTS ANALYSIS

The scope of the cumulative effects analysis involves both the geographic extent of the effects and the time in which the effects could occur. Since the potential impacts of the proposed action include Nellis AFB and its vicinity, the cumulative effects analysis includes only those actions occurring within the affected region. The time frame for cumulative effects centers on implementation of the proposed action. Construction of the Standard Army Qualification Ranges would likely commence in 2010 following completion of the NEPA process. Another factor influencing the scope of cumulative effects analysis involves identification and consideration of other actions. For the purpose of this analysis, public documents prepared by federal, state, and local government agencies were the primary source of

information for identifying reasonably foreseeable actions. Documents used to define other actions included EAs, management plans, and land use plans.

4.2.1 Past, Present, and Future Actions

Nellis AFB is an active military installation that undergoes continuous change in mission and training requirements. This process of change is consistent with the United States defense policy that the Air Force must be ready to respond to threats to American interests throughout the world.

Reasonably Foreseeable Actions

Nellis AFB is completing an Environmental Impact Statement for the addition of F-35 Joint Strike Fighter Aircraft. This action would base 36 F-35 aircraft at Nellis AFB for the Force Development and Evaluation, and Weapons School. This project involves 27 construction projects spread out over 5 years and includes new construction, additions, remodels, and airfield pavement projects. Projects totaling over 1.5 million square feet are projected to be built.

UNLV proposes to construct a north campus adjacent to the west side of the Nellis AFB SAR. The project is planned to be 2009 acres and located between Pecos Road and Lamb Boulevard, north of County Route 215.

4.2.2 Analysis of Cumulative Impacts

Analysis of the Standard Army Qualification Ranges proposal when considered with past, present, and/or future actions would not result in any adverse and/or significant impacts to air quality; soils and water resources; biological resources; socioeconomics; hazardous materials and waste management; health and safety; noise; and cultural resources.

Air Quality

Impacts to air quality would be short-term and limited to the localized area. Construction activity would not cumulatively affect air quality in the region. The F-35 project has been delayed and for the purposes of cumulative impacts, fiscal years 2009 and 2010 are assumed to occur entirely in 2010. Table 4-1 shows the cumulative emissions would be well below *de minimis* levels.

Table 4-1. Cumulative Projected Construction Pollutant Emissions (tons/year)				
	CO	***NO_x***	***VOCs***	***PM_{10}***
F-35 Construction Emissions for 2009 and 2010	5.45	7.43	0.91	5.11
NVARNG Construction Emissions	3.91	7.75	0.92	14.11
Total Emissions	9.36	15.18	1.83	19.22
De minimis Threshold	100 tons/year	100 tons/year	100 tons/year	70 tons/year

Long -term cumulative impacts adding the emissions for the NVARNG proposed action with the F-35 proposed action are shown in Table 4-2.

Table 4-2. Total Emissions Due to the F-35 Proposed Action (FY 2022) and the NVARNG SAR Proposed Action (Tons)					
	Fiscal Year	***VOCs***	***NO_x***	***CO***	***PM_{10}***
F-35	2022	10.66	184.79	132.58	51.01
NVARNG	Post Phase III	0.15	0.15	3.74	1.12
Percent Contribution		0.85	0.16	2.43	2.19

Soils and Water Resources

The limited scope of these cumulative actions in a finite area does not combine to create significant impacts to soil resources when considered individually or cumulatively. Potential cumulative impacts to water resources are not likely to occur with implementation of the proposed action due to stormwater discharge.

Biological Resources

The desert tortoise is the only federally protected species are known to occur on the base. Cumulative impacts could occur if land that supports threatened and/or endangered species were removed or disturbed; however, a BO has been prepared by the USFWS regarding the desert tortoise and as long as the terms and conditions of the BO are followed, disturbance to the desert tortoise population can be kept to a minimum. When considered cumulatively with other actions on the base, the proposed action would not create significant impacts to biological resources. The proposed UNLV action would likely impact the desert tortoise, but because of the early stage of planning quantitative results are not ripe for analysis.

Socioeconomics

Construction activities associated with the project would temporarily generate construction and impacts and thus result in a temporary beneficial impact; however, when considered cumulatively, socioeconomic impacts associated with this proposal would be negligible.

Hazardous Materials and Waste Management

No changes to hazardous materials or waste streams would occur. Cumulatively, there would be no significant impacts associated with the proposed action when combined with existing SAR activities.

Health and Safety

The proposed action, when combined with past, present, and reasonably foreseeable future actions would not result in significant impacts to the safety of public or military personnel. Additional SDZs would ensure that hazards associated with range weapons would not extend off the range and endanger military or civilian personnel.

Noise

Currently, there are no noise receptors within earshot of the proposed NVARNG SAR as stated in Chapter 3.1. Should the UNLV project occur, noise levels generated by small arms would be heard at the proposed campus. A formal noise study by the U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM) has not been completed for the proposed action. However, based upon information about the 9mm and 5.56mm rounds fired on the closest ranges to the UNLV campus, the noise levels would be 157 dB at the shooter (http://chppm-www.aggea.army.mil/HCP/NoiseLevels.aspx). According to USCHPPM, noise levels at 800m (2,625 ft) should not be high enough to annoy people (USACHPPM 2006). The distance to the boundary adjacent to the UNLV campus is about 1,220m (4,000 ft).

Cultural Resources

No impacts on recorded archaeological resources would occur from proposed facility construction or SAR operations activities at Nellis AFB. As such, the proposed action would not additively impact resources when combined with other actions.

4.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analysis include identification of any irreversible and irretrievable commitment of resources which would be involved in the proposed action should it be implemented. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects this use could have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural resource).

For the proposed action, most resource commitments are neither irreversible nor irretrievable. Most environmental consequences are short-term and temporary, such as air emissions from construction operations. The Standard Army Qualification Ranges proposal would require consumption of limited amounts of materials typically associated with construction (wood, metal, asphalt, and fuel). However, the amount of these materials used is not expected to significantly decrease the availability of these resources either locally or globally. Based on the analysis in this EA, implementation of the proposed action would not result in adverse impacts to the environment or to the health and safety of persons in the affected region.

CHAPTER 5

REFERENCES CITED

CHAPTER 5
REFERENCES CITED

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CHAPTER 6

PERSONS AND AGENCIES CONTACTED

CHAPTER 6
PERSONS AND AGENCIES CONTACTED

Bedlion, Ann. 99 CES/CEANS (Biologist). Nellis AFB, Nevada. 2009

Burroughs, Michael. US Fish and Wildlife Service. 2009.

Fox, Forrest. NVARNG (Environmental Program Manager). Carson City, Nevada. 2009.

Haarklau, DJ. 99 CES/CEAN (Compliance). Nellis AFB, Nevada. 2009

Haarklau, Lynn. 99 CES/CEAO (NEPA Program Manager). Nellis AFB, Nevada. 2009

Manfredi, John. NVARNG (Range/Training Lands Development and Operations). 2009.

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Myhrer, Keith. 99 CES/CEAN (Cultural Resources). Nellis AFB, Nevada. 2009

*Nevada State Clearinghouse. Carson City, Nevada. 2009

*Olsen, Jennifer. Southern Nevada Regional Planning Coalition. Henderson, Nevada. 2009

Ostrea, Robert. 99 CES/ CEANQ (Hazardous Material/EPCRA Program Manager). Nellis AFB, Nevada. 2009

Rodriguez, Henry. 99 CES/ CEANI (P2/Solid Waste Program manager). Nellis AFB, Nevada. 2009

Roe, John. 99 CES/CEANQ (Water/Wastewater Quality). Nellis AFB, Nevada. 2009

Rothhaupt, DeAnna. 99 CES/CEANQ (Nellis/Creech/NTTR Air Quality Program Manager). Nellis AFB, Nevada. 2009

Stephens, Chad. NVARNG (Project Manager/Compliance Program Manager). Carson City, Nevada. 2009.

Turner, Robert. 99 CES/CEANS (Natural Resources Program Manager). Nellis AFB, Nevada. 2009

*IICEP Coordination

Intergovernmental Coordination for Environmental Planning (IICEP) Coordination

In April 2009, Nellis AFB sent IICEP letters to interested local and state governmental agencies to solicit concerns or issues regarding the proposed action denoted with an asterisk in the above list. Copies of the IICEP coordination are included in Appendix A.

CHAPTER 7

LIST OF PREPARERS AND CONTRIBUTORS

CHAPTER 7
LIST OF PREPARERS AND CONTRIBUTORS

James Campe, *Project Manager*
B.S., Naval Architecture and Offshore Engineering, University of California, 1986
Years of Experience: 21

Christina Cummings, *Production Coordinator*
A.A.S., Administrative Office Technology, Boise State University, 1999
Years of Experience: 8

Cathy Doan, *Safety, Hazardous Materials and Waste, QA/QC*
B.S., English, Central Michigan University, 1980
M.A., Human Resources Development, Webster University, 1985
Years of Experience: 12

Lesley Hamilton, *Air Quality*
B.A., Chemistry, Mary Baldwin College, 1988
Years of Experience: 17

Chareé Hoffman, *QA/QC*
B.S., Biology, Christopher Newport University, 1999
Years of Experience: 8

Edie Mertz, *Graphics*
A.A. General Education, Cerro Coso College, CA, 1994
Years of Experience: 13

Kevin J. Peter, *Program Manager*
B.A., Anthropology, Pomona College, CA, 1975
M.A., Anthropology, Washington State University, 1986
Years of Experience: 25

Tamara F. Shapiro, Socioeconomics
B.A., English, Boise State University, 1989
M.L.A., Landscape Architecture, Cornell University, 1996
Years of Experience: 10

APPENDIX A

INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING CORRESPONDENCE AND PUBLIC PARTICIPATION

INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING SCOPING LETTERS

STATE OF NEVADA OFFICE OF THE MILITARY
OFFICE OF THE ADJUTANT GENERAL
2460 FAIRVIEW DRIVE
CARSON CITY, NEVADA 89701-6807

JIM GIBBONS
Governor

CYNTHIA N. KIRKLAND
Major General
The Adjutant General

April 14, 2009

Nevada State Clearinghouse
Department of Administration
209 East Musser Street, Room 200
Carson City, NV 89701-4298

Mesdames, Gentlemen

The Nevada Army National Guard (NVARNG) in conjunction with Nellis Air Force Base is preparing a draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the proposed action to construct a Standard Army Qualification Range at the Nellis AFB Small Arms Range. Activities associated with installing a Small Arms Range include: clearing and grubbing the area for firing lanes, targets and in between (where applicable); installing targets and firing lanes; constructing support facilities such as restrooms, storage/operations buildings, control towers, lights and parking surfaces; and installing solar panels and mobile generators for power. Operational activities would be using the range for qualifications training. Construction of this facility will allow NVARNG soldiers to train closer to home and eliminate excessive travel to meet training requirements.

In addition to the proposed action, this draft EA assesses the no-action. Under the no-action alternative the facility would not be constructed and existing environmental conditions would remain unchanged.

In accordance with 32 CFR 989, the Air Force *Environmental Impact Analysis Process (EIAP)*, and 40 CFR 1500-1508, the *Council on Environmental Quality* guidelines, pursuant to the *National Environmental Policy Act*, as amended, NVARNG and Nellis AFB requests your agency identify issues or concerns you may have regarding the proposed action. Any questions or issues concerning the proposal should be directed to our point of contact, Mr. Chad Stephens, phone 775 887-7292, or email written comments to chad.stephens1@us.army.mil, by mail to the above address attention to Environmental Management Office, Chad Stephens.

Thank you for your assistance.

Sincerely,

Clayton W. Chappell
Lieutenant Colonel, NV Army National Guard
Construction & Facilities Management Officer

STATE OF NEVADA OFFICE OF THE MILITARY
OFFICE OF THE ADJUTANT GENERAL
2460 FAIRVIEW DRIVE
CARSON CITY, NEVADA 89701-6807

JIM GIBBONS
Governor

CYNTHIA N. KIRKLAND
Major General
The Adjutant General

April 14, 2009

Ms. Jennifer Olsen
Southern Nevada Regional Planning Coalition
240 Water Street Mail, Stop 115
Henderson, NV 89009

Dear Ms. Olsen,

The Nevada Army National Guard (NVARNG) in conjunction with Nellis Air Force Base is preparing a draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the proposed action to construct a Standard Army Qualification Range at the Nellis AFB Small Arms Range. Activities associated with installing a Small Arms Range include: clearing and grubbing the area for firing lanes, targets and in between (where applicable); installing targets and firing lanes; constructing support facilities such as restrooms, storage/operations buildings, control towers, lights and parking surfaces; and installing solar panels and mobile generators for power. Operational activities would be using the range for qualifications training. Construction of this facility will allow NVARNG soldiers to train closer to home and eliminate excessive travel to meet training requirements.

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Thank you for your assistance.

Sincerely,

Clayton W. Chappell
Lieutenant Colonel, NV Army National Guard
Construction & Facilities Management Officer

STATE OF NEVADA OFFICE OF THE MILITARY
OFFICE OF THE ADJUTANT GENERAL
2460 FAIRVIEW DRIVE
CARSON CITY, NEVADA 89701-6807

JIM GIBBONS
Governor

CYNTHIA N. KIRKLAND
Major General
The Adjutant General

Bob Ross, Field Manager
Bureau of Land Management, Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130

April 14, 2009

Dear Mr. Ross,

The Nevada Army National Guard (NVARNG) in conjunction with Nellis Air Force Base is preparing a draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the proposed action to construct a Standard Army Qualification Range at the Nellis AFB Small Arms Range. Activities associated with installing a Small Arms Range include: clearing and grubbing the area for firing lanes, targets and in between (where applicable); installing targets and firing lanes; constructing support facilities such as restrooms, storage/operations buildings, control towers, lights and parking surfaces; and installing solar panels and mobile generators for power. Operational activities would be using the range for qualifications training. Construction of this facility will allow NVARNG soldiers to train closer to home and eliminate excessive travel to meet training requirements.

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Thank you for your assistance.

Sincerely,

Clayton W. Chappell
Lieutenant Colonel, NV Army National Guard
Construction & Facilities Management Officer

STATE OF NEVADA OFFICE OF THE MILITARY
OFFICE OF THE ADJUTANT GENERAL
2460 FAIRVIEW DRIVE
CARSON CITY, NEVADA 89701-6807

JIM GIBBONS
Governor

CYNTHIA N. KIRKLAND
Major General
The Adjutant General

Gregory E. Rose, City Manager
City of North Las Vegas
2200 Civic Center Drive
North Las Vegas, NV 89030

April 14, 2009

Dear Mr. Rose,

The Nevada Army National Guard (NVARNG) in conjunction with Nellis Air Force Base is preparing a draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the proposed action to construct a Standard Army Qualification Range at the Nellis AFB Small Arms Range. Activities associated with installing a Small Arms Range include: clearing and grubbing the area for firing lanes, targets and in between (where applicable); installing targets and firing lanes; constructing support facilities such as restrooms, storage/operations buildings, control towers, lights and parking surfaces; and installing solar panels and mobile generators for power. Operational activities would be using the range for qualifications training. Construction of this facility will allow NVARNG soldiers to train closer to home and eliminate excessive travel to meet training requirements.

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Thank you for your assistance.

Sincerely,

Clayton W. Chappell
Lieutenant Colonel, NV Army National Guard
Construction & Facilities Management Officer

STATE OF NEVADA OFFICE OF THE MILITARY
OFFICE OF THE ADJUTANT GENERAL
2460 FAIRVIEW DRIVE
CARSON CITY, NEVADA 89701-6807

JIM GIBBONS
Governor

CYNTHIA N. KIRKLAND
Major General
The Adjutant General

Ms. Cynthia Martinez, Project Leader
Desert National Wildlife Refuge Complex
U.S. Fish and Wildlife Service
4701 North Torrey Pines Drive
Las Vegas, NV 89130

April 14, 2009

Dear Ms. Martinez,

The Nevada Army National Guard (NVARNG) in conjunction with Nellis Air Force Base is preparing a draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the proposed action to construct a Standard Army Qualification Range at the Nellis AFB Small Arms Range. Activities associated with installing a Small Arms Range include: clearing and grubbing the area for firing lanes, targets and in between (where applicable); installing targets and firing lanes; constructing support facilities such as restrooms, storage/operations buildings, control towers, lights and parking surfaces; and installing solar panels and mobile generators for power. Operational activities would be using the range for qualifications training. Construction of this facility will allow NVARNG soldiers to train closer to home and eliminate excessive travel to meet training requirements.

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Thank you for your assistance.

Sincerely,

Clayton W. Chappell
Lieutenant Colonel, NV Army National Guard
Construction & Facilities Management Officer

STATE OF NEVADA OFFICE OF THE MILITARY
OFFICE OF THE ADJUTANT GENERAL
2460 FAIRVIEW DRIVE
CARSON CITY, NEVADA 89701-6807

JIM GIBBONS
Governor

CYNTHIA N. KIRKLAND
Major General
The Adjutant General

Mr. Robert Williams, State Supervisor
U.S. Fish and Wildlife Service
Nevada Ecological Field Office
1340 Financial Blvd, Suite 234
Reno, NV 89502

April 14, 2009

Dear Mr. Williams,

The Nevada Army National Guard (NVARNG) in conjunction with Nellis Air Force Base is preparing a draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the proposed action to construct a Standard Army Qualification Range at the Nellis AFB Small Arms Range. Activities associated with installing a Small Arms Range include: clearing and grubbing the area for firing lanes, targets and in between (where applicable); installing targets and firing lanes; constructing support facilities such as restrooms, storage/operations buildings, control towers, lights and parking surfaces; and installing solar panels and mobile generators for power. Operational activities would be using the range for qualifications training. Construction of this facility will allow NVARNG soldiers to train closer to home and eliminate excessive travel to meet training requirements.

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In accordance with 32 CFR 989, the Air Force *Environmental Impact Analysis Process (EIAP)*, and 40 CFR 1500-1508, the *Council on Environmental Quality* guidelines, pursuant to the *National Environmental Policy Act*, as amended, NVARNG and Nellis AFB requests your agency identify issues or concerns you may have regarding the proposed action. Any questions or issues concerning the proposal should be directed to our point of contact, Mr. Chad Stephens, phone 775 887-7292, or email written comments to chad.stephens1@us.army.mil, by mail to the above address attention to Environmental Management Office, Chad Stephens.

Thank you for your assistance.

Sincerely,

Clayton W. Chappell
Lieutenant Colonel, NV Army National Guard
Construction & Facilities Management Officer

PUBLIC NOTIFICATION, DISTRIBUTION, AND COMMENTS TO THE DRAFT ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

PUBLIC NOTIFICATION

Notice of Availability
Draft Environmental Assessment
For The NVARNG Standard Army Qualification Range

The Nevada Army National Guard (NVARNG) in conjunction with the U.S. Air Force has prepared a draft Environmental Assessment (EA) which analyzed the proposed action to construct a Standard Army Qualification Range at the Nellis AFB Small Arms Range. Activities associated with installing a Small Arms Range would include; clearing and grubbing the area for firing lanes, targets and in between (where applicable), installing targets and firing lanes, constructing support facilities such as restrooms, storage/operations building, control towers and lights, solar panels or generators would be used for power, and parking. Operational activities would be using the range for qualifications training. The proposed action would also involve a real property transaction between Nellis AFB and the NVARNG. This EA has been prepared in accordance with the National Environmental Policy Act.

A copy of the Draft EA and Draft Finding of No Significant Impact are available for review and comment at the following library beginning March 26, 2010.

Las Vegas Library, Reference Department
833 Las Vegas Blvd North
Las Vegas, NV 89101

You may request a copy of the document from the NVARNG, Mr. Chad Stephens, Project Manager, phone, 775 887-7292. An electronic version of the EA is also available for public review at http://www.nellis.af.mil/library/environment.asp. Please provide any comments on the Draft EA by April 26, 2010. Comments should be forwarded to the NVARNG Public Affairs Office or the Nellis AFB Public Affairs Office.

NVARNG Public Affairs: Office of The Adjutant General, Public Affairs, 2460 Fairview Drive, Carson City, Nevada 89701-6807: Attention: SFC Erick Studenicka (775) 887-7250

Nellis AFB Public Affairs: 99 ABW/PA, 4430 Grissom Ave., Suite 107, Nellis AFB, Nevada 89191 Attention: Charles Ramey (702) 652-2750

As part of the public involvement process, NVARNG has published a Notice of Availability of the Draft Environmental Assessment and Finding of No Significant Impact on March 26, 2010 in the Las Vegas Review-Journal.

DISTRUBUTION AND COMMENTS OF THE DRAFT EA AND FONSI

DISTRIBUTION LIST

North Las Vegas Library Main Branch
2300 Civic Center Drive
North Las Vegas NV 89030

Las Vegas Library
Reference Department
833 Las Vegas Blvd North
Las Vegas, NV 89101

Mr. Mario Bermudez, Planning Manager
Clark County Department of Comprehensive Planning
P.O. Box 551744
Las Vegas, NV 89155

Commissioner Rory Reid, Chairperson
Clark County Commission
500 Grand Central Parkway
Las Vegas, NV 89106

Nevada State Clearinghouse
Department of Administration
209 East Musser Street, Room 200
Carson City, NV 89701-4298

Ms. Jennifer Olsen
Southern Nevada Regional Planning Coalition
240 Water Street, Mail Stop 115
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Mr. Robert Williams, State Supervisor
U.S. Fish and Wildlife Service
Nevada Ecological Field Office
1340 Financial Blvd, Suite 234
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Mr. Michael Burroughs
U.S. Fish and Wildlife Service
Southern Nevada Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130

Ms. Johanna Murphy
City of North Las Vegas
Electronic copy via email

Ms. Dawn Leaper
Clark County Department of Air Quality and Environmental Management
Electronic copy via email

Daniel Kezar
Senior Planner
Clark County Comprehensive Planning
500 S. Grand Central Parkway
Las Vegas, NV 89106
702-455-2528

SAMPLE DISTRIBUTION LETTER

STATE OF NEVADA OFFICE OF THE MILITARY
OFFICE OF THE ADJUTANT GENERAL
2460 FAIRVIEW DRIVE
CARSON CITY, NEVADA 89701-6807

JIM GIBBONS
Governor

WILLIAM R. BURKS
Brigadier General
The Adjutant General

March 25, 2010

Commissioner Rory Reid, Chairperson
Clark County Commission
500 Grand Central Parkway
Las Vegas, NV 89106

Dear Commissioner Rory Reid,

The Nevada Army National Guard (NVARNG) in conjunction with Nellis Air Force Base has prepared a draft Environmental Assessment (EA) for the proposed action to construct Phases I and II of a Standard Army Qualification Range at the Nellis AFB Small Arms Range. Activities associated with installing a Small Arms Range include; clearing and grubbing the area for firing lanes, targets and in between (where applicable), installing targets and firing lanes, constructing support facilities such as restrooms, storage/operations building, control towers and lights, solar panels or generators would be used for power, and parking. Operational activities would be using the range for qualifications training. Construction of this facility will allow NVARNG troops to train closer to home and eliminate excessive travel to meet training requirements.

In addition to the proposed action, this draft EA assesses the no-action. Under the no-action alternative, the facility would not be constructed and existing environmental conditions would remain unchanged.

In accordance with 40 CFR 1500-1508, the Council on Environmental Quality guidelines, pursuant to the National Environmental Policy Act, as amended, NVARNG and Nellis AFB requests your agency review the assessment of the proposed action. You may request a copy of the document from the NVARNG, Mr. Chad Stephens, Project Manager, phone, 775 887-7292. The document is available on-line at http://www.nellis.af.mil/library/environment.asp. Please provide any comments on the Draft EA by Date. Comments should be forwarded to the NVARNG Public Affairs Office or the Nellis AFB Public Affairs Office. **NVARNG Public Affairs:** Office of The Adjutant General, Public Affairs, 2460 Fairview Drive, Carson City, Nevada 89701-6807: Attention: SFC Erick Studenicka (775) 887-7250. **Nellis AFB Public Affairs:** 99 ABW/PA, 4430 Grissom Ave., Suite 107, Nellis AFB, Nevada 89191 Attention: Charles Ramey (702) 652-7431

Sincerely,

Forrest Fox
Nevada Army National Guard
Environmental Program Manager

Attachment: Standard Army Qualification Range at Nellis AFB Small Arms Range Draft EA\FONSI

COMMENTS TO THE DRAFT EA/FONSI

(Will be filled in after the public comment period ends)

APPENDIX B

AIR QUALITY CALCULATIONS AND RECORD OF NON-APPLICABILITY

NVARNG SAR Emissions

Baseline Emissions

Bus Trips LV Only

Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOC** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM** g/hp-hr	**VOC** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM** lb
Bus	1	7	82	330	0.85	0.68	2.7	8.38	0.93	0.402	241	958	2,975	330	143

POV Emissions from Guardsmen

Assume 50 miles per day per vehicle (1800 trips)

# vehicles	# days	mi/day	**VOC** lb/mi	**CO** lb/mi	**NOx** lb/mi	**SOx** lb/mi	**PM** lb/mi	**VOC** lb	**CO** lb	**NOx** lb	**SOx** lb	**PM** lb
1800	2	50	0.001497	0.013925	0.001489	0.000009	0.000080	269.46	2506.50	268.02	1.62	14.34
							Subtotal	269	2,507	268	2	14

	VOC	**CO**	**NOx**	**SOx**	**PM**
Total Baseline Emissions (lb/year)	511	3,465	3,243	332	157
Total Baseline Emissions (tons/year)	0.26	1.73	1.62	0.17	0.08

Construction Emissions

Clearing 80 AC Phase I, II and III

Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOC** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM** g/hp-hr	**VOC** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM** lb
Backhoe/loader	2	8	12	98	0.21	0.99	3.49	6.9	0.85	0.722	9	30	60	7	6
Skid/steer Loader	2	8	12	168	0.59	0.68	2.7	8.38	0.93	0.402	29	113	352	39	17
Dozer	1	6	12	299	0.58	0.68	2.7	8.38	0.93	0.402	19	74	231	26	11
Dump truck (12 CY)	1	8	12	275	0.21	0.68	2.7	8.38	0.89	0.402	8	33	102	11	5
										Subtotal	64	251	745	83	39

Cut/Fill/Excavate/Borrow 1,200 CY Phase I, II and III

Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOC** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM** g/hp-hr	**VOC** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM** lb
Skid steer loader	2	8	12	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	3	15	37	6	3
Backhoe/loader	2	8	12	98	0.21	0.99	3.49	6.9	0.85	0.722	9	30	60	7	6
Excavator	1	8	12	513	0.59	0.68	2.7	8.38	0.93	0.402	44	173	537	60	26
Dozer	1	8	5	620	0.59	0.68	2.7	8.38	0.93	0.402	22	87	270	30	13
MT Loader	1	8	5	158	0.59	0.68	2.7	8.38	0.93	0.402	6	22	69	8	3
Small generator	4	8	35	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	8	44	56	10	5
										Subtotal	91	372	1,028	121	56

Trenching 120 LF

Equipment	*Number*	*Hr/day*	*days*	*Hp*	*LF*	**VOC** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM** g/hp-hr	**VOC** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM** lb
Backhoe/loader	1	8	2	98	0.21	0.99	3.49	6.9	0.85	0.722	1	3	5	1	1
Trencher	1	8	2	100	0.21	0.99	3.49	6.9	0.85	0.722	1	3	5	1	1
										Subtotal	1	5	10	1	1

Building Construction 10,500 SF Phase I, II and III

Foundation (slab)

Equipment	Number	Hr/day	# days	Hp	LF	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb
Skid steer loader	8	2	24	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	7	31	73	12	6
Concrete truck	16	4	12	250	0.21	0.68	2.7	8.38	0.89	0.402	60	240	745	79	36
Dump truck	16	6	12	275	0.21	0.68	2.7	8.38	0.89	0.402	100	396	1,229	131	59
Delivery truck	4	1	12	180	0.21	0.68	2.7	8.38	0.89	0.402	3	11	34	4	2
Backhoe/loader	4	8	24	98	0.21	0.99	3.49	6.9	0.85	0.722	34	122	240	30	25
Small generator	8	4	80	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	19	100	127	23	11
										Subtotal	223	899	2448	278	138

Structure

Equipment	Number	Hr/day	# days	Hp	LF	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb
Small generator	8	4	50	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	12	62	79	14	7
Delivery truck	2	2	12	180	0.21	0.68	2.7	8.38	0.89	0.402	3	11	34	4	2
Skid steer loader	4	8	50	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	28	129	304	51	26
Concrete truck	8	4	6	250	0.21	0.68	2.7	8.38	0.89	0.402	15	60	186	20	9
										Subtotal	58	262	603	88	43
Small diesel engines	3	8	365	25	0.43	1.7	5	8.5	0.93	0.9	353	1,038	1,765	193	187

Grading 80 acres includes targets and ROCA area

Site prep (grading, drainage, utilities etc.)

Equipment	Number	Hr/day	# days	Hp	LF	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb
Dozer	2	6	6	90	0.59	0.99	3.49	6.9	0.93	0.722	8	29	58	8	6
Skid steer loader	4	4	21	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	6	27	64	11	5
Backhoe/loader	4	6	6	98	0.21	0.99	3.49	6.9	0.85	0.722	6	23	45	6	5
Small generator	2	4	50	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	3	16	20	4	2
Dump truck	12	1	6	275	0.21	0.68	2.7	8.38	0.89	0.402	6	25	77	8	4
										Subtotal	30	120	264	36	22

Fugitive Dust Emissions:

PM_{10} tons/acre/mo	acres	days of disturbance	**PM_{10}** Total	**$PM_{2.5}/PM_{10}$** Ratio	**$PM_{2.5}$** Total
0.42	80	40	45	0.1	4.48

Construction Emission Totals:

VOC Tons	**CO** Tons	**NOx** Tons	**SO2** Tons	**PM_{10}** Tons	**$PM_{2.5}$** Tons
0.41	1.47	3.43	0.40	45.04	4.48

Operations Emissions

POV Emissions from Guardsmen

Assume 54 miles per day per vehicle (1800 trips)

VOC	CO	NOx	SOx	PM	VOC	CO	NOx	SOx	PM

# vehicles	# days	mi/day	lb/mi	lb/mi	lb/mi	lb/mi	lb/mi	lb	lb	lb	lb	lb
1800	2	54	0.001497	0.013925	0.001489	0.000009	0.000080	291.02	2707.02	289.46	1.7496	15.49
							Subtotal	291	2,707	289	2	15

Generator Operations

Assume 10 hours per day each day on weekends plus 10% contingency

Equipment	*Number*	*Hr/day*	*# days*	*Hp*	**VOC** lb/hp-hr	**CO** lb/hp-hr	**NOx** lb/hp-hr	**SO2** lb/hp-hr	**CO2** lb/hp-hr	**PM** lb/hp-hr	**VOC** lb	**CO** lb	**NOx** lb	**SO2** lb	**CO2** lb	**PM** lb
Small generator	3	10	114	10	0.015	0.00696	0.011	0.000591	1.08	0.000721	1.1	0.5	0.8	0.0	81.4	0.1
										Subtotal	1.1	0.5	0.8	0.0	81.4	0.1

Weapons Emissions (DA PAM 350-38)

Assume 1800 Soldiers annually using entire allotment of training rounds

	Rds/task	Total Rds	**CO2** lb/round	**CO** lb/round	**Pb** lb/round	**CH4** lb/round	**PM-2.5** lb/round	**PM-10** lb/round	**NOx**	**CO2** lb	**CO** lb	**Pb** lb	**CH4** lb	**PM-2.5** lb	**PM-10** lb	**NOx** lb
9mm-practice (40 rds)	40	72,000	2.00E-04	3.10E-04	6.80E-06	1.40E-06	2.00E-05	2.40E-05	1.50E-05	14.40	22.32	0.49	0.10	1.44	1.73	1.08
9mm-qualification (40 rds)	40	72,000	2.00E-04	3.10E-04	6.80E-06	1.40E-06	2.00E-05	2.40E-05	1.50E-05	14.40	22.32	0.49	0.10	1.44	1.73	1.08
9mm total	**80**	**144,000**								**28.80**	**44.64**	**0.98**	**0.20**	**2.88**	**3.46**	**2.16**
M-16 Zero	18	32,400	8.70E-04	1.60E-03	5.10E-06	9.70E-06	2.80E-05	3.90E-05	8.50E-05	28.19	51.84	0.17	0.31	0.91	1.26	2.75
M-16 Practice	40	72,000	8.70E-04	1.60E-03	5.10E-06	9.70E-06	2.80E-05	3.90E-05	8.50E-05	62.64	115.20	0.37	0.70	2.02	2.81	6.12
M-16 Record (i.e. qualify)	40	72,000	8.70E-04	1.60E-03	5.10E-06	9.70E-06	2.80E-05	3.90E-05	8.50E-05	62.64	115.20	0.37	0.70	2.02	2.81	6.12
M-16 total	**98**	**176,400**								**153.47**	**282.24**	**0.90**	**1.71**	**4.94**	**6.88**	**14.99**
M249 10 m Zero	6	10,800	8.70E-04	1.60E-03	5.10E-06	9.70E-06	2.80E-05	3.90E-05	8.50E-05	9.40	17.28	0.06	0.10	0.30	0.42	0.92
M249 10m Practice	51	91,800	8.70E-04	1.60E-03	5.10E-06	9.70E-06	2.80E-05	3.90E-05	8.50E-05	79.87	146.88	0.47	0.89	2.57	3.58	7.80
M249 10m Record	51	91,800	8.70E-04	1.60E-03	5.10E-06	9.70E-06	2.80E-05	3.90E-05	8.50E-05	79.87	146.88	0.47	0.89	2.57	3.58	7.80
M249 Transition Zero	12	21,600	8.70E-04	1.60E-03	5.10E-06	9.70E-06	2.80E-05	3.90E-05	8.50E-05	18.79	34.56	0.11	0.21	0.60	0.84	1.84
M249 Transition Practice	66	118,800	8.70E-04	1.60E-03	5.10E-06	9.70E-06	2.80E-05	3.90E-05	8.50E-05	103.36	190.08	0.61	1.15	3.33	4.63	10.10
M249 Transition Record	66	118,800	8.70E-04	1.60E-03	5.10E-06	9.70E-06	2.80E-05	3.90E-05	8.50E-05	103.36	190.08	0.61	1.15	3.33	4.63	10.10
M249 total	**252**	**453,600**								**394.63**	**725.76**	**2.31**	**4.40**	**12.70**	**17.69**	**38.56**
M240 10 m Zero	24	43,200	1.20E-03	2.30E-03	4.90E-06	1.00E-05	3.80E-05	5.10E-05	9.70E-05	51.84	99.36	0.21	0.43	1.64	2.20	4.19
M240 10m Practice	161	289,800	1.20E-03	2.30E-03	4.90E-06	1.00E-05	3.80E-05	5.10E-05	9.70E-05	347.76	666.54	1.42	2.90	11.01	14.78	28.11
M240 10m Record	91	163,800	1.20E-03	2.30E-03	4.90E-06	1.00E-05	3.80E-05	5.10E-05	9.70E-05	196.56	376.74	0.80	1.64	6.22	8.35	15.89
M240 Transition Zero	28	50,400	1.70E-03	2.80E-03	7.80E-06	1.60E-05	5.80E-05	9.10E-05	4.30E-05	85.68	141.12	0.39	0.81	2.92	4.59	2.17
M240 Transition Practice	154	277,200	1.70E-03	2.80E-03	7.80E-06	1.60E-05	5.80E-05	9.10E-05	4.30E-05	471.24	776.16	2.16	4.44	16.08	25.23	11.92
M240 Transition Record	154	277,200	1.70E-03	2.80E-03	7.80E-06	1.60E-05	5.80E-05	9.10E-05	4.30E-05	471.24	776.16	2.16	4.44	16.08	25.23	11.92
M240 total	**612**	**1,101,600**								**1624.32**	**2836.08**	**7.15**	**14.64**	**53.96**	**80.37**	**74.20**
MK19 Grenade Practice	62	111,600	4.90E-03	4.00E-03	8.00E-05	8.90E-05	5.10E-03	9.50E-03	1.30E-03	546.84	446.40	8.93	9.93	569.16	1060.20	145.08
MK19 Grenade Record	62	111,600	4.90E-03	4.00E-03	8.00E-05	8.90E-05	5.10E-03	9.50E-03	1.30E-03	546.84	446.40	8.93	9.93	569.16	1060.20	145.08
Mk19 total	**124**	**223,200**								**1093.68**	**892.80**	**17.86**	**19.86**	**1138.32**	**2120.40**	**290.16**
								Subtotal (lb/yr)		**3294.90**	**4781.52**	**29.20**	**40.82**	**1212.80**	**2228.80**	**420.07**

	CO2*	**CO**	**Pb**	**CH4***	**PM-2.5**	**PM-10**	**NOx**	**VOC**	**SO2**
Total for Operations (tons/yr)	1.69	3.74	0.01	0.02	0.61	1.12	0.36	1.E-01	9.E-04
CO2 Equivalents (tons)	1.7			0.4					

*Note: CO2 and CH4 are Greenhouse gases for the firing range. Commuter GHGs were calculated separately using the World Resources Institute calculator.

Total CO2 Equivalents (tons) 2.1

Conformity Rule Compliance
Record of Non-Applicability

Project/Action Name: Standard Army Qualification Ranges at Nellis AFB

Project/Action Identification Number: 320071

Project/Action Point of Contact: Chad Stephens
Environmental Scientist
Environmental Planning Department
Nevada Army National Guard

Project/Action Duration: Construction:
Begin Date: Spring-Summer, 2010
End Date: Fall, 2010

Operations:
Continuous after construction

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The General Conformity Rule applies to federal actions occurring in regions designated as being in non-attainment for the National Ambient Air Quality Standards (NAAQS) or attainment areas subject to maintenance plans (maintenance areas). Threshold *(de minimis*) rates of emissions have been established for federal actions with the potential to have significant air quality impacts. If a project/action located in an area designated as non-attainment exceeds these *de mimimis* levels, a general conformity analysis is required. Since the NVARNG SAR is located in Clark County, the area of effect for air quality is the Las Vegas Valley. The Clark County DAQEM is the regulator and enforcement agency in Clark County, Nevada. In accordance with the USEPA General Conformity Rule, the Las Vegas Valley hydrographic area is designated as "serious" nonattainment for PM_{10}, and basic nonattainment for the 8 hour O_3 standard. Las Vegas Valley is in attainment or meeting national standards for the remaining criteria pollutants, including NO_2, SO_2, and Pb. Las Vegas Valley was in non-attainment for CO, but Clark County has been able to demonstrate attainment and in 2008, DAQEM submitted to USEPA a Maintenance Plan for CO (DAQEM 2008). In 2001, DAQEM submitted a SIP for PM_{10} and regulates PM_{10} emissions in accordance with this plan.

A General Conformity Analysis of this project/action is not required because total maximum annual direct and indirect emissions from this project/action have been estimated at:

Proposed Action Construction Emissions Compared to Nellis AFB and Clark County Emissions (tons per year)					
Source	***VOCs***	***NO_x***	***CO***	***PM_{10}***	***$PM_{2.5}$***
Clark County[1]	50,376	76,295	387,851	53,292	9,613
Nellis AFB Total[2]	346.07	468.47	942.52	63.0	NA
Proposed Action Emissions	0.43	3.43	1.47	45	4.5
De minimis Level	100	100	100	70	NA
Exceeds de minimis (yes/no)	no	no	no	no	NA
NVARNG SAR Percent Regional Contribution	0.001	>0.001	>0.001	>0.001	0.05

Total Annual Proposed Action Operational Emissions Compared to Clark County Emissions (tons per year)							
Source	***VOCs***	***CO***	***NO_x***	**Pb**	**SO_x**	***PM_{10}***	***$PM_{2.5}$***
Clark County[1]	50,376	387,851	76,295	5	52,782	53,292	9,613
Proposed Action Emissions	0.15	3.74	.15	0.01	0.00	45	1.12
De minimis Level	100	100	100	NA	NA	70	NA
Exceeds de minimis (yes/no)	no	no	no	NA	NA	no	NA
NVARNG SAR Percent Regional Contribution	0.001	>0.001	>0.001	0.2	>0.001	>0.001	>0.001

The project/action is not considered "regionally significant" under 40 CFR 51.853(i).

The supporting documentation and emissions estimates are:

(_) ATTACHED _____

(X) ATTACHED TO NEPA DOCUMENT: _ NVARNG Standard Army Qualification Ranges Environmental Assessment _ _

(_) OTHER _____

Prepared by:

_____
Proponent
Manager

Concurred by:

_____
Environmental Program Manager
Nevada Army National Guard

_____
Staff Judge Advocate
Nevada Army National Guard

APPENDIX C

WETLANDS DETERMINATION

Final

WETLANDS DELINEATION REPORT
Nevada Army National Guard Small Arms Range at Nellis AFB

Nevada Army National Guard

January, 2009

Prepared for the Nevada
Army National Guard by
TEC Inc.

Determination of Wetland Boundaries
Wetland Delineation for Nellis Air Force Base, Clark County, Nevada
Latitude: 36° 18' 30.02" N Longitude: 115° 3' 58.31" W

The purpose of this report is to summarize data gathered for the detailed wetland investigation on the proposed site of the Nellis Air Force Base Small Arms Range. The Nevada Army National Guard conducted a detailed investigation of WoUS on the proposed site of Small Arms Qualification Ranges located on the Nellis Air Force Base Small Arms Range. The proposed project will require grading of portions of the site; therefore a detailed wetland investigation is required. The United States Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the United States (WoUS), which include wetlands and nonwetland bodies of water that meet specific criteria. The USACE takes regulatory jurisdiction under Section 404 of the federal Clean Water Act of waters with a surface connection or significant nexus, between the water body in question and a navigable waterway. A detailed wetland investigation requires offsite and onsite evaluation which are detailed in the following sections.

Offsite Evaluation: The approximately 67-acre site is located northwest of the City of Las Vegas. Specifically the site is located northwest of Interstate 15, and immediately north of the intersection of Range Road and Grand Teton Road. The site can be accessed from multiple points along Grand Teton Road.

The USGS Topographic Quadrangle Map for Valley, Nevada (1982 revision), the *National Wetlands Inventory Interactive Mapper* (NWI), administered by the U S Fish and Wildlife Service, and the Web Soil Survey, as prepared by the Natural Resources Conservation Service (NRCS) were examined prior to conducting fieldwork. The USGS quad map depicts minimal topographic relief within the study area, ranging from approximately 2,300 feet above sea level to 2,380 feet above sea level, with the site sloping down from north to south (Figure 1). Additionally, the USGS quad map depicts multiple drainages bisecting the site from north to south. NWI depicts one stream onsite, which is shown as originating in the southwest corner of the parcel and flowing south through the southern property line of the site (Figure 2). NRCS soil data is not available for Nellis Air Force Base Small Arms Range, however similarly situated surrounding terrain is predominantly underlain by Typic Haplocalcid, which is not classified as nationally or locally hydric.

Onsite Evaluation: Fieldwork was conducted during January 11th and 12th, 2009 using the Routine Determination Method as outlined in the *1987 Corps of Engineers Wetland Delineation Manual, A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* published in August 2008, and *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* published in December 2006. Waters of the US were flagged with pink pin flags. Pin flags were placed along jurisdictional features by TEC and sequentially numbered to provide an onsite record of the delineation. The pin flag

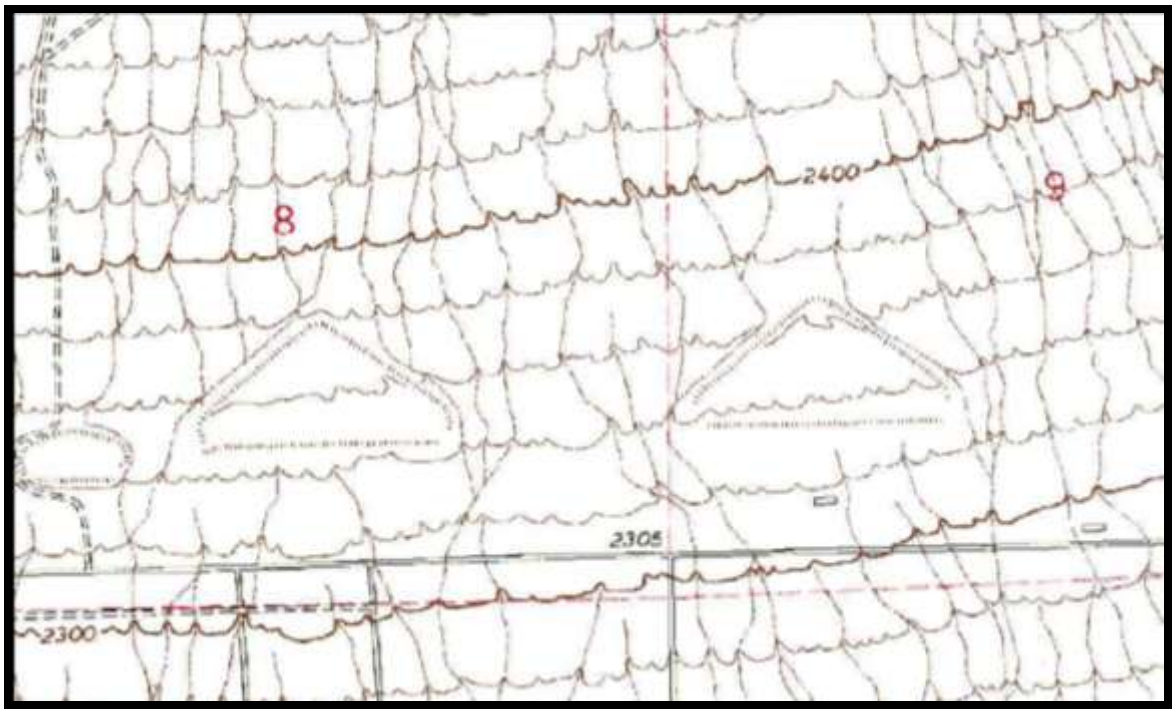


Figure 1. USGS Quadrangle Map of the Subject Property

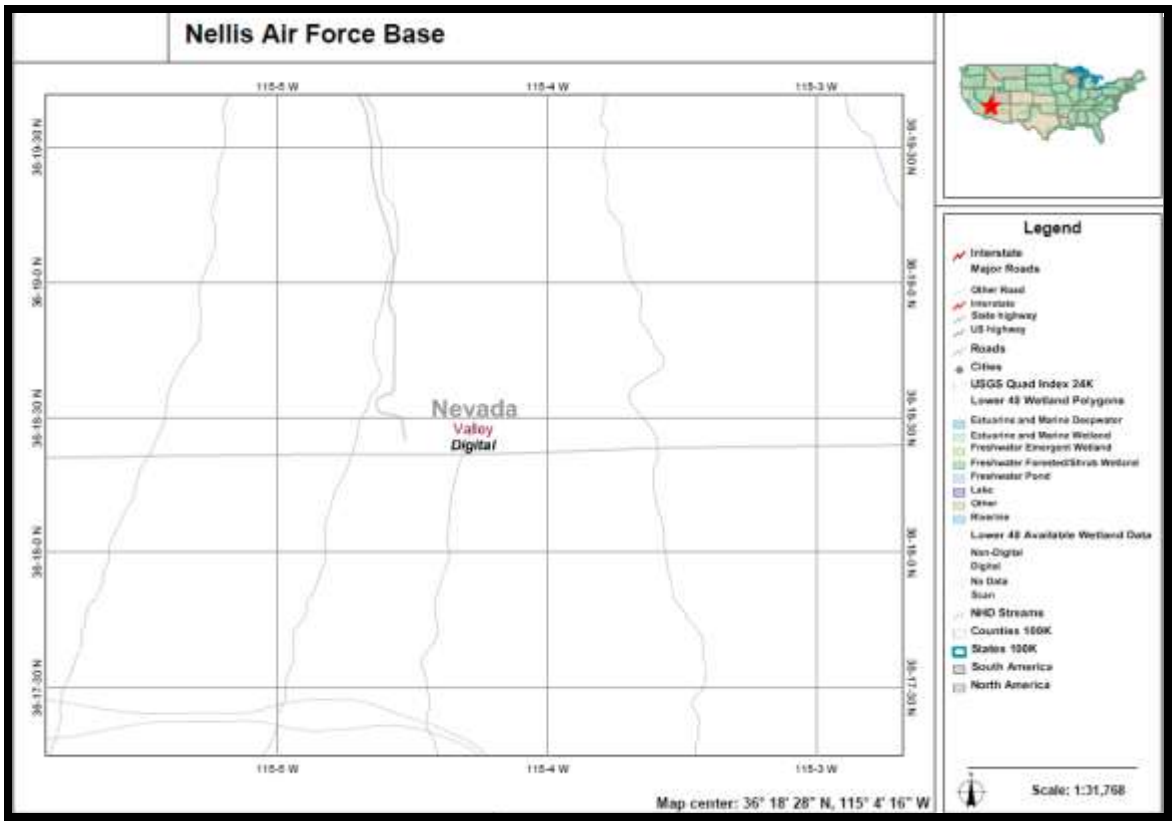


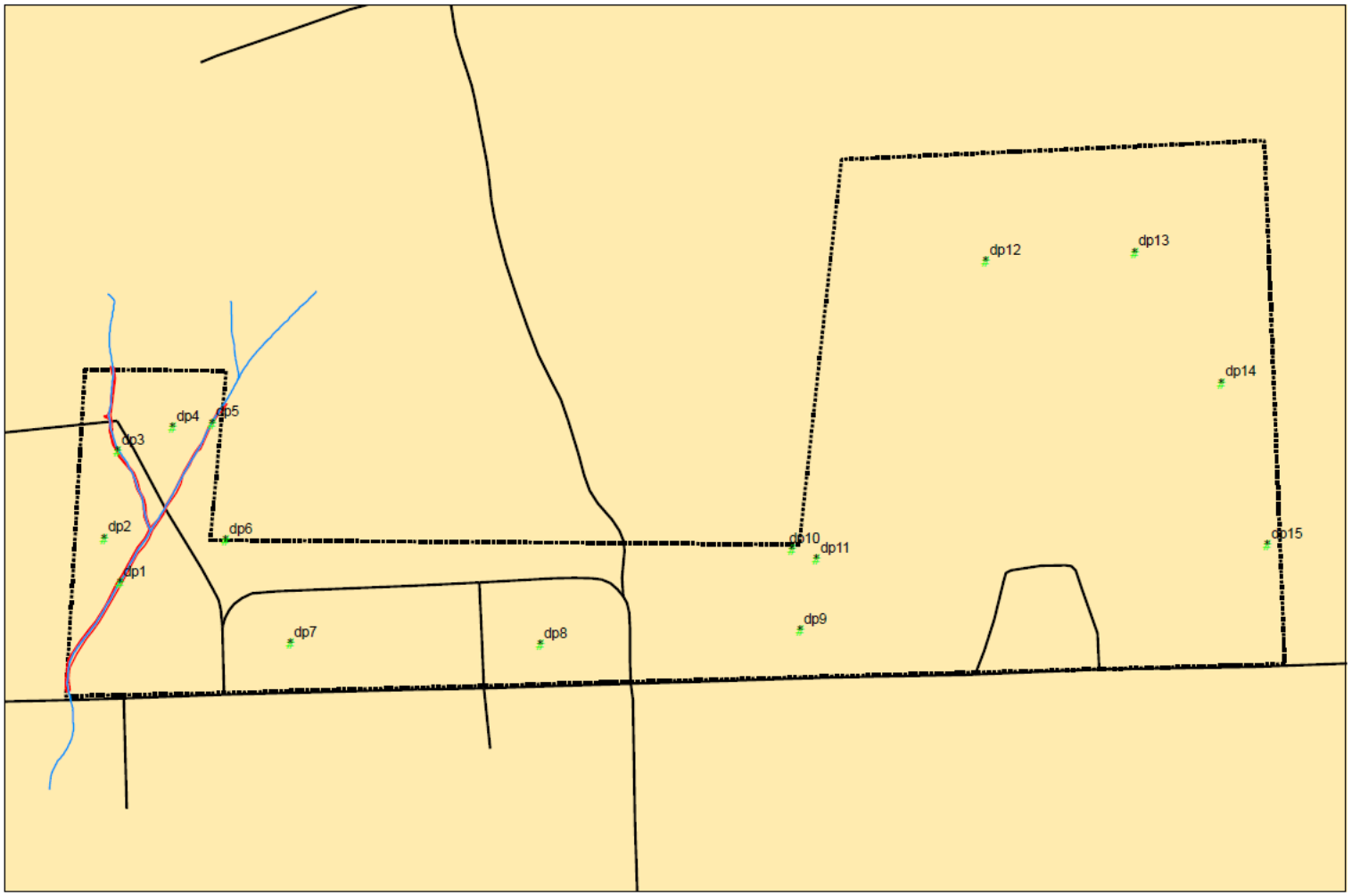
Figure 2. NWI Mapper: Nellis Air Force Base Property

locations were recorded using a Trimble GPS unit with submeter accuracy. Data point locations were photo documented and recorded using the GPS unit. Data point numbers included on the delineation map correspond with data point numbers marked on pin flags in the field. Stream flags marked on the map correspond to pin flags placed onsite. The data sheets used in this investigation are attached.

Survey Results: The entire subject site was examined and all potentially jurisdictional features were investigated. The subject site is composed primarily of uplands consisting of scrub/shrub vegetation. The only jurisdictional feature on the proposed Nellis Air Force Base Small Arms Range site is a stream and an adjoining tributary located in the southwestern portion of the site (Figure 3 and Figure 4). The location of the main channel is consistent with the NWI map. Multiple swales are present on the subject site consistent with the USGS map, however, none of them have consistent ordinary high water marks. Hydrology on site has been diverted due to the installation of a Range Wash Diversion Dike. The diversion dike is approximately 700 feet north of the northwestern corner of the site and approximately 2,000 feet north of the northeastern corner of the site. The diversion dike originates approximately 1.7 miles northeast of the subject site, and runs in a southwesterly direction for approximately 6 miles, at which point it drains into the North Las Vegas Detention Basin Dam located northeast of the intersection of Clark County 215 and Losee Road. Located on Las Vegas Wash the North Las Vegas Detention Basin Dam has a surface area of 75 acres at normal levels. According to Steven Parrish, the Engineering Director for the Clark County Regional Flood Control District, the basin is owned by the City of North Las Vegas but was constructed by the Clark County Regional Flood Control District in 1994.

Upland vegetation on the subject site is typified by creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), desert almond (*Prunus fasciculata*), matted cholla (*Grusonia parishii*), teddybear cholla (*Cylindropuntia bigelovii*), California barrel cactus (*Ferocactus cylindraceus*), and banana yucca (*Yucca baccata*). The main channel of the jurisdictional stream is linear with no meanders and according to base personnel the channel may have been created to divert stormwater from the ranges prior to the implementation of the diversion dike. The stream exits the site through the southern boundary, near the southwest corner of the site, and extends into the site approximately 575 feet northeast at which point a jurisdictional tributary flows into the main channel. The tributary extends approximately 328 feet northwest, toward the northwest corner of the site, but bends north approximately 150 feet short of the northwest corner. After bending north the tributary extends an additional 170 feet, at which point it intersects the northern boundary of the project. The tributary is 498 linear feet with an average width of 5 feet.

North of the confluence with the tributary the main channel continues northeast for an additional 446 feet at which point it intersects the eastern boundary. The stream channel is 929 linear feet with an average width of 7 feet. North of the confluence the main channel shrinks in width and meanders through the excavated channel. South of the tributary the excavated channel lacks vegetation and the ordinary high water marks are



Data Points
Jurisdictional Wetlands Centerline
Line A
Line B
Line C
Road Centerline
Small Arms Range Boundary

Figure 3 Overview of Small Arms Range

0 40 80 Meters
0 170 340 Feet

©

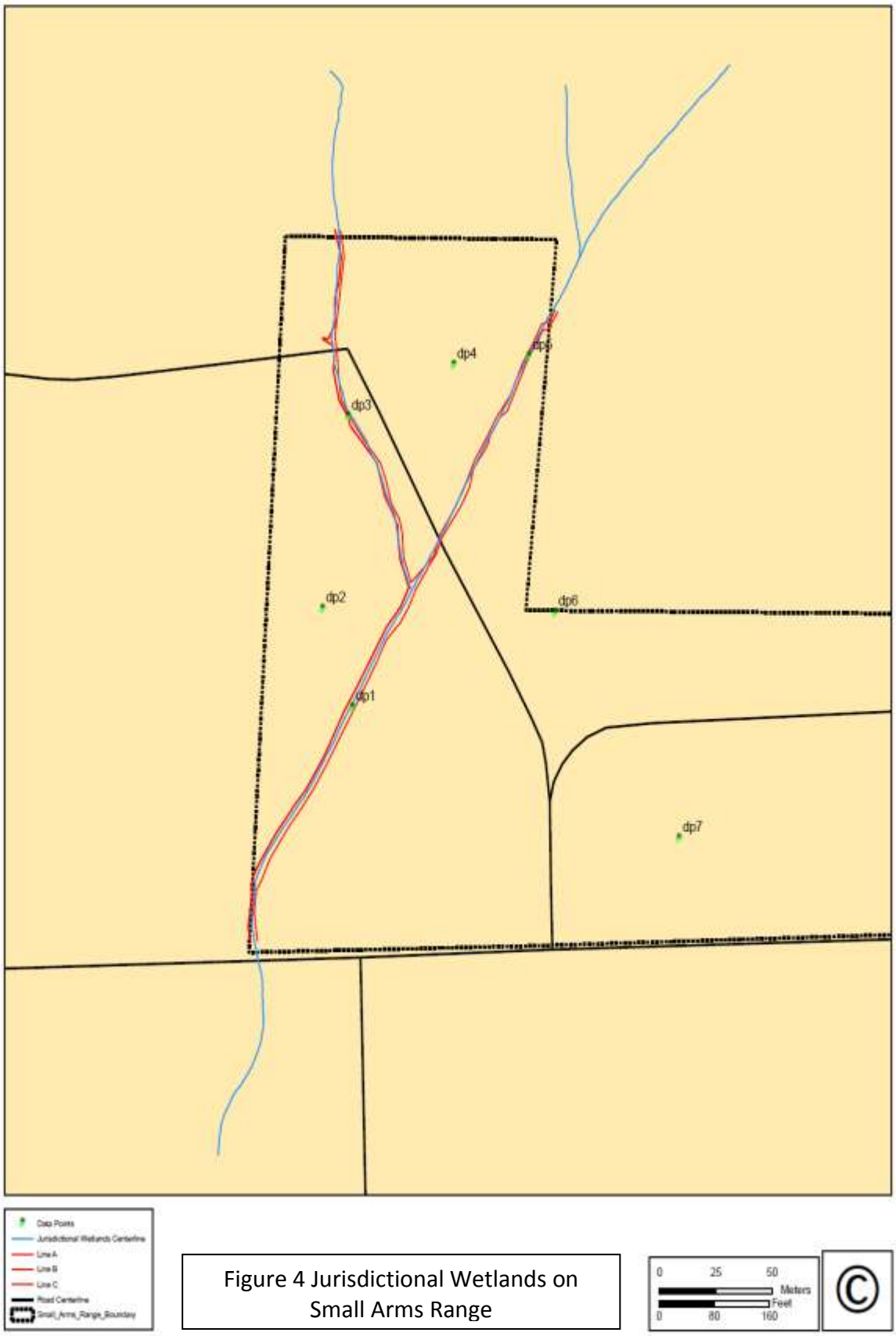


Figure 4 Jurisdictional Wetlands on Small Arms Range

located at the edge of the channel indicating that when the feature flows it fills the entire channel, however north of the confluence ordinary high water marks and vegetation are located within the historic channel. Ordinary high water marks observed in the WoUS identified on site consisted of gravel sheets, and cobble bars behind obstructions within the channel, while lateral extents of the channels were comprised of benches, exposed roots hairs below intact soil, knickpoints, and changes in particle size and distribution. The remnant nonjurisdictional swales on the subject site display a rounded geomorphology with vegetation in the channel, while the active channels have an angular geomorphology and even undercut banks.

Conclusion: The proposed project area is approximately 67 acres, and contains only two WoUS. These two jurisdictional features are comprised of a stream channel and a tributary to the stream channel. The Nevada Army National Guard is committed to either avoidance or minimization of impacts to Waters of the United States (WOUS). Due to the location of the streams and their small percentage of cover on the proposed site the project planners will be able to adjust the project footprint in order to minimize impacts to jurisdictional features on site. The main portion of the CPQC would be to the west of the WoUS, but a crossing would be required for access and maintenance. The options for a crossing would be a bridge over a culvert avoiding the WoUS or a road cut perpendicular to the WoUS. Due to avoidance of impacts using the culvert approach, the Nevada Army National Guard will not be required to pursue a wetlands permit for the Nellis Air Force Base Small Arms Range project. The option of a road cut would be approximately twenty feet and would be eligible for the Nationwide Permit.

APPENDIX D

DESERT TORTOISE REPORT

PROTOCOL SURVEYS FOR DESERT TORTOISE AT THE SMALL ARMS RANGE, NELLIS AIR FORCE BASE, NEVADA

By

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January 26, 2009

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1. INTRODUCTION

1.1. PURPOSE AND SCOPE OF STUDY

The desert tortoise (*Gopherus agassizii*) is a sensitive species in the deserts of the southwestern United States. Studies have shown that tortoise habitat and densities are decreasing in California, Nevada, and Utah. On August 4, 1989 the U.S. Fish and Wildlife Service (USFWS) determined the desert tortoise to be endangered under an emergency rule (as authorized under the Endangered Species Act of 1979 as amended). USFWS subsequently published a proposed rule in the Federal Register on October 13, 1989 that would provide long-term endangered status. On April 2, 1990, the desert tortoise was permanently listed as a Federally Threatened Species. The Recovery Plan for the desert tortoise was published in June 1994 (USFWS 1994a) and a final ruling for Critical Habitat was determined in 1994 (USFWS 1994b). The Recovery Plan recommended that the Plan be reviewed after a five-year period. Ten years after completion of the initial Recovery Plan (USFWS 1994a) of the desert tortoise a draft review of the 1994 Recovery Plan was first circulated in March 2004. As of January 2009 the review was being finalized (Roy Averill-Murray pers. comm.)

The purpose of this study was to determine presence/absence of desert tortoise on an approximately 67-acre site proposed to be developed as a fixed target site for the National Guard. Currently the National Guard has only one fixed Target Sites located in Fallon, Nevada. Because of the number of National Guard troops stationed in Southern Nevada the Guard needs a second site. USFWS protocol surveys were conducted on the site. In addition to the tortoise surveys species lists were compiled for vertebrates and plants, and existing human impacts assessed.

1.2 PREVIOUS STUDIES

In 2005, the Environmental Management Division of Nellis Air Force Base (NAFB) funded Kiva Biological Consulting to conduct a survey of desert tortoises on the Small Arms Range (SAR). The purpose of the survey was to estimate distribution, abundance, and status of desert tortoises, and to quantify human impacts. The survey was part of an effort to update the Resources Management Plan and to initiate consultation with the USFWS for a Biological Opinion for ongoing activities on Nellis Air Force Base.

For these surveys, standard 1.5-mile-long by 10-yard-wide relative abundance transects were walked. Relative abundance transects provide a relative estimate of abundance of tortoises on a landscape scale. Bureau of Land Management (BLM) and USFWS have utilized relative abundance transects extensively to estimate abundance and status of the tortoise throughout its range in the Mojave and Colorado Deserts (Berry 1984, USFWS 1989, USFWS 1990, and USFWS 1994b).

1.3 PROJECT DESCRIPTION

The project that is proposed for the project area is a combination of mobile and pop-up targets. The site will be completely cleared (including the earthen berm), contoured, and parking areas, roads, and facilities constructed. The targets will require maintenance so permanent roads will have to be constructed to the various targets. Impacts will include construction activities but will also include noise from the weapons and targets, and maintenance activities. The amount of use of the targets is unknown.

1.4 LOCATION AND DESCRIPTION OF STUDY AREA

The Small Arms Range is composed of approximately 12,160 acres of eastern Mojave desert habitat in Clark County, Nevada (Figure 1). The site is at the north end of Las Vegas Valley, approximately five miles north of the administration offices of NAFB. NAFB is one of the U.S. Air Force's primary development, test, and evaluation centers for missile weapons systems and electronic warfare simulation. Air Force personnel have used the Small Arms Range for many years for skeet, pistol, and rifle practice.

The SAR itself is impacted by a variety of current and historical impacts. Like the SAR, the actual project site has also been impacted by a variety of mostly historical impacts (Figure 2). Most of the facilities located on the proposed project site have not been used for many years and are in varying states of disrepair. A large earthen berm bisects the northeastern portion of the site. The berm was part of an old set of targets mounted on a rail. The rail and targets are gone but the berm remains. Two historical target areas are in the southeastern portion of the site. In the central portion of the site is an old asphalt road with a series of shooting stations used for skeet shooting. The remnants of many clay pigeons are on the ground. The western portion of the SAR does not have any old target sites but two roads cross it and the northwest corner is adjacent to but does not cross an earthen berm which was also previously used for moving targets. An asphalt road abuts the southern edge of the project site and provides access to the SAR.

The SAR is surrounded by lands with a variety of uses. Generally lands to the south are greatly modified whereas lands to the north are protected and the habitat is intact. Las Vegas, Nevada is located several miles south. A number of utility corridors are located along the southern boundary (two natural gas pipelines and several extra-high voltage electrical transmission lines) and east (electrical distribution line). Lands to the east and west are still creosote bush scrub but are impacted by infrastructure facilities for the City of Las Vegas, off-road vehicles (ORV), dumping of trash, and shooting. Nellis Air Force Base manages lands to the north for military activities. The Desert Wildlife Refuge also abuts the northern boundary. The Desert Wildlife Refuge is managed by the U.S. Fish and Wildlife Service for the benefit of the resource.

Habitat on the bajadas was primarily creosote bush scrub whereas habitat in the drainages was typical desert wash scrub. Common perennial species on the bajadas were *Larrea tridentata* (creosote), *Ambrosia dumosa* (white bursage), *Yucca schidigera* (Mojave yucca), and *Krameria erecta* (rhatany). Common perennials in the desert wash scrub included: *Hymenoclea salsola* (cheesebush), *Bebbia juncea* (sweetbush), and *Salazeria mexicana* (paper-bag bush). Common annuals throughout the site included: *Erodium cicutarium* (filaree), *Schismus* sp. (split grass), and *Bromus madritensis* var. *rubens* (red brome). Elevations range from 2,130 feet in the southwestern corner to 3,630 in the north-central region. Aspect is predominately to the south and slope ranges from approximately four percent on the bajada to more than 25% in the mountains.

The SAR is not within Critical Habitat for the desert tortoise.

2. METHODS

As recommended by USFWS (1992), clearance –style surveys were conducted to estimate density and distribution of desert tortoises on the site. Transects, spaced at 10 meter intervals, were walked in a north-south direction until the entire 67-acre site had been searched by Peter Woodman and Jillian Bobbitt on January 11, 2009. Two recommendations in the Desert Tortoise Survey Protocols (USFWS 1992) were not followed. The survey was conducted outside of the USFWS window of March1 to June 1. In addition, transects were not walked in the adjacent Zone of Influence. Michael Burroughs stated that both exceptions were acceptable to the Service. Transects were not walked in the Zone of Influence because a relative abundance survey had been conducted for the Air Force on the12,160 acre SAR which completely surrounds the 67 acre project site.

Each burrow was inspected for additional signs of desert tortoises such as: scat, eggshell fragments, a live or dead tortoise. The length, width, and height of each burrow were measured, and UTM coordinates, burrow location, and condition were noted. The location, size, sex, cause of death, and time since death were noted for each carcass located.

Human impacts were mapped. During the tortoise survey, fieldworkers searched for signs of Burrowing Owls (*Athene cunicularia*) .

3. RESULTS

Eleven desert tortoise burrows and one old tortoise carcass were found on the project site (Appendices 1 and 2). Two of the burrows were in poor condition and eight of the burrows were in good condition. Of the eight burrows in good condition, two of the burrows seemed especially clean and there may have been old tracks in the tunnel. The ends of three burrows could not be observed so it is unknown if they were in use by a tortoise at the time of the survey (including the two very clean burrows). Eighteen scat were observed in the tunnels of four burrows. No scat were observed away from burrows. Because the scat were in tunnels and protected from the sun it is unknown when they were deposited. One carcass was located on the site. The carcass was of an adult of unknown sex. The cause of death is unknown and the time of death was approximately 10 years before observation.

Two of the burrows (burrows 2 and 3)were in the large berm in the northeast portion of the site. Burrow 2 was in excellent condition and the end could not be seen. Five burrows (numbers 7 thru 11) were all in the washbanks of one wash system in the western portion of the site. The ends of two of the burrows were not visible. The tunnels of both were very clean and scat was present in both.

Burrowing owls were not observed on the project site but they are known to be on the SAR. They were seen on 10 of the 42 relative abundance transects walked in 2005 (Woodman 2006). Burrowing owls were most commonly seen in old coyote and kit fox (*Vulpes macrotis*) dens. Burrowing owls were most common in the west-central portion of the site and generally not seen around the practice facilities.

4. DISCUSSION

Estimation of abundance from relative abundance transects is based on the assumption that the frequency of tortoise burrows observed within a transect is related to the abundance of tortoises in the habitat surrounding the transect. This technique involves two steps. The first step involves recording the types and numbers of tortoise sign along a transect. The second step is the conversion of burrow counts to estimates of tortoise density. This is accomplished by determining a calibration coefficient for each fieldworker from areas where tortoise densities are known. Although transects were not walked on areas of known density for this particular project, Woodman walked transects on calibration plots in the Northern Colorado Desert in spring 2008 and his calibration coefficient was 9.1, each burrow found per transect equals 9.1 tortoises per sq. mile.

The estimated abundance from the 2005 survey for the area on and around the current project site was 6 to 20 tortoises per sq. mile. The 2009 survey supports the 2005 estimate. Woodman walked approximately 9.1 miles on the 67-acre site or the equivalent of six relative abundance transects. Eleven burrows were found on the 9.1 miles or an average of 1.8 burrows per 1.5 miles. The estimate of abundance then was a mean of 16.4 tortoises per sq. mile. The project site is 10.5% of a sq. mile so the estimate would be approximately 1.6 tortoises on the project site.

There is no question that human activities can have an adverse effect on habitat and desert tortoise populations. Many studies have shown that off-road vehicle tracks negatively affect plant and wildlife diversity and density (Bury and Luckenbach 2002, Brooks 1992, Webb and Wilshire 1983, Krzysik 1985, 1990, Bury et al. 1977). Nicholson (1979) and Von Seckendorf Hoff and Marlow (2002) showed that roads can deplete tortoise populations for more than 0.75 miles from a moderately-used road.

However, it appears that current activities on the SAR minimally affect the desert tortoise. Most human activity on the SAR is associated with the target facilities and access roads. If personnel stay on existing roads impacts are probably minimal. There may be impact from bullets but most bullets probably impact onto existing berms. There is a small possibility that a tortoise may be killed by a bullet. More likely is that a tortoise would be crushed by a vehicle during maintenance of the targets or during ingress or egress from the facility.

Trash has the potential to increase numbers of predators, especially ravens and coyotes, by providing supplemental food. It is aesthetically displeasing, and conceivably a tortoise (or other wildlife) could suffocate from eating trash.

Ordnance tends to have a small impact footprint. On the SAR ordnance, other than expended bullets, was mostly associated with the existing target sites. The aerial targets are unlikely to have impact on tortoises. One possibility might be that a smaller tortoise could get caught up in the tow cable that often rolls into loops on the ground.

5. MANAGEMENT RECOMMENDATIONS

This section provides conceptual management recommendations for the desert tortoise.

1. Public awareness is essential to any successful mitigation project. Briefing programs for Range personnel are conducted at most Military installations within tortoise habitat.

2. Place a sign on the main access road to the target facilities reminding users of the presence of desert tortoises, to drive only on existing roads, and check under their vehicles prior to leaving the site. All trash needs to be removed by the personnel that bring it. No trash is to remain at the site. Brass casing need to be removed at the time of deposit.

3. Place the facilities so that the wash with the five tortoise burrows remains intact and outside the boundaries of the new facilities. If necessary and possible, move the entire site to the east.

4. Construction of a security fence along the eastern and western boundaries will eliminate or greatly reduce trespass by people, especially as Las Vegas encroaches into the vicinity of the SAR. An extension of the existing chain-link fence along the southern boundary is recommended.

5. The project proponent has two options during construction: to have a monitor during construction or fence the site. A monitor will be required to conduct USFWS-protocol clearance surveys, inspect burrows, and, if necessary, remove tortoises from the site prior to construction. It is recommended that translocated tortoises be placed just outside of the construction area during the spring or fall activity periods. If the Guard fences the site a biological monitor will need to conduct pre-construction surveys, monitor construction of the fence, then conduct a clearance survey of the 67-acre site. After completion of the clearance surveys and removal of all tortoises, the construction site should be visited twice per week to insure integrity of the fence and compliance with the BO.

6. USFWS may require permanent fencing around the facility. If permanent fencing is required it is recommended that 1 x 2 inch mesh be used. An access gate will have to be designed so that personnel will keep it closed except when they go through it. The fence will have to be maintained after large rain events.

7. The person that conducts the pre-construction surveys will have to be named in the BO to inspect and dig up tortoise burrows. The BO should also include a NAFB personnel to translocate tortoises that may find their way onto the site. It can probably be added to the existing programmatic BO to conduct general operations.

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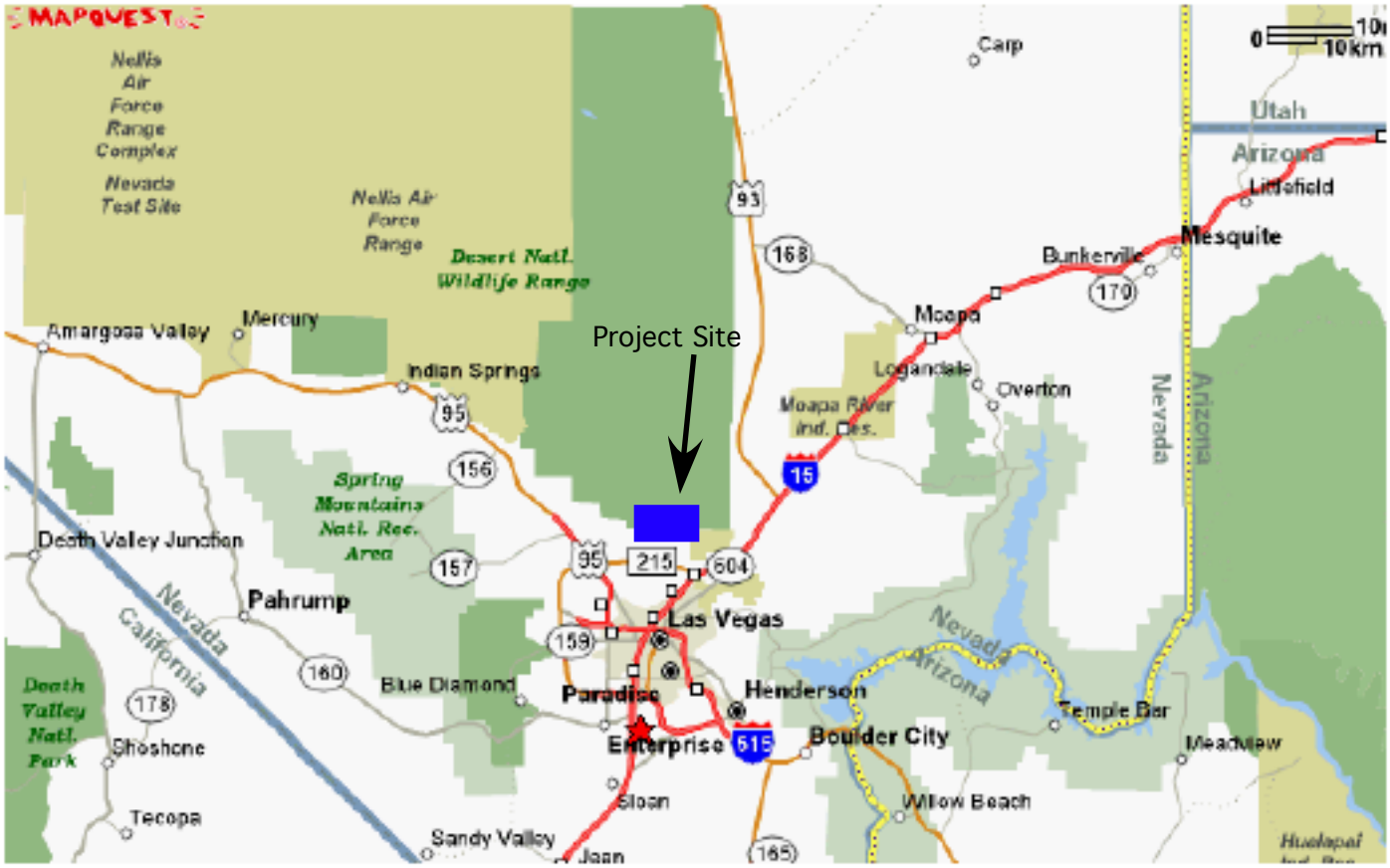

Figure 1. General location of the study area with regional physiographic features near the Small Arms Range, Nellis Air Force Base, Las Vegas, Nevada.

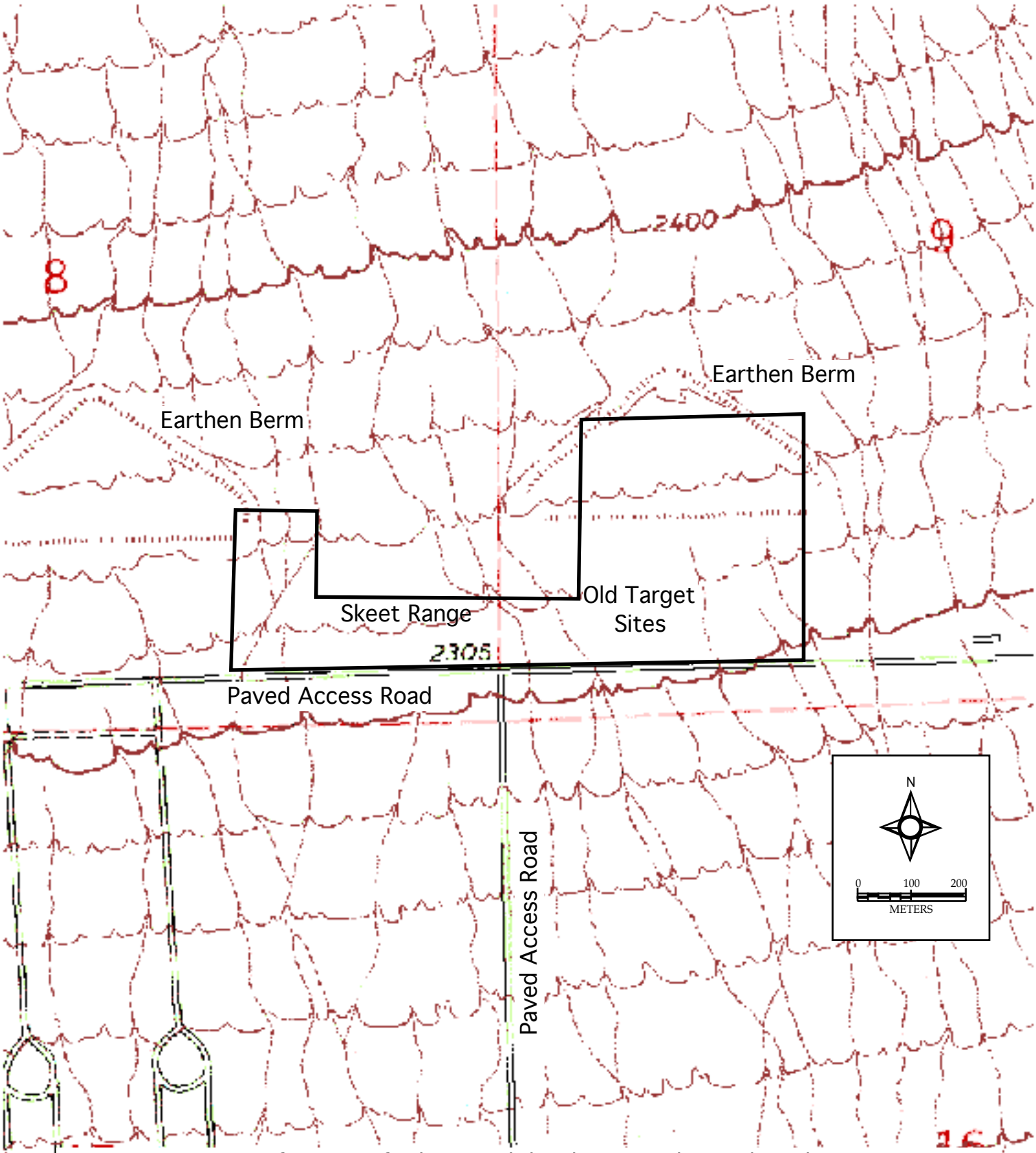

Figure 2. Location of existing facilities and developments located on the project site on the Small Arms Range, Nellis Air Force Base, Las Vegas, Nevada.

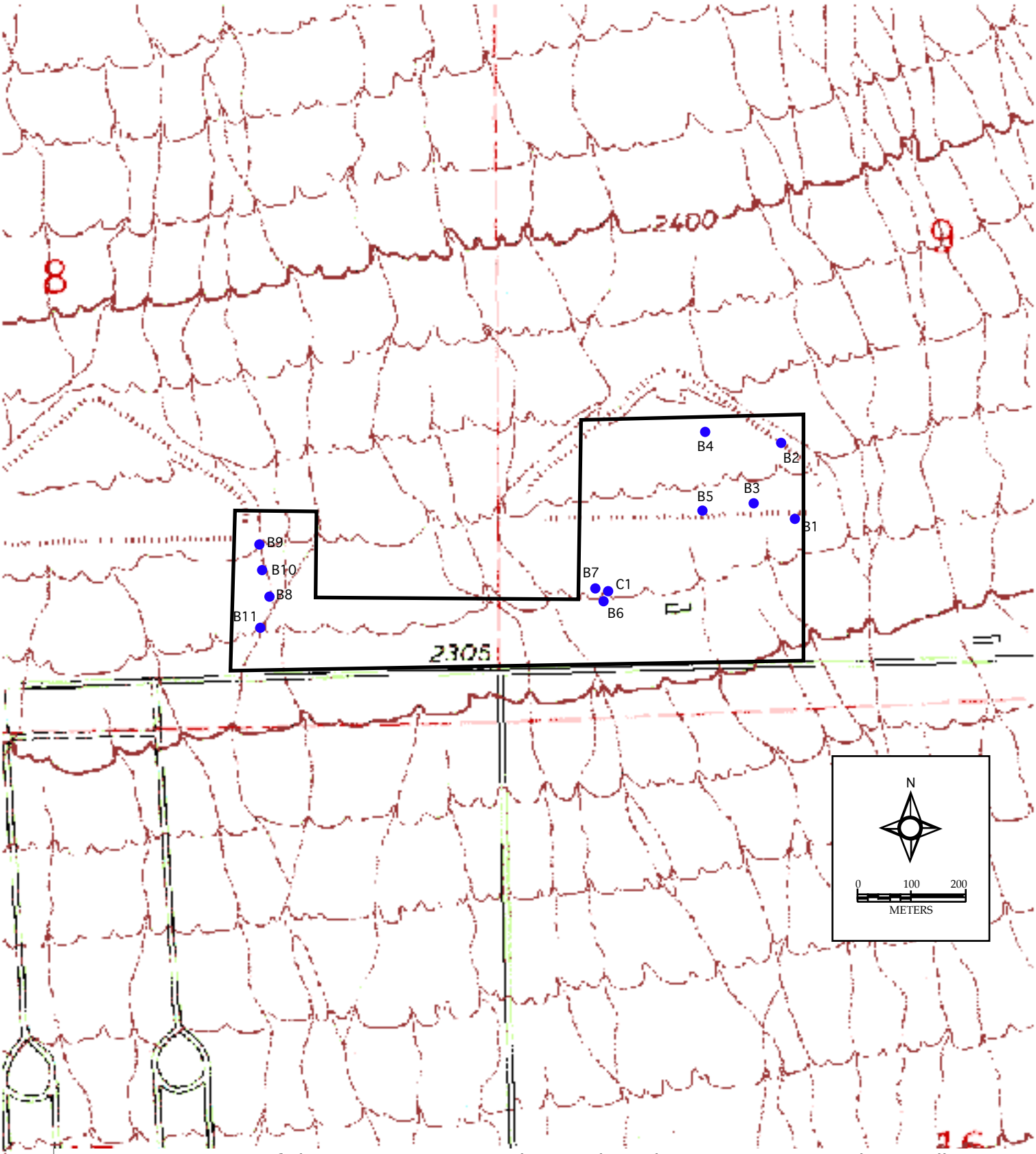

Figure 3. Location of desert tortoise sign observed on the project site on the Small Arms Range, Nellis Air Force Base, Las Vegas, Nevada.

7. LIST OF APPENDICES

1 Desert Tortoise Data – Burrow and Scat Data

2 Desert Tortoise Data - Carcasses

APPENDIX 1 – DESERT TORTOISE BURROW AND SCAT DATA

				BURROW					END	OTHER	SCAT		
ID	DATE	EASTING	NORTHING	WIDTH	HEIGHT	LENGTH	COND.	LOCATION	VISIBLE	SIGN	NUMBER	SIZE	AGE
09-1	11-Jan-09	674588	4020029	280	190	600	Good	Washbank	Yes	None	0		
09-2	11-Jan-09	674550	4020174	300	160	1000+	Good	Berm	No	None	1	Adult	NTY
09-3	11-Jan-09	674481	4020075	320	140	600	Good	Berm	Yes	None	0		
09-4	11-Jan-09	674416	4020182	400	200	750	Poor	Washbank	Yes	None	0		
09-5	11-Jan-09	674392	4020054	270	160	500	Fair	Berm	Yes	None	0		
09-6	11-Jan-09	674187	4019884	230	130	310	Poor	Bajada	Yes	None	0		
09-7	11-Jan-09	674168	4019890	250	140	340	Good	Washbank	Yes	None	0		
09-8	11-Jan-09	673599	4019890	410	370	2000+	Good	Washbank	No	None	8	Adult	NTY
09-9	11-Jan-09	673571	4019983	360	300	950	Good	Washbank	Yes	None	0		
09-10	11-Jan-09	673572	4019956	300	180	1350	Good	Washbank	Yes	None	4	Adult	NTY
09-11	11-Jan-09	673578	4019831	450	200	1500+	Good	Washbank	No	None	5	Adult	NTY

APPENDIX 2 – DESERT TORTOISE CARCASS DATA

ID	DATE	EASTING	NORTHING	SEX	SIZE/MCL	LOCATION	CAUSE OF DEATH	TIME SINCE DEATH	SIGNS OF TRAUMA
09-1	11-Jan-09	674189	4019890	Unknown	Adult	Open	Unknown	> 4 Years	None

APPENDIX E

NATIVE AMERICAN CONSULTATION

APPENDIX E

NATIVE AMERICAN CONSULTATION

DA and DOD regulations and policy require consultation with Native Americans during the NEPA analysis process. In order to comply with these requirements, states must ensure that every federally recognized tribe with a cultural affiliation with the proposed action is invited to consult. Consultation can be initiated using any established protocol agreed to between the state and the tribes (MOU, etc.). In the absence of any established protocol, states will ensure that tribes are included through use of the following consultation process.

- Initial NEPA consultation through a certified letter, signed by the Adjutant General or Chief of Staff, which presents the proposed action. This should occur prior to initiation of the draft document.

- Transmittal of a certified cover letter inviting consultation along with the draft NEPA document (draft EIS or, if the proponent elects to circulate the draft EA, the draft EA). Publication of the Notice of Availability in at least one local paper of general circulation.

- Transmittal of a certified cover letter and final NEPA document.

- Copies of all communications and distribution lists as required along with any responses from the tribe should appear in the final NEPA document. When the proponent uses a form letter to notify multiple potentially affected tribes, one copy of the letter and a list of the tribes who received it is sufficient. The only time all tribal letters are needed is when there is unique content between them.

- Prepare and include in an appendix a Memorandum for Record that shows the dates that letters were sent out and the dates any responses were received.

Those states that have an established protocol for consultation, and those that have initiated consultation in the manner listed above, will make a determination as to whether consultation is required for each project being analyzed by NEPA. The NVARNG Small Arms Qualification Ranges occur in lands owned by Nellis AFB which has conducted the appropriate Native Americans through their Native American Program (NAP) during the SHPO consultation for the entire Nellis AFB.

NVARNG determined that consultation is required and Nellis AFB has already completed the consultation through their NAP.

NVARNG has considered the Annotated DOD Policy on American Indians and Alaska Natives (dated 27 October 1999), EO 13175, AR 200-4 and guidance in DA PAM 200-4 Appendix F. The following tribes have been identified as having potential concerns: Consolidated Group of Tribes and Organization (CGTO) (16 tribes and one organization) associated with Nellis AFB and Nevada Test and Training Range. This list is based on recent tribal consultations on the Integrated Cultural Resources Management Plan dated 2009 and other recent communications regarding the present actions. In addition, the following tribes have indicated that the project location is outside their area of interest: All of CGTO. Consultation followed established protocols based on MOU's as established by the Air Force and the CGTO. Consultations with the remaining tribes followed the default protocols provided in the NGB-ARE Policy Memo dated ___NA____.