

# FINAL ENVIRONMENTAL ASSESSMENT FOR COMBAT SUPPORT TRAINING RANGE NELLIS AIR FORCE BASE, NEVADA

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July 2025



Prepared for:  
Department of the Air Force  
Nellis Air Force Base, Nevada



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### **PRIVACY ADVISORY**

This Environmental Assessment (EA) is provided for public review in accordance with the *National Environmental Policy Act (NEPA)*, as amended by the *Fiscal Responsibility Act of 2023* (Public law 118-5), and the United States Department of Defense (DoD) NEPA implementing procedures issued 30 June 2025, which provide an opportunity for public input on DoD decision-making, allow the public to offer inputs on alternative ways for the DoD to accomplish what it is proposing, and solicit comments on the analysis of environmental effects.

Public commenting allows for better, informed decisions. Letters or other written or oral comments provided may be published in the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill requests for copies of the EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the EA; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the EA.

### **COMPLIANCE**

This document has been certified that it does not exceed 75 pages, excluding citations and appendices. As defined in NEPA, a “page” means 500 words.

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## COVER SHEET

### Final Environmental Assessment for Combat Support Training Range, Nellis Air Force Base, Nevada

- a. *Responsible Agency: United States Department of the Air Force (DAF)*
- b. *Location: Nellis Air Force Base (AFB), Nevada*
- c. *Designation: Final Environmental Assessment*
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#### **Abstract:**

This Environmental Assessment has been prepared pursuant to provisions of the *National Environmental Policy Act* (NEPA), Title 42 *United States Code*, § 4321 et seq., as amended by the *Fiscal Responsibility Act of 2023* (Public Law 118-5); the United States (US) Department of Defense NEPA implementing procedures issued 30 June 2025; and Executive Order 14154, *Unleashing American Energy*. The DoD NEPA implementing procedures inform decision-makers, regulatory agencies, and the public about a US Department of the Air Force (DAF) proposed action before any decision is made on whether to implement the action.

The purpose of the Proposed Action in this EA is to establish a training platform to allow civil engineer combat support teams to develop skills needed to establish, operate, protect, and recover an expeditionary airbase. Expeditionary airbases support the DAF mission through being ready to set up on the fly and establish a site in the field through small teams that are flexible and trained in a wide variety of jobs, ready to deploy at any time. The Proposed Action is needed to meet DAF requirements for a Regional Training Site within the western contiguous US. The DAF currently lacks the infrastructure and equipment required to facilitate robust civil engineer combat support training exercises and certification in preparation for the high-end fight.

The analysis of the affected environmental and environmental consequences of implementing the Proposed Action and No Action Alternative concluded that by implementing standing environmental protection measures and best management practices, there would be no significant adverse impacts from the actions at Nellis Air Force Base (AFB) on the following resources: land use; earth resources; air quality and climate change; water resources; biological resources; cultural resources; noise; hazardous materials and waste, toxic substances, petroleum products, and contaminated sites; infrastructure, including transportation and utilities; safety and occupational health; socioeconomics; and protection of children. Nellis AFB is an active installation with aircraft operations, demolition, and new construction actions currently under way as well as future development currently in the planning phase. Impacts associated with development would be minor; therefore, significant cumulative impacts are not anticipated from activities associated with the Proposed Action and Alternatives when considered with past, present, or reasonably foreseeable future actions.

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## TABLE OF CONTENTS

<b>CHAPTER 1</b>	<b>PURPOSE AND NEED FOR THE PROPOSED ACTION</b>	<b>1-1</b>
1.1	INTRODUCTION	1-1
1.2	LOCATION	1-1
1.2.1	<i>Nellis Air Force Base</i>	1-1
1.3	PURPOSE AND NEED	1-1
1.4	SCOPE OF THE ENVIRONMENTAL ASSESSMENT	1-3
1.5	INTERGOVERNMENTAL COORDINATION, PUBLIC AND AGENCY PARTICIPATION	1-3
1.5.1	<i>Government-to-Government Consultation</i>	1-3
1.5.2	<i>Agency Consultations and Coordination</i>	1-4
1.5.3	<i>Public and Agency Review</i>	1-4
1.6	SCOPE OF THE ENVIRONMENTAL ASSESSMENT	1-5
<b>CHAPTER 2</b>	<b>DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES</b>	<b>2-1</b>
2.1	INTRODUCTION	2-1
2.2	DESCRIPTION OF THE PROPOSED ACTION	2-1
2.3	SELECTION STANDARDS FOR ALTERNATIVE SCREENING	2-3
2.4	ALTERNATIVES RETAINED FOR DETAILED ANALYSIS	2-4
2.4.1	<i>Alternative 1 (Proposed Action)</i>	2-4
2.4.2	<i>No Action Alternative</i>	2-8
2.5	ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS	2-8
2.5.1	<i>Alternative 2</i>	2-8
2.5.2	<i>Alternative 3</i>	2-9
2.6	SUMMARY OF ENVIRONMENTAL CONSEQUENCES	2-9
<b>CHAPTER 3</b>	<b>EXISTING CONDITIONS AND ENVIRONMENTAL CONSEQUENCES</b>	<b>3-1</b>
3.1	FRAMEWORK FOR ANALYSIS	3-1
3.2	RESOURCES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS	3-1
3.3	RESOURCES CARRIED FORWARD FOR DETAILED ANALYSIS	3-1
3.4	LAND USE	3-3
3.4.1	<i>Definition of Resources</i>	3-3
3.4.2	<i>Existing Conditions</i>	3-3
3.4.3	<i>Environmental Consequences</i>	3-5
3.5	EARTH RESOURCES	3-6
3.5.1	<i>Definition of the Resource</i>	3-6
3.5.2	<i>Regulatory Setting</i>	3-6
3.5.3	<i>Existing Conditions</i>	3-6
3.5.4	<i>Environmental Consequences</i>	3-9
3.6	AIR QUALITY AND CLIMATE CHANGE	3-11
3.6.1	<i>Definition of the Resource</i>	3-11
3.6.2	<i>Regulatory Setting</i>	3-13
3.6.3	<i>Existing Conditions</i>	3-14
3.6.4	<i>Environmental Consequences</i>	3-15
3.7	WATER RESOURCES	3-19
3.7.1	<i>Definition of the Resource</i>	3-19
3.7.2	<i>Existing Conditions</i>	3-20
3.7.3	<i>Environmental Consequences</i>	3-23
3.8	BIOLOGICAL RESOURCES	3-27
3.8.1	<i>Definition of the Resource</i>	3-27
3.8.2	<i>Existing Conditions</i>	3-28
3.8.3	<i>Environmental Consequences</i>	3-34
3.9	CULTURAL RESOURCES	3-38
3.9.1	<i>Definition of the Resource</i>	3-38
3.9.2	<i>Existing Conditions</i>	3-41

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3.9.3	<i>Environmental Consequences</i> .....	3-42
3.10	NOISE.....	3-44
3.10.1	<i>Definition of the Resource</i> .....	3-44
3.10.2	<i>Existing Conditions</i> .....	3-45
3.10.3	<i>Environmental Consequences</i> .....	3-47
3.11	HAZARDOUS MATERIALS AND WASTES, TOXIC SUBSTANCES, PETROLEUM PRODUCTS, AND CONTAMINATED SITES.....	3-48
3.11.1	<i>Definition of the Resource</i> .....	3-48
3.11.2	<i>Existing Conditions</i> .....	3-51
3.11.3	<i>Environmental Consequences</i> .....	3-54
3.12	INFRASTRUCTURE, INCLUDING TRANSPORTATION AND UTILITIES.....	3-58
3.12.1	<i>Definition of the Resource</i> .....	3-58
3.12.2	<i>Existing Conditions</i> .....	3-58
3.12.3	<i>Environmental Consequences</i> .....	3-60
3.13	SAFETY AND OCCUPATIONAL HEALTH.....	3-62
3.13.1	<i>Definition of the Resource</i> .....	3-62
3.13.2	<i>Existing Conditions</i> .....	3-63
3.13.3	<i>Environmental Consequences</i> .....	3-65
3.14	SOCIOECONOMICS.....	3-66
3.14.1	<i>Definition of the Resource</i> .....	3-66
3.14.2	<i>Existing Conditions</i> .....	3-66
3.14.3	<i>Environmental Consequences</i> .....	3-70
3.15	PROTECTION OF CHILDREN.....	3-71
3.15.1	<i>Definition of the Resource</i> .....	3-71
3.15.2	<i>Existing Conditions</i> .....	3-71
3.15.3	<i>Environmental Consequences</i> .....	3-72
<b>CHAPTER 4</b>	<b>LIST OF PREPARERS</b> .....	<b>4-1</b>
4.1	GOVERNMENT CONTRIBUTORS.....	4-2
<b>CHAPTER 5</b>	<b>REFERENCES</b> .....	<b>5-1</b>

**APPENDICES**

- APPENDIX A.** Intergovernmental Coordination, Public and Agency Participation
- APPENDIX B.** Programmatic Biological Opinion
- APPENDIX C.** Air Conformity Applicability Model Analysis
- APPENDIX D.** Desert Tortoise and Habitat Survey

**LIST OF FIGURES**

Figure 1-1	Regional Map of Nellis Air Force Base, Nevada.....	1-2
Figure 2-1	Project Overview – Alternative 1.....	2-5
Figure 2-2	Proposed CSTR Footprint and General Use Areas.....	2-7
Figure 3-1	Land Use.....	3-4
Figure 3-2	Soils.....	3-8
Figure 3-3	Water.....	3-21
Figure 3-4	Floodplains.....	3-24
Figure 3-5	Vegetation.....	3-29
Figure 3-6	Tortoise Survey Transects.....	3-32
Figure 3-7	Cultural Resources.....	3-40
Figure 3-8	Noise.....	3-46
Figure 3-9	Hazardous Materials and Wastes.....	3-55
Figure 3-10	Safety Environment.....	3-64
Figure 3-11	Census Tracts.....	3-68

**LIST OF TABLES**

Table 2-1	Construction, Paving, and Grading under the Proposed Action.....	2-2
Table 2-2	Comparison of Alternatives.....	2-8
Table 2-3	Summary of Environmental Consequences.....	2-9
Table 3-1	Past, Present, and Reasonably Foreseeable Actions.....	3-2
Table 3-2	Soil Types Within the ROI.....	3-7
Table 3-3	National Ambient Air Quality Standards.....	3-12
Table 3-4	Nellis AFB Stationary and Mobile Source Emission Summary in Tons per Year (2022).....	3-14
Table 3-5	Estimated Annual Air Emissions of the Proposed Action (tpy) – Proposed Action.....	3-16
Table 3-6	Estimated Highest Annual Air Emissions– Proposed Action.....	3-17
Table 3-7	Estimated GHG Emissions (MT/yr) – Proposed Action.....	3-18
Table 3-8	Comparison of Total GHG Emissions Relative to Nevada and US Inventories (MT) – Proposed Action.....	3-18
Table 3-9	Common Plant Species In Vegetation Communities In the Proposed Action Area.....	3-30
Table 3-10	Estimated Area of Potential Land Disturbance by Vegetation Type.....	3-34
Table 3-11	NRHP-Eligible, Potentially Eligible, and Unevaluated Architectural Resources within the APE.....	3-41
Table 3-12	Architectural Surveys Conducted within the APE.....	3-41
Table 3-13	Archaeological Surveys Conducted within the APE.....	3-42
Table 3-14	NRHP-Eligible and Unevaluated Archaeological Resources within the APE.....	3-42
Table 3-15	Peak Sound Pressure Level of Construction Equipment from 50 Feet.....	3-47
Table 3-16	Asbestos Status of Structures within the ROI.....	3-52
Table 3-17	Population Estimates.....	3-67
Table 3-18	Housing Characteristics.....	3-69
Table 3-19	Demographic Characteristics.....	3-72

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## ACRONYMS AND ABBREVIATIONS

820 RHS	820th RED HORSE Squadron
AAGR	annual average growth rate
ACAM	Air Conformity Applicability Model
ACC	Air Combat Command
ACM	asbestos-containing material
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFFF	aqueous film forming foam
AFFORGEN	Air Force Generation model
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFPD	Air Force Policy Directive
AICUZ	Air Installations Compatible Use Zones
AMMPS	advanced medium mobile power sources
APE	Area of Potential Effects
APZ	Accident Potential Zone
ARPA	Archaeological Resources Protection Act of 1979
AST	aboveground storage tank
BASH	bird/wildlife aircraft strike hazard
BGEPA	Bald and Gold Eagle Protection Act
bgs	below ground surface
BLM	Bureau of Land Management
BMP	best management practice
BPU	Base Expeditionary Airfield Resources power unit
CAA	Clean Air Act
CCA	Collaborative Contract Aircraft
CCSD	Clark County School District
CCWRD	Clark County Water Reclamation District
CEMML	Center for Environmental Management of Military Lands
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH <sub>4</sub>	methane
CNLV-WRF	City of North Las Vegas Water Reclamation Facility
CO <sub>2</sub>	carbon dioxide
CO <sub>2e</sub>	carbon dioxide-equivalent
CONUS	contiguous United States
CSU	Colorado State University
CSTR	Combat Support Training Range
CT	census tract
CWA	Clean Water Act
CZ	clear zone
DAF	Department of the Air Force
DAFI	Department of Air Force Instruction
dBA	A-weighted decibel
DES	Department of Environment and Sustainability
DESR	Defense Explosive Safety Regulation
DNL	Day-Night Average Sound Level
DoD	Department of Defense
DoDI	Department of Defense Instruction
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EOD	explosives ordnance disposal
EOU	Experimental Operations Unit

ERP	Environmental Restoration Program
ESA	Endangered Species Act
ESQD	explosive safety quantity distance
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
ft <sup>2</sup>	square foot/feet
GHG	greenhouse gas
GUA	general use area
GWP	global warming potential
HAZMAT	hazardous materials
HUC	Hydrologic Unit Code
ICRMP	Integrated Cultural Resources Management Plan
IDP	Installation Development Plan
IPaC	Information for Planning and Consultation
IRP	Installation Restoration Program
LBP	lead-based paint
lbs	pounds
LVIQCR	Las Vegas Intrastate Air Quality Control Region
MILCON	military construction
MBTA	Migratory Bird Treaty Act
MSA	munitions storage area
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NDEP	Nevada Department of Environmental Protection
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO <sub>x</sub>	nitrogen oxides
NLVWD	North Las Vegas Water District
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NSA	Nellis Solar Array
NVE	NV Energy
OSHA	Occupational Health and Safety Administration
PACM	presumed asbestos-containing material
PBA	Programmatic Biological Assessment
PBO	Programmatic Biological Opinion
PCB	polychlorinated biphenyls
PFAS	polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PGR	percent growth rate
PM <sub>10</sub>	inhalable particulate matter
PM <sub>25</sub>	fine inhalable particulate matter
PSD	Prevention of Significant Deterioration
PV	photovoltaic
RADR	Rapid Airfield Damage Recovery
RADRRTS	Rapid Airfield Damage Repair Regional Training School
RCRA	Resource Conservation and Recovery Act
RED HORSE	Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers
ROI	Region of Influence
SARA	Superfund Amendments and Reauthorization Act
SGCN	species of greatest conservation need
SHPO	State Historic Preservation Office
SNWA	Southern Nevada Water Authority
SO <sub>2</sub>	sulfur dioxide

SPCC	Spill Prevention, Control, and Countermeasure
TASS	Tactical Air Support Squadron
TCP	Traditional Cultural Properties
TSCA	Toxic Substances Control Act
US	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USCB	United States Census Bureau
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	underground storage tank

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## CHAPTER 1 PURPOSE AND NEED FOR THE PROPOSED ACTION

### 1.1 INTRODUCTION

The United States (US) Department of the Air Force (DAF) and the Air Force Civil Engineer Center (AFCEC), with the support of Air Combat Command (ACC) and Nellis Air Force Base (AFB), proposes to develop a Combat Support Training Range (CSTR) at Nellis AFB. The site would be established and operated as a training platform for civil engineer combat support teams to train on skills needed to construct, operate, protect, and recover an expeditionary airbase. This EA provides sufficient information to analyze potential environmental impacts associated with developing, constructing, and operating a CSTR location at Nellis AFB.

ACC organizes, trains, and equips combat-ready forces to provide dominant combat airpower in support of national security strategy implementation. Nellis AFB is home to the 99th Air Base Wing, Air Force Warfare Center, 57th Wing, Nevada Test and Training Range, elements of the 53rd Wing and 505th Command Control Wing, 801st Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers (RED HORSE) Training Squadron, and more than 52 tenant units and agencies. The 99th Air Base Wing is the host wing for Nellis AFB. A CSTR location at Nellis AFB would allow combat support teams to train on skills needed to construct, operate, protect, and recover an expeditionary airbase.

The *National Environmental Policy Act of 1969*, as amended ([42 United States Code \[USC\] § 4321](#) et seq.) (NEPA) requires federal agencies to consider alternatives to a proposed action and to analyze potential impacts of alternative actions. This Environmental Assessment (EA) evaluates the potential environmental impacts associated with developing a CSTR location at Nellis AFB. This document was prepared in accordance NEPA, as amended by the *Fiscal Responsibility Act of 2023* ([Public Law 118-5](#)); US Department of Defense (DoD) NEPA implementing procedures issued 30 June 2025; and Executive Order (EO) 14154, *Unleashing American Energy* (20 January 2025).

These federal regulations establish both the administrative process and substantive scope of the environmental impact analysis designed to ensure that deciding authorities have a proper understanding of the potential environmental consequences of a contemplated course of action. Development proposed at Nellis AFB would only commence upon satisfactory completion of this EA and issuance of a Finding of No Significant Impacts (FONSI).

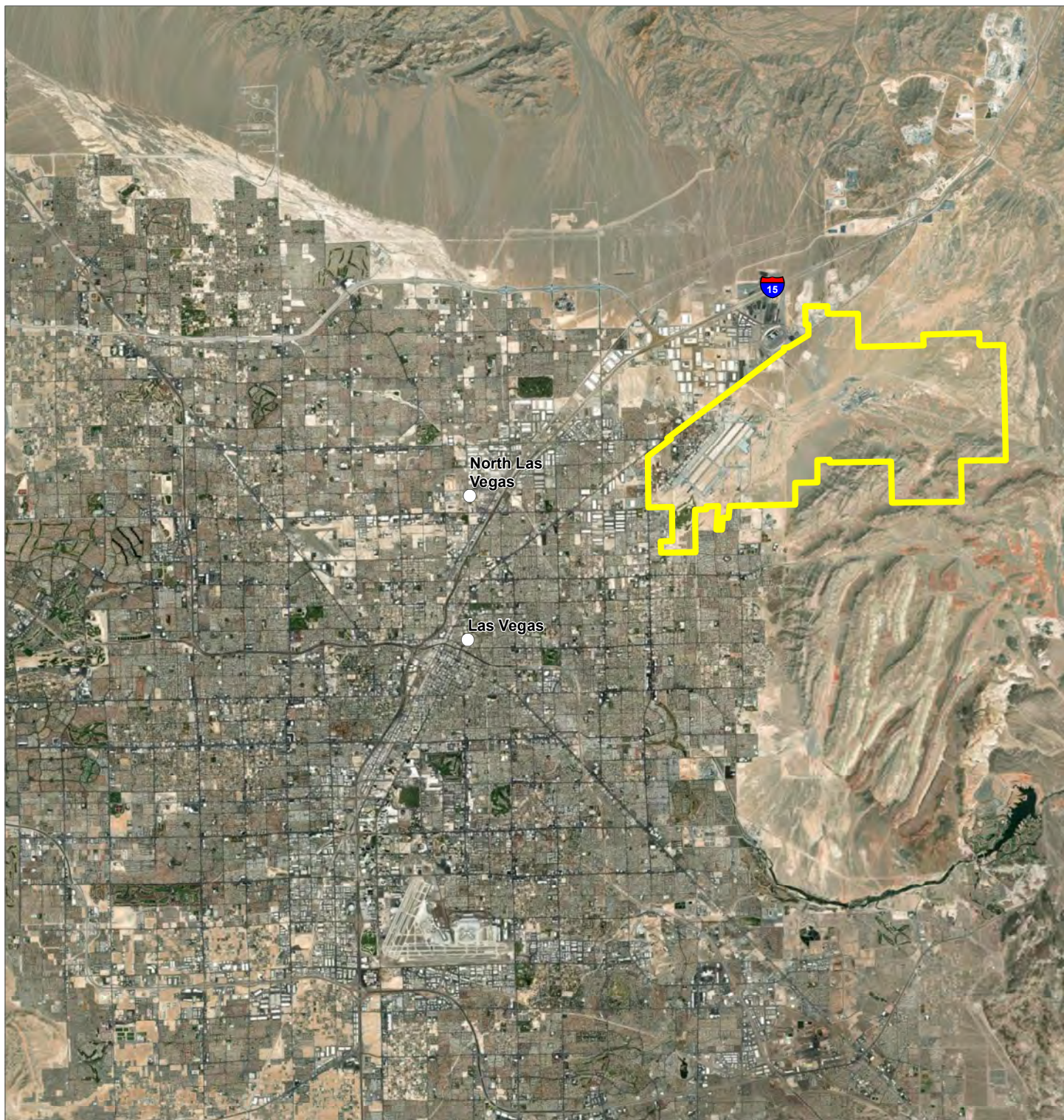
### 1.2 LOCATION

#### 1.2.1 Nellis Air Force Base

Nellis AFB, located in Clark County in the southeast corner of the state of Nevada, lies 5 miles northeast of the city of Las Vegas and adjacent to the city of North Las Vegas (**Figure 1-1**). The unincorporated town of Sunrise Manor and undeveloped portions of Clark County surround the majority of Nellis AFB, although open space dominates to the northeast. Covering 14,161 acres, the base contains three major functional areas. Area I, the Main Base, is located east of US Highway 93 and includes the airfield and most base functions. Area II, northeast of the Main Base, contains the Munitions Storage Area/Weapons Storage Area. Area III, situated northwest of the Main Base, includes a number of facilities such as a hospital, storage, and housing.

### 1.3 PURPOSE AND NEED

The purpose of the Proposed Action is to establish a training platform to allow civil engineer combat support teams to develop skills needed to establish, operate, protect, and recover an expeditionary airbase. An expeditionary airbase is a mobile installation that can be established rapidly in the field under a variety of conditions. Such installations often consist of simple structures such as concrete block buildings, K-spans, and tents. The concept of an expeditionary airbase allows DAF to set up an airfield where it is needed, rather than limiting air support to locations where permanent infrastructure exists. Expeditionary airbases support the DAF mission through being ready to set up on the fly and establish a site in the field through small teams that are flexible and trained in a wide variety of jobs, ready to deploy at any time.

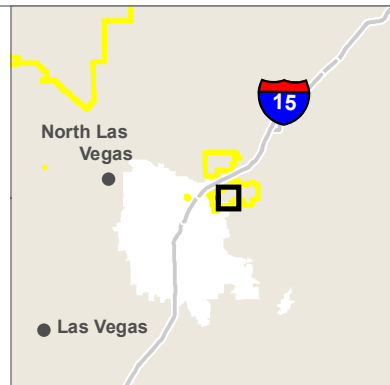


**FIGURE 1-1**  
Regional Map of Nellis Air Force Base, Nevada

 Nellis AFB



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



Implementation of the Proposed Action would provide a setting that contains flexible infrastructure that would allow dynamic employment of expeditionary assets under a variety of training configurations in a minimalist, realistic environment that simulates contested operations.

The Proposed Action is needed to meet DAF requirements for a Regional Training Site within the western contiguous US (CONUS). DAF currently lacks the infrastructure and equipment required to facilitate robust civil engineer combat support training exercises and certification in preparation for the high-end fight. In 2020, the Commander of AFCEC directed the establishment of Civil Engineer CSTR locations within a 10-hour drive from all CONUS installations. Currently, there is a lack of adequate training locations in western CONUS, and existing CONUS locations lack the capacity to meet combat support readiness throughput requirements. The Proposed Action would provide a facility that meets the 2020 requirements set forth by AFCEC and the Air Force Installation and Mission Support Center.

Additionally, the DAF currently does not have sufficient platforms to enable high-end certification exercises for combat support teams postured as “Civil Engineer Force Elements” within the new Air Force Generation (AFFORGEN) model. AFFORGEN is a newly implemented model that aims to reconstitute manpower, aircraft, and equipment into Force Elements that train, deploy, and recover as cohesive units. The Proposed Action would facilitate the assembly of an entire Force Element and would allow the Force Element to train and certify in a realistic environment.

## **1.4 SCOPE OF THE ENVIRONMENTAL ASSESSMENT**

In accordance with NEPA, the DAF determined the appropriate level for this analysis is an EA. An EA is a concise public document that briefly discusses the purpose and need, alternatives, and potential environmental impacts of a proposed federal action. An EA aids in agency planning and decision-making, or facilitates the preparation of an Environmental Impact Statement (EIS), as necessary.

## **1.5 INTERGOVERNMENTAL COORDINATION, PUBLIC AND AGENCY PARTICIPATION**

NEPA guidance includes public and agency review of information pertinent to a proposed action and alternatives. The DAF’s compliance with the requirement for intergovernmental coordination and agency participation begins with the scoping<sup>1</sup> process. Accordingly, the DAF notified federal, state, and local agencies and tribal governments with jurisdiction that could potentially be affected by the Proposed Action and Alternatives via written correspondence during the development of this EA. A mailing list of the recipients of this correspondence as well as a sample of the outgoing letters and all responses are included in **Appendix A**.

### **1.5.1 Government-to-Government Consultation**

The *National Historic Preservation Act* ([54 USC § 300101](#), et seq.) (NHPA) and implementing regulations at [36 CFR Part 800](#) direct federal agencies to consult with federally recognized Native American tribes when a proposed action or alternatives may have an effect on tribal lands or on properties of religious and cultural significance to a tribe. Consistent with the NHPA, the *Native American Graves Protection and Repatriation Act* ([25 USC § 3001](#) et seq.), DoD Instruction (DoDI) 4710.02, *DoD Interactions with Federally Recognized Tribes*, and DAF Instruction (DAFI) 90-2002, *Department of the Air Force Interactions with Federally Recognized Tribes*, the DAF invited federally recognized tribes that are historically affiliated with lands in the vicinity of the Proposed Action and Alternatives to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation and requires separate notification to all relevant tribes. The timelines for tribal consultation are also distinct from those of NEPA consultation. The Nellis AFB point of contact for Native American tribes is the Base Commander. The point of contact for consultation with the Tribal Historic Preservation Officer and the State Historic Preservation Officer (SHPO) is the Nellis AFB Cultural Resources Manager.

NHPA Section 106, Air Force Manual (AFMAN) 32-7003, *Environmental Conservation*, and DAFI 90-2002 require that Nellis AFB engage in government-to-government consultations between the DAF and federally

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<sup>1</sup> Scoping is a process for determining the extent of issues to be addressed and analyzed in a NEPA document.

listed or affiliated tribes if requested and agreed to by the pertinent tribe(s) and that the consultation process be completed prior to fully finalizing the EA.

### 1.5.2 Agency Consultations and Coordination

Implementation of the Proposed Action involves coordination with several organizations and agencies. Compliance with Section 7 of the *Endangered Species Act of 1973*, as amended ([16 USC § 1531](#) et seq.) (ESA), and implementing regulations at [50 CFR Part 402](#) requires communication with the US Fish and Wildlife Service (USFWS) in cases where a federal action could affect listed threatened or endangered species, species proposed for listing, or candidates for listing. On 5 May 2023, the DAF initiated Section 7 consultation under the ESA for the Proposed Action using the USFWS's Information for Planning and Consultation (IPaC) tool. Basic information concerning the location and nature of the projects included in the Proposed Action was input into IPaC to obtain an official species list from the USFWS. The list identifies threatened and endangered species and other protected species (e.g., migratory birds) with potential to be affected by the Proposed Action (**Appendix A**). In addition, a Programmatic Biological Opinion (PBO) was issued on 28 September 2023 for the Nellis AFB and the Small Arms Range (**Appendix B**). Information from these reports is incorporated into this EA where applicable.

Other federal agencies the DAF might coordinate with include the US Environmental Protection Agency (USEPA), Bureau of Land Management (BLM), National Park Service, US Forest Service, and Bureau of Indian Affairs.

The DAF coordinated with state agencies regarding potential effects from the Proposed Action and Alternatives. Compliance with Section 106 of the NHPA and implementing regulations (36 CFR Part 800) require that the SHPO be given the opportunity to concur on determinations of eligibility and effects. If no historic properties are identified or are present but would not be affected, this EA would be used to provide a “no historic properties affected” or “no adverse effect” finding, respectively, to the SHPO and other consulting parties for review.

The DAF also coordinated with the following state and local government agencies:

- Air and water quality effects – Nevada Department of Environmental Protection (NDEP) and Clark County Department of Environment and Sustainability (DES)
- Habitat and species of concern – Nevada Department of Wildlife

### 1.5.3 Public and Agency Review

The DAF invited the public and other interested stakeholders to review and comment on the Draft EA. Accordingly, a notice of availability of the Draft EA and Draft FONSI was published in the following local newspapers on 3 and 4 May 2025 to commence a 30-day public comment period (**Appendix E**).

- *Las Vegas Review-Journal*
- *Aerotech News*

During the public comment period, the Draft EA and Draft FONSI were available online at <https://www.nellis.af.mil/Public-Affairs/Community-Engagement/Partnerships/Environment/>. Additionally, printed copies of the Draft EA and Draft FONSI were available by request and placed at the following area libraries for review:

- Sunrise Library, 5400 E Harris Ave, Las Vegas, NV 89110
- East Las Vegas Library, 2851 E Bonanza Rd, Las Vegas, NV 89101
- West Las Vegas Library, 951 W Lake Mead Blvd, Las Vegas, NV 89106
- North Las Vegas Library, 2250 Las Vegas Blvd N, North Las Vegas, NV 89030
- Alexander Library, 1755 W Alexander Rd, North Las Vegas, NV 89032

During the public comment period, the DAF received comments from two Native American Tribes: the Moapa Band of Paiutes and the Paiute Indian Tribe of Utah. The Moapa Band of Paiutes suggested that Nellis AFB put up signs in the vicinity of archaeologically/culturally sensitive sites within the foot patrol

buffer, and requested that pedestrian traffic remain close to the road in those locations. Nellis AFB plans to implement these suggestions. The Paiute Indian Tribe of Utah stated that the Tribe is in concurrence with the Proposed Action, predicated on Nellis AFB implementing the suggestions of the Moapa Band of Paiutes. Copies of these comments are included in **Appendix A**.

During the 30-day public comment period, none of the comments identified significant impacts to any of the resources evaluated in the EA, nor did any of the comments identify alternatives that the DAF had not evaluated in the EA. Subsequently, the DAF prepared a Final EA and FONSI. The signed FONSI and EA will remain on record with the Nellis AFB Environmental Office.

## **1.6 SCOPE OF THE ENVIRONMENTAL ASSESSMENT**

NEPA regulations require federal agencies to consider alternatives to a Proposed Action and to analyze potential impacts of alternative actions. Potential impacts of the Proposed Action and Alternatives described in this EA will be assessed in accordance with the NEPA regulations, which require that federal agencies analyze the potentially affected environment and degree of the effects of the action.

This EA is organized into the following sections:

- Chapter 1, Purpose and Need for the Proposed Action, includes an introduction and background on the project, location, scope of the EA, purpose and need statements, intergovernmental coordination and public and agency participation, public and agency review, and decision to be made.
- Chapter 2, Description of the Proposed Action and Alternatives, includes a description of the Proposed Action, selection standards for alternatives, a description of the alternatives being analyzed, application of selection standards, alternatives considered but eliminated from detailed analysis, and a summary of potential environmental consequences.
- Chapter 3, Affected Environment and Environmental Consequences, includes a description of the natural and built environments within and surrounding IRs 320, 500, and 501 that may be affected by the Proposed Action and Alternatives, including a No Action Alternative. This chapter also includes a discussion of direct, indirect, and cumulative impacts.
- Chapter 4, List of Preparers, provides a list of the preparers of this EA.
- Chapter 5, References, contains references for studies, data, and other resources used in the preparation of this EA.
- Appendices, as required, provide relevant correspondence, studies, modeling results, and public review information.

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## CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The following sections describe the Proposed Action, alternatives screening process, and alternatives retained for analysis in this EA.

### 2.1 INTRODUCTION

This section provides a description of the standards used in selecting the Proposed Action and Alternatives; a detailed description of the Proposed Action and Alternatives, including the No Action Alternative; identification of alternatives considered but eliminated from further analysis; comparison of environmental consequences of the alternatives; and mitigation measures.

### 2.2 DESCRIPTION OF THE PROPOSED ACTION

The DAF proposes to repurpose existing structures as well as construct new, austere (or minimalist) buildings, such as basic concrete block and prefabricated steel structures. The primary infrastructure feature of the installation would be a new 3,000-foot training airfield with taxiway system and associated Logistics Area. The training location would be connected to a new training airfield with a taxiway system. The new airfield would include a driving course using existing roads and a foot patrol area located outside of the footprint. This EA evaluates the potential environmental impacts that could arise from the development and operation of a CSTR at the existing site.

The project includes the construction of new facilities, repurposing of existing facilities, implementation of infrastructure improvements, demolition and removal of obsolete equipment, as well as significant amounts of grading, paving, and semi-improved (compacted gravel material) road building and repair. The 820th REDHORSE Squadron (820 RHS), a self-sufficient engineering and logistics unit located at Nellis AFB, would be responsible for all clearing, grading, paving, and construction associated with the project.

The Proposed Action would establish a small, permanent-party presence of up to 20 personnel and would support additional personnel during temporary training events. Flexible CSTRs would be used to train teams in base defense, urban operations, local population engagement, and distributed operations. In order to meet the training requirements, CSTRs should support modifications to the natural infrastructure, such as grading and compaction for helicopter landing zones, erection of temporary structures, placement and mitigation of unexploded ordnance below grade, and construction of berms.

The CSTR would provide a location to facilitate integrated civil engineer training exercises ranging from small, unit-led events to major command-directed, large-team certification efforts. The mock airfield and associated accessory structures primarily would function as a setting for the 801 RED HORSE Training Squadron to host Rapid Airfield Damage Recovery (RADR) training. The mock airfield would be 12-inch-thick concrete, 150 feet wide by 1,000 feet long. The airfield would be used solely for combat support training; no aircraft operations would occur. The CSTR would be used to host temporary training events for groups up to 60 personnel 5–10 times per month, groups up to 200 personnel 1–2 times per month, and groups up to 750 personnel 3–5 times per year. Training events would last 1–12 days.

Overall, the development of the CSTR would establish approximately 796,000 square feet (ft<sup>2</sup>) of new impervious surface, 10,556 linear feet of semi-improved roadways, and 7,950 feet of fencing, requiring approximately 8 million ft<sup>2</sup> of grading. **Table 2-1** lists each construction/improvement project that would be included under the Proposed Action, with accompanying square footage.

**Table 2-1  
Construction, Paving, and Grading under the Proposed Action**

Description	Preserved (repurposed)	New Construction (ft <sup>2</sup> )	Paving (ft <sup>2</sup> )	Grading (ft <sup>2</sup> )
<b>Site Support Area</b>				
Repurpose existing paved surfaces and Bldgs. 10112, 10136, 10146, 10164, and 10152	14,241			
Construct covered storage		10,000		12,000
Construct vehicle maintenance facility		11,000		13,200
Create semi-improved roadways (approximately 974-feet long x 10-feet wide)				9,740
Provide other considerations including dumpsters, fuel points, and access to a vehicle wash rack		TBD		
<b>Contingency Beddown Area</b>				
Create graded space for lodging temporary duty station personnel and flexible training functions (31 acres)				1,350,360
Repurpose existing improved surfaces and Bldgs. 10155, 10157, and 10165	10,830			
Construct latrines and showers with power, water, and wastewater		4,000		4,800
Construct laundry facility with power, water, and wastewater		650		780
Construct expeditionary dining facility with power, water, and wastewater		1,500		1,800
Grade semi-improved roadways (approximately 4,500-feet long x 10-feet wide)				45,000
Grade semi-improved surfaces for erecting temporary structures				TBD
Construct concrete pads for storage and recurring placement of assets such as generators and water-purification units		25,000		30,000
Install electric utility connections and associated equipment to simulate connection of expeditionary power distribution to a power plant. This includes temporary use of mobile generators to establish operational proficiency		TBD		
Install water source connection, storage, and discharge points for water-purification units		TBD		
<b>Mock Village Area</b>				
Grade 14 acres				609,840
Repurpose existing improved surfaces and Bldg. 10160	1,280			
Develop semi-improved roadways (approximately 1,515-feet long x 10-feet wide)				15,150
Develop semi-improved surfaces for erecting expedient, reconfigurable structures				

Description	Preserved (repurposed)	New Construction (ft <sup>2</sup> )	Paving (ft <sup>2</sup> )	Grading (ft <sup>2</sup> )
<b>Airfield Training Area</b>				
Construct a mock airfield (150 feet x 3,000 feet)			450,000	540,000
Construct a parallel taxiway (75 feet x 2,000 feet)			150,000	180,000
Construct three ladder taxiways (75 feet x 250 feet)			56,250	67,500
Construct two aprons (200 feet x 350 feet)			140,000	168,000
<b>Logistics Area</b>				
Develop semi-improved roadways (approximately 3,573 feet long x 10 feet wide)				35,730
Develop semi-Improved surfaces				TBD
Construct covered storage		84,000		100,800
<b>Graded Contingency Training Area</b>				
Develop graded space for flexible training function (approximately 97.5 acres)				4,247,100
Develop semi-improved roadways (approximately 10,556-feet long x 10-feet wide)				105,560
Develop semi-Improved surfaces				TBD
Construct concrete pads for storage and recurring placement of assets		10,000		12,000
<b>Driving Course</b>				
Regrade and repair 8 miles of semi-improved roadway (assumed 12-foot wide)				506,880
<b>TOTALS</b>	<b>26,351</b>	<b>146,150</b>	<b>796,250</b>	<b>8,056,240</b>

### 2.3 SELECTION STANDARDS FOR ALTERNATIVE SCREENING

Consistent with DoD NEPA implementing procedures, selection standards were developed to establish a means for determining the reasonableness of an alternative to the Proposed Action and whether an alternative should be carried forward for further analysis in the EA. Potential alternatives to the Proposed Action were evaluated based on universal selection standards, which were applied to all alternatives. The following selection standards meet the purpose of and need for the Proposed Action and were used to identify reasonable alternatives for analysis in the EA. The alternative must:

- support RADR training to include expanding the current training airfield (750 feet x 150 feet) by an additional 2,000 feet, 48 vehicles to execute RADR operations, and storage facilities in which to store the equipment;
- be located within the feasible construction proximity (30-minute drive or less) of the 820 RHS, located at Nellis;
- contain at least 205 acres of developable land to fit all training components, including the mock air strip, in one location; and
- be located within an area that is accessible by existing roads.

Based on these selection standards, three reasonable alternatives were identified for evaluation.

## 2.4 ALTERNATIVES RETAINED FOR DETAILED ANALYSIS

### 2.4.1 Alternative 1 (Proposed Action)

Camp Cobra is an existing contingency training area located approximately 2 miles east-northeast of the north end of the main runway at Nellis AFB (see **Figure 1-1**). The camp is located within Area II of Nellis AFB and comprises approximately 54 acres of disturbed and developed area. Camp Cobra contains a number of austere structures and is used for realistic training to simulate conditions that the warfighter could encounter in combat. Alternative 1 proposes to establish and operate a training platform for combat support teams at Camp Cobra to train skills needed to construct, operate, protect, and recover an expeditionary airbase. The training location would be connected to a new 3,000-foot training airfield with taxiway system and would be augmented by an 8-mile driving course/foot patrol area on existing roads located outside of the Camp Cobra footprint (**Figure 2-1**).

The project consists of two main components.

- CSTR expansion with mock airfield, and
- driving course/foot patrol area.

Construction would occur over 2–3 years using a phased approach. The mock airfield would be completed within the first 6 months.

In addition to the development of the CSTR, this EA considers aspects of the training that have the potential to contribute to environmental impacts. As part of the training regimen, Alternative 1 includes range control and operational deconfliction for the following items:

- spectrum management;
- blanks and dye marking cartridges;
- propane-fed fire trainers;
- flares;
- smoke, tear gas, and other training analogs;
- ground burst simulators; and
- directed energy equipment (i.e., recovery of airbase denied by ordnance platform).

Although this EA considers environmental impacts associated with these requirements, precise numbers of training activities are unknown at this time. Each of the above-listed requirements would be employed only after deconfliction, coordination, and approval through the host wing.

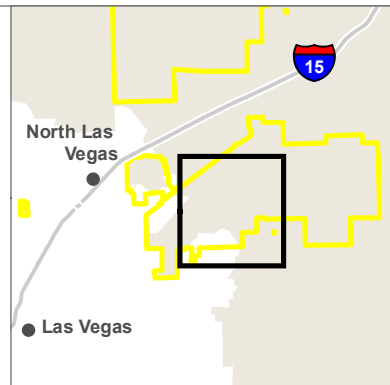


**FIGURE 2-1**  
Project Overview – Alternative 1

- ★ Connex Village
- Driving Course / Foot Patrol Roads
- Proposed Airfield Road
- Existing Ranges
- Proposed Airfield
- 100-Yard Foot Patrol Buffer



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



### 2.4.1.1 Combat Support Training Range Expansion with Mock Airfield

Under Alternative 1, Camp Cobra would be expanded by approximately 149 acres to create a 205-acre CSTR. The CSTR would be subdivided into six general use areas (GUAs) that support different functions of the training platform (**Figure 2-2**). For purposes of analysis, this is the defined Proposed Action area.

Alternative 1 would preserve and repurpose existing buildings and structures where appropriate and augment the existing buildings with new construction. The 820 RHS would construct the buildings, using “austere” construction methods, i.e., plain concrete blocks and prefabricated steel. Building renovations, demolitions, and repairs would follow asbestos and lead-based paint surveys.

A precise layout for the CSTR has not been developed; however, an approximate arrangement of the GUAs has been established along with a list of improvements proposed within each GUA. This EA assumes that the project design may fluctuate. So, rather than evaluating a specific design, the analysis focuses on the likely impacts of the known components, regardless of their arrangement. The GUAs are described as follows; the proposed improvements within each GUA are listed above in **Table 2-1**.

- **Site Support Area:** The Site Support Area would consist of developed space for administrative functions, classrooms, storage, and vehicle maintenance. This GUA would be approximately 9 acres and occupy the easternmost portion of the CSTR.
- **Contingency Beddown Area:** The Contingency Beddown Area would consist of graded space for lodging temporary duty assignment personnel and flexible training functions. The Contingency Beddown Area would be used for erecting temporary facilities and equipment to simulate contested operations. The Contingency Beddown Area would be approximately 31 acres and be located adjacent to the west end of the Site Support Area.
- **Mock Village Area:** The Mock Village Area would consist of approximately 14 acres of graded space capable of being repeatedly reconfigured to create tactical training areas for host-nation engagement and urban operations.
- **Airfield Training Area:** The Airfield Training Area would be utilized as a mock airfield consisting of 3,000 feet of runway, taxiways, and ramps. This GUA would be approximately 18.5 acres and be located on previously disturbed land within the expanded CSTR footprint.
- **Logistics Area:** The Logistics Area would be used for storage and flexible training functions. This GUA would be approximately 33 acres and located on previously disturbed land within the expanded CSTR footprint.
- **Graded Contingency Training Area:** The CSTR would consist of approximately 97.5 acres of graded space used for flexible training functions. This GUA would be located on previously disturbed land within the expanded CSTR footprint.

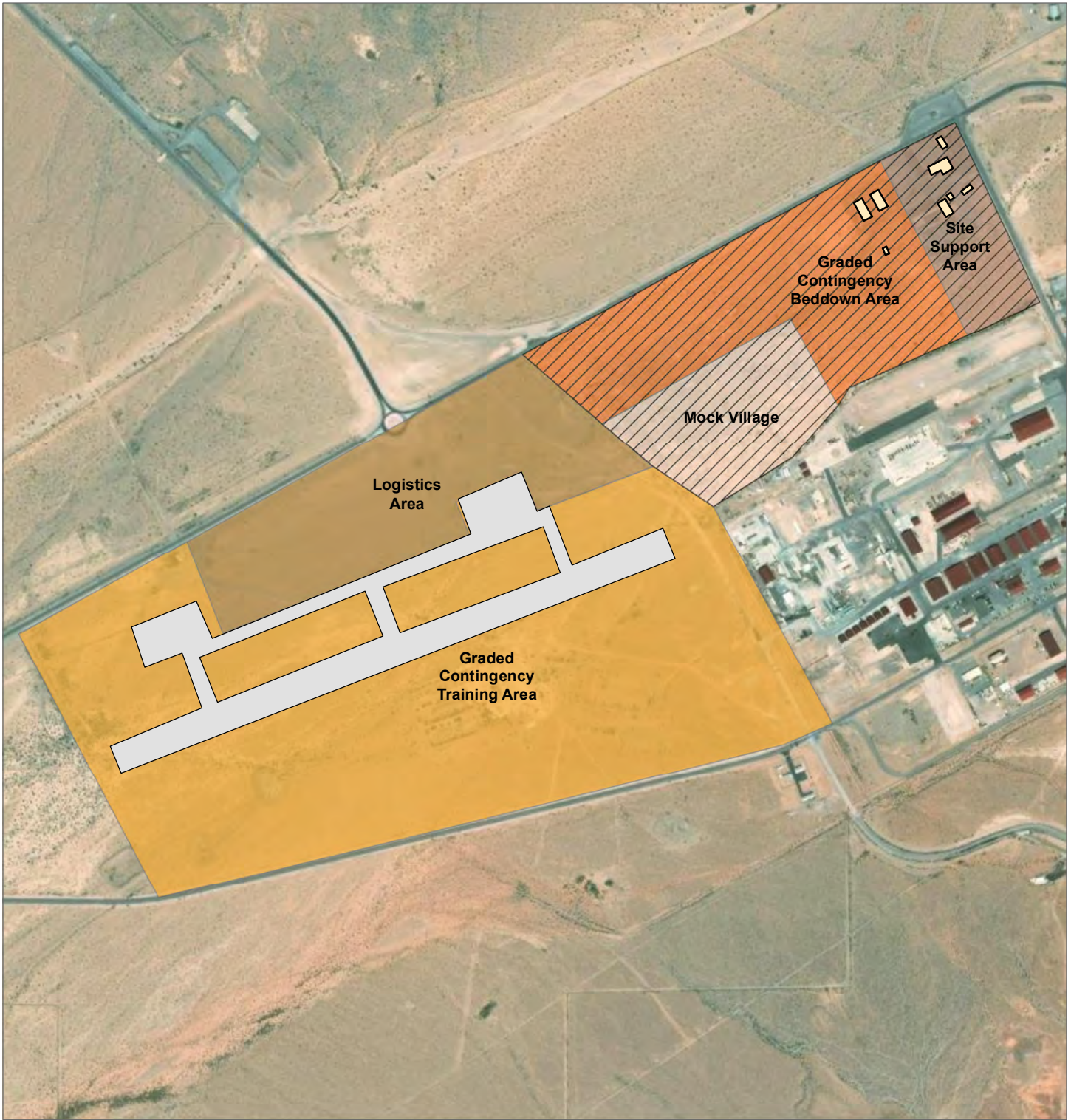
### 2.4.1.2 Driving Course and Foot Patrol Area

Under Alternative 1, the CSTR would become the starting point for a road driving course that exits the northeastern corner of the CSTR and forms an approximately 8-mile loop to the east (see **Figure 2-1**). The driving course would be routed along existing gravel roads and would pass through specific locations along the route that are identified for training on ambushes and opposing force engagement. These training locations would be created through the placement of shipping containers (i.e., Conex boxes) arranged as Conex “villages” to simulate conditions in the field. Driving operations would occur at speeds exceeding 35 miles per hour and up to 50 miles per hour.









The existing roads are currently in disrepair and, in some places, completely washed out. As such, the entire 8-mile-long driving course would require regrading and repair prior to use, as defined in **Table 2-1**.

Alternative 1 would include establishment of a foot patrol area within a 100-yard buffer on either side of the driving course. This space would be used by small teams to conduct simulated reconnaissance foot patrols in adverse terrain. No improvements or grading would be required within the foot patrol area.

The proposed driving course was determined to result in potentially significant impacts to biological resources (**Section 3.8.3.2**) and safety (**Section 3.13.3.2**). As a result, the driving course will not be carried forward in the FONSI as part of the Proposed Action.

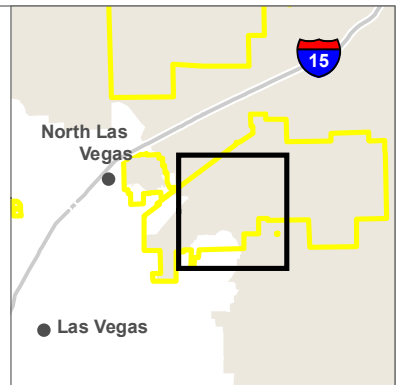


**FIGURE 2-2**  
Proposed CSTR Footprint and General Use Areas

- |  |   |
|--|---|
|  Buildings to be repurposed       |  Logistics Area                  |
|  Existing Camp Cobra              |  Mock Village                    |
|  Graded Contingency Beddown Area  |  Proposed Airfield Training Area |
|  Graded Contingency Training Area |  Site Support Area               |



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



## 2.4.2 No Action Alternative

NEPA regulations require evaluation of the No Action Alternative under NEPA. The No Action Alternative serves as a baseline for evaluating the impacts of the Proposed Action and Alternatives.

Under the No Action Alternative, the proposed training area would not be constructed and readiness would be severely impacted. Nellis AFB would continue to lack the infrastructure and equipment required to facilitate robust combat support training exercises. Furthermore, the DAF would not meet the 2020 AFCEC requirement to establish a Civil Engineer CSTR location within a 10-hour drive from all CONUS installations and the western CONUS would continue to lack the capacity to meet combat support readiness throughput requirements.

## 2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The DAF considered two additional alternatives but eliminated them from further consideration because they do not meet selection standards for the Proposed Action as outlined in **Section 2.3** and summarized in **Table 2-2**. Programmatic land use planning and currently planned developments have limited the number of areas available for siting the Proposed Action. Due to these limitations, no other locations for siting the project were evaluated; thus, this EA analyzes the Proposed Action and the No Action Alternative.

**Table 2-2  
Comparison of Alternatives**

Alternative Actions	Selection Standard				Meets Purpose and Need
	1. Supports RADR training	2. Can be constructed by RHS	3. Fits all training component in one location	4. Accessible by existing roads	
<b>Alternative 1 (Proposed Action)</b>					
Develop entire CSTR in one location at the current Camp Cobra location.	Yes	Yes	Yes	Yes	Yes
<b>Alternative 2</b>					
Locate the mock airfield portion of the project near the exploded ordnance disposal range.	Yes	Yes	No	Yes	Yes
<b>Alternative 3</b>					
Do not construct mock airfield.	No	No	No	Yes	No

CSTR = Combat Support Training Range; RHS = RED HORSE Squadron

### 2.5.1 Alternative 2

Alternative 2 includes the same proposed construction, paving, grading, and training activities as Alternative 1 (see **Table 2-1**). Under Alternative 2, the mock airfield would be constructed in an alternative location approximately 2.75 miles east of the existing Camp Cobra property near the existing explosives ordnance disposal (EOD) range. Under Alternative 2, personnel, equipment, and supplies would need to be transported to the alternative location. Locating the mock airfield near the EOD range would require additional investment in infrastructure, as utility connections are insufficient near the EOD range, and the increased use of the road would result in additional wear and tear, thus requiring additional ongoing maintenance.

Under this alternative, the EOD range would become a shared space and the schedule for training activities would be coordinated with ordnance disposal. The 99th Civil Engineer Squadron, the party responsible for ordnance disposal, has primary control of the EOD range; as such, mock airfield training could only take place when ordnance disposal is not taking place.

This alternative was eliminated because it does not meet selection standard 3, because it would not accommodate all components of the Proposed Action, including the mock airfield, in one contiguous location.

### 2.5.2 Alternative 3

Alternative 3 includes the same proposed construction, paving, grading, and training activities as Alternative 1; however, the mock airfield would not be constructed. Mock airfield training would be conducted at a location off site from Nellis AFB. The exact location for conducting mock airfield training outside of Nellis AFB has not been identified; however, given the lack of facilities to complete such training, it is assumed that such a facility would need to be constructed in order for DAF to establish compliance with the 2020 AFCEC directive that civil engineering CSTR locations be located within a 10-hour drive from all CONUS locations.

Under this alternative, personnel that require mock airfield training would be transported to the off-site location if the travel distance is feasible under a single mobilization. If the distance between fragmented training capabilities is too far, personnel could be forced to complete mock airfield training during a second mobilization.

This alternative was eliminated because it does not meet selection standards 2 and 3 because it would place a hypothetical mock airfield outside of a 30-minute driving radius from the 820 RHS (standard 2) and would not accommodate all components of the Proposed Action, including the mock airfield, in one contiguous location (Standard 3).

## 2.6 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The potential impacts under the Proposed Action and No Action Alternative are summarized in **Table 2-3**. The summary is based on information discussed in detail in **Chapter 3** of this EA and includes a concise definition of the issues addressed and the potential environmental impacts associated with each alternative.

**Table 2-3  
Summary of Environmental Consequences**

Resource Area	Proposed Action	No Action Alternative
Land Use	Under the Proposed Action, limited development in Open Space A land use district would be expected to result in long-term, negligible, adverse impacts to land use compatibility.	Under the No Action Alternative, there would be no change to land use at Nellis AFB.
Earth Resources	Under the Proposed Action, long-term, moderate, adverse impacts to soils would have the potential to occur. These impacts would be minimized with BMPs during and post construction.	Under the No Action Alternative, there would be no change to earth resources at Nellis AFB.
Air Quality and Climate Change	Under the Proposed Action, short-term, minor-to-moderate adverse impacts to air quality would be anticipated to occur during construction as a result of an increase in emissions from construction. Ongoing operations of onsite generators would result in long-term, minor-to-moderate, adverse impacts to air quality for ozone precursor nitrogen oxides.	Under the No Action Alternative, no impacts to air quality would occur at Nellis AFB.
Water Resources	Under the Proposed Action, long-term, minor, adverse impacts to stormwater would have the potential to occur. These impacts would be minimized by BMPs during and post construction and design standards to manage increases in stormwater runoff and to limit opportunities for stormwater contamination.	Under the No Action Alternative, no impacts to water resources would occur at Nellis AFB.
Biological Resources	Under the Proposed Action, long-term, minor, adverse impacts to wildlife from grading and impacts to 151 acres of wildlife habitat from the CSTR development would occur. The Proposed Action likely would adversely affect the desert tortoise because approximately 143 acres of potential tortoise habitat	Under the No Action Alternative, no impacts to biological resources would occur at Nellis AFB.

Resource Area	Proposed Action	No Action Alternative
	<p>would be disturbed from CSTR development. These impacts would be mitigated through adherence to a 2023 PBO that allows for disturbance of potential tortoise habitat at Nellis AFB. The proposed operation of the driving course would exceed the speed limits identified in the PBO; therefore, placement of permanent exclusion fencing around the driving course would be required, impacting approximately 430 acres of tortoise habitat not included in the PBO. The driving course element of the Proposed Action could result in significant, adverse impacts to biological resources; therefore, the driving course will not be carried forward as part of the Proposed Action in the FONSI.</p>	
Cultural Resources	<p>The Proposed Action is unlikely to cause an adverse physical, visual, auditory, or atmospheric effect to architectural or archaeological resources within the APE. A precise layout for the CSTR has not been determined, and potential adverse effects to cultural resources could occur if the layout is altered. The Proposed Action would have the potential to result in minor, direct, adverse visual effects to cultural resources at Nellis AFB if the seven unevaluated structures within the APE were determined to be eligible for listing in the NRHP and were altered such that they became out of character for their architectural setting. Direct, adverse, physical effects could occur to the two unevaluated historic buildings and the one NRHP-eligible archaeological site in the project footprint if not avoided, depending on the results of ongoing SHPO consultation.</p>	<p>Under the No Action Alternative, no impacts to cultural resources would occur at Nellis AFB.</p>
Noise	<p>Under the Proposed Action, short-term, negligible impacts to the noise environment would be anticipated to occur during construction and mock airfield repair activities; however, no significant impact on the long-term noise environment at Nellis AFB would be anticipated to occur.</p>	<p>Under the No Action Alternative, no impacts to the noise environment would occur at Nellis AFB.</p>
Hazardous Materials and Wastes, Toxic Substances, and Contaminated Sites	<p>Under the Proposed Action, short-term, negligible, adverse impacts to petroleum products and long-term moderate, adverse impacts to the LF-7 ERP site would be anticipated to occur. Impacts would be mitigated through coordination with the Nevada Department of Environmental Protection.</p>	<p>Under the No Action Alternative, no impacts to hazardous materials and wastes would occur at Nellis AFB.</p>
Infrastructure, including Transportation and Utilities	<p>Under the Proposed Action, negligible, long-term, beneficial impacts would be expected to occur to transportation systems within the ROI from the improvements to roadways at the CSTR project site. Additionally, negligible-to-minor, adverse impacts to solid waste, sanitary sewer system, and potable water infrastructure would have the potential to occur during implementation of new connections.</p>	<p>Under the No Action Alternative, the beneficial impacts to transportation systems from the improvements to roadways at the CSTR project site would not occur. No impacts to infrastructure would occur at Nellis AFB.</p>
Safety and Occupational Health	<p>Under the Proposed Action, short-term, negligible, adverse impacts to ground safety would be anticipated to occur from development and operation of the CSTR. To minimize health and safety risks, ground operations and activities would adhere to all applicable occupational safety policies and procedures throughout construction and post-construction activities. In the absence of a risk assessment, the DAF conservatively assumed that improvements to and operation of the driving course potentially would result in significant, adverse impacts to explosives safety. Therefore, the</p>	<p>Under the No Action Alternative, no impacts to Safety and Occupational Health would occur at Nellis AFB.</p>

Resource Area	Proposed Action	No Action Alternative
	driving course will not be carried forward as part of the Proposed Action in the FONSI.	
Socioeconomics	Under the Proposed Action, long-term, negligible, beneficial impacts would be anticipated to occur to employment and population growth. Long-term, negligible, adverse impacts to educational resources would also be anticipated to occur with the arrival of new personnel and their dependents, which would have the potential to place further demands on educational resources within the ROI.	Under the No Action Alternative, long-term, negligible, adverse impacts to employment would be anticipated to occur because there would be no increase in temporary duty personnel spending money in the local community while in the area for training activities hosted at the proposed CSTR.
Protection of Children	Under the Proposed Action, no disproportionate impacts to children would be anticipated to occur.	Under the No Action Alternative, no impacts to children would be anticipated to occur at Nellis AFB.

APE = Area of Potential Effects; BMP = best management practice; CSTR = Combat Support Training Range; ERP = Environmental Restoration Program; NRHP = National Register of Historic Preservation; PBO = Programmatic Biological Opinion; ROI = Region of Influence; SHPO = State Historic Preservation Office

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## CHAPTER 3            EXISTING CONDITIONS AND ENVIRONMENTAL CONSEQUENCES

### 3.1    FRAMEWORK FOR ANALYSIS

To provide a framework for the analyses in this EA, the DAF defined a study area specific to each resource or sub-resource area. Referred to as a Region of Influence (ROI), these areas delineate a boundary where possible effects from the considered alternatives would have a reasonable likelihood to occur. Beyond these ROIs, potential adverse effects on resources would not be anticipated. For the purposes of analysis, potential effects are described as follows:

- **Beneficial**—positive effects that improve or enhance resource conditions
- **Adverse**—negative or harmful results
- **Negligible**—adverse effects likely to occur but at levels not readily observable by evaluation
- **Minor**—observable, measurable, tangible adverse effects qualified as below one or more significance threshold(s)
- **Moderate**—tangible effects that are readily apparent, qualified as below one or more significance threshold(s)
- **Significant**—obvious, observable, verifiable adverse effects qualified as above one or more significance threshold(s); not mitigable to below significance

When relevant to the analyses in this EA, potential effects are further defined as direct or indirect; short- or long-term; and temporary, intermittent, or permanent.

To determine the potential for “significant” effects under the Proposed Action, the DAF defined impact thresholds to support the analyses in this EA. Based upon the nature of the Proposed Action and the affected environment, both qualitative and quantitative thresholds were used as benchmarks to qualify effects. Further, each resource analysis section (i.e., **Sections 3.4–3.15**) concludes with a cumulative effects analysis that considers the effects on the environment that result from the incremental effects of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions at Nellis AFB; no non-DAF actions were identified to demonstrate this consideration. **Table 3-1** summarizes past, present, and reasonably foreseeable future actions at Nellis AFB considered in the cumulative effects evaluations.

### 3.2    RESOURCES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The DAF considered but eliminated from further analysis airspace management because the Proposed Action would not directly impact airspace or flight operations.

### 3.3    RESOURCES CARRIED FORWARD FOR DETAILED ANALYSIS

The DAF considered Nellis AFB and its environs as the ROI for each environmental resource. None of the projects under the Proposed Action would occur outside the boundaries of Nellis AFB. The following resources were carried forward for analysis: land use; earth resources; air quality and climate change; water resources; biological resources; cultural resources; noise; hazardous materials and waste, toxic substances, petroleum products, and contaminated sites; infrastructure, including transportation and utilities; safety and occupational health; socioeconomics; and protection of children.

**Table 3-1  
Past, Present, and Reasonably Foreseeable Actions**

Name	Description	Timeframe	Approximate Distance from Base
Master Plan and Installation Development at Nellis AFB (Nellis AFB, 2025a)	Development of the east side of Nellis AFB.	Active NEPA (timeframe 5–10 years)	On Nellis AFB
Final Environmental Assessment for the Beddown of Tactical Air Support Squadron (TASS) at Nellis AFB (Nellis AFB, 2017a)	Stand up the TASS by transferring and assigning up to 16 F-16C aircraft and increasing installation population. Expanding the east side of the existing ramp and the live ordnance loading area. Construct new support and maintenance facilities and a new headquarters.	Past	On Nellis AFB
Completed Military Construction (MILCON) Projects	The completed construction of a new Combat Rescue Simulator (7,726 ft <sup>2</sup> ); new Joint Simulation Environment Facility (50,590 ft <sup>2</sup> ); new Joint Simulation Environment Facility (50,590 ft <sup>2</sup> ); a new facility for the 365th Intelligence, Surveillance, & Reconnaissance (70,451 ft <sup>2</sup> ) and demolition of B-69, B-470, and B-474; and construction of a new F-35A Munitions Assembly Conveyor Facility, including a sunshade (15,000 ft <sup>2</sup> ), concrete pad (60,000 ft <sup>2</sup> ), and administration building (546 ft <sup>2</sup> ).	Past	On Nellis AFB
Final Environmental Assessment for Nellis Reclaimed Waterline Project (Greeley and Hansen, 2017)	The construction of a City of North Las Vegas Water Reclamation Facility (CNLV-WRF) with a pipeline between the CNLV-WRF and the Sunrise Vista Golf Course to use reclaimed water to irrigate the golf course.	Past	On Nellis AFB
Final Environmental Assessment for Addition of F-35 Joint Strike Fighters, Addition of F-22A Raptors and Contract Adversary Air (Nellis Aggressor EA) (Nellis AFB, 2021)	Adding 17 F-35 Joint Strike Fighter aircraft and three F-22A to provide squadron support and increase personnel.	Ongoing	On Nellis AFB
Final Environmental Assessment for Installation Development (Nellis IDP EA) (Nellis AFB, 2024)	Implementing a total of 32 construction, renovations, infrastructure and demolition projects over a 6-year period.	Beginning FY 2025	On Nellis AFB
Collaborative Contract Aircraft (CCA) Experimental Operations Unit (EOU) Beddown	Beddown up to 40 personnel using existing facilities at Nellis AFB to support to EOU CCA, primarily to occur at Creech AFB but would have a footprint at Nellis AFB.	Future date to be determined	On Nellis AFB
Clark County Regional Flood Control District Confluence Detention Basin Expansion (CCRFCD, 2024c)	CCRFCD proposes to expand the regional confluence detention basin to 1,945 acre-feet and extend the existing stormwater conveyance into the southwestern portion of the installation to meet the expanded detention basin.	Beginning FY 2028	On Nellis AFB

ACC = Air Combat Command; AFB = Air Force Base; NEPA = National Environmental Policy Act

## 3.4 LAND USE

### 3.4.1 Definition of Resources

The term “land use” refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified in local zoning laws; however, no nationally recognized convention or uniform terminology has been adopted for describing land use categories. As a result, the meanings of various land use descriptions, labels, and definitions vary among jurisdictions. The Installation Development Plan (IDP) is Nellis AFB’s planning tool to guide future development on the installation to be aligned with current and programmed mission requirements. Goals and objectives of land use planning are to maintain mission readiness; achieve and maintain compliance with operational, safety, environmental, energy, and security regulations and requirements; maximize functional capabilities through the utilization and adaption of existing areas; incorporate Leadership in Energy and Environmental Design guidelines; achieve environmental compliance through reduction of the installation environmental footprint; and foster awareness of the installation by community stakeholders (Nellis AFB, 2018).

The ROI for land use is Nellis AFB and its environs.

### 3.4.2 Existing Conditions

Nellis AFB is located northeast of the city of Las Vegas in Clark County, Nevada. It occupies approximately 16,439 acres of land and is divided into three areas: Area I (the main installation), Area II, and Area III. Area I is located east of Las Vegas Boulevard and contains 31 percent of the total installation land area. Area I has the greatest variety of land use activities, including runways, industrial facilities, housing areas, and most of the installation’s administrative, training, and support facilities. Area II is located northeast of Area I and accounts for 62 percent of the total installation land area. Most of Area II is undeveloped acreage, and its developed portions are primarily occupied by the 801 RED HORSE Training Squadron, 820 RED HORSE Squadron, 57th Munitions Squadron, and 58th Rescue Squadron. The Proposed Action area is located in Area II. Area III, west of Las Vegas Boulevard, makes up 7 percent of the total installation land area and includes the majority of installation family housing units and recreational facilities.

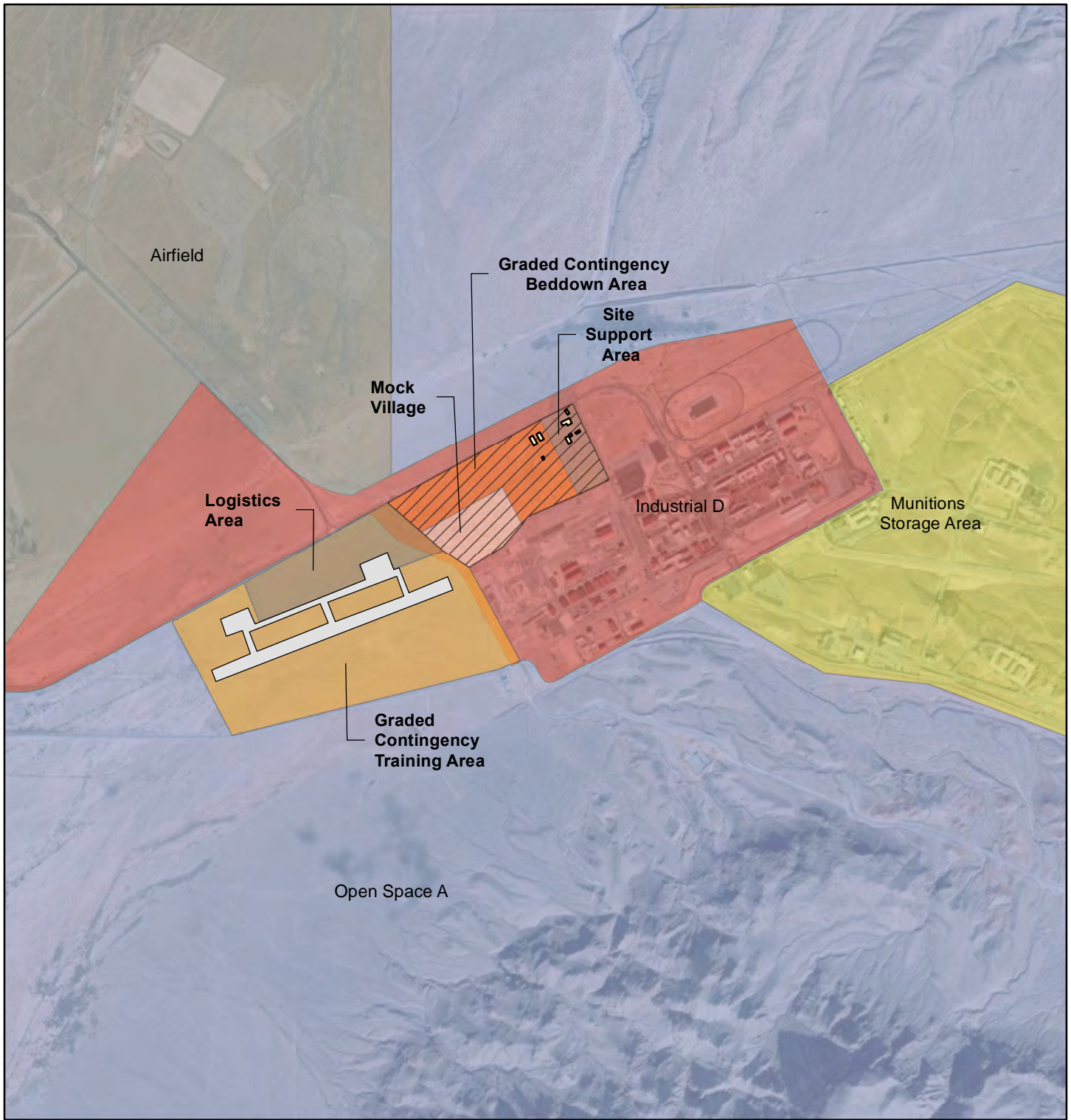
There are 12 land use districts at Nellis AFB: Airfield; Housing/Community A; Housing/Community B; Industrial A; Industrial B; Industrial C; Industrial D; Munitions Storage Area (MSA); Open Space A; Open Space B; Open Space C; and Small Arms Range. Land use categories within the land use ROI include Industrial D, MSA, and Open Space A (**Figure 3-1**).

Land on Nellis AFB within the Industrial D land use district is insulated in location and surrounded by wild terrain. This area is capable of supporting specialized training, such as combat operations and installation readiness. Only 2 percent of the land on Nellis AFB falls under this designation, though the demand for this district has been growing (Nellis AFB, 2018).

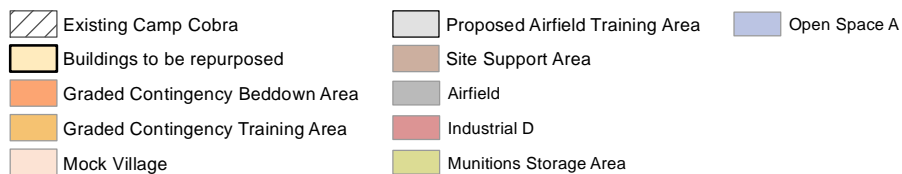
Land on Nellis AFB within the MSA land use district is the primary mission storage, maintenance, and assembly area for the installation. Development in areas designated as MSA is limited due to explosive safety quantity distance (ESQD) arcs. Only 5 percent of the land on Nellis AFB falls under this land use district (Nellis AFB, 2018).

Land on Nellis AFB within the Open Space A land use district serves as a buffer for MSA land use areas. Land in this district is largely preserved as open space with limited development opportunities due to DAF’s goal of continued preservation of these areas in addition to the presence of ESQD arcs. This is the land use district with the most land on Nellis AFB, and comprises approximately 26 percent of the land on the installation (Nellis AFB, 2018).

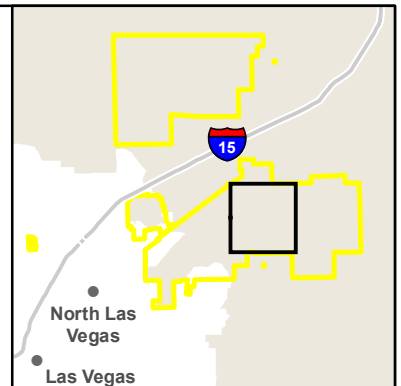
To address land use with respect to noise, an Air Installation Compatible Use Zone (AICUZ) report was developed for Nellis AFB in 2017 (Nellis AFB, 2017b). Aviation easements guide land use around the installation to applications that are compatible with an operational AFB and the AICUZ Program. An AICUZ report typically includes land use guidelines that help determine development in the neighboring jurisdictions. See **Section 3.10.2** for a detailed description of the existing noise environment and **Section 3.13.2** for a description of the Nellis AFB safety zones.



**FIGURE 3-1**  
**Land Use**



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



### 3.4.3 Environmental Consequences

#### 3.4.3.1 Evaluation Criteria

Potential impacts to land use are based on the level of land use sensitivity in areas potentially affected by a proposed action as well as compatibility of the action with existing conditions. In general, a land use impact would be adverse if it meets one of the following conditions:

- is inconsistent or noncompliant with existing land use plans or policies,
- precludes the viability of existing land use,
- precludes continued use or occupation of an area,
- is incompatible with adjacent land use to the extent that public health or safety is threatened, or
- conflicts with planning criteria established to ensure the safety and protection of human life and property.

A significant impact on or from land use within the ROI would occur if the Proposed Action results in the following:

- land use that would discontinue or substantially change existing or adjacent land use; and/or
- land use that would be inconsistent with applicable management plans, policies, regulations, and ordinances.

#### 3.4.3.2 Proposed Action

The Contingency Beddown Area, Site Support Area, and Mock Village Area would be located on land designated as Industrial D to the southeast of O'Bannon Road. Projects under the Proposed Action occurring on land designated as Industrial D would support specialized training and installation readiness and are consistent with the current land use. No changes to the Industrial D district would occur. Therefore, no impacts to land use in the Industrial D district would be anticipated with implementation of the Proposed Action.

The existing driving course is located on land designated as MSA. The proposed improvements to the driving course would occur on previously established, semi-improved roadway and no changes to land use in the MSA district would occur. Therefore, no impacts to the land use in the MSA district would be anticipated with implementation of the Proposed Action.

The Airfield Training Area, Logistics Area, and Graded Contingency Training Area would be located on land designated as Open Space A. Projects at the Airfield Training Area would result in minimal development and would maintain the presence of open space. Projects in the Logistics Area and Graded Contingency Area include roadways, concrete pads, graded space, and semi-improved surfaces (see **Table 2-1**). Under the Proposed Action, the land in these areas would remain minimally developed. Long-term, negligible, adverse impacts to land use in the Open Space A district would be expected to occur with implementation of the Proposed Action due to minimal development taking place in the open space that currently exists.

Construction, paving, and grading activities associated with the Proposed Action would occur entirely within the existing boundaries of Nellis AFB. The projects that would occur under the Proposed Action would be implemented in areas that have been previously disturbed. Overall, the Proposed Action would be expected to result in long-term, negligible, adverse impacts to land use compatibility. There would be no changes to existing land use under the Proposed Action.

#### 3.4.3.3 No Action Alternative

Under the No Action Alternative, the proposed training area at Nellis AFB would not be constructed. DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness throughput requirements. There would be no changes to land use in the ROI beyond baseline conditions.

#### **3.4.3.4 Cumulative Impacts**

The Proposed Action would be consistent with the current land use. The Proposed Action would neither change existing land use nor affect future adjacent land use. Projects identified in **Table 3-1** involve the construction, renovation, and demolition of facilities within Nellis AFB.

Implementation of the Nellis Master Plan and installation development projects would be anticipated to result in long-term, moderate impacts to land use. The land use designation for the majority of the 1,261 acres of land involved with that proposed action would permanently change from open space to other developed uses.

When considered in conjunction with the effects of past, present, and reasonably foreseeable actions at Nellis AFB, moderate, adverse effects to land use resources would be anticipated to occur with implementation of the Proposed Action.

### **3.5 EARTH RESOURCES**

#### **3.5.1 Definition of the Resource**

Earth resources consist of surface and subsurface materials and their properties. Soils are the unconsolidated materials overlying bedrock or other parent material. Soils are typically described in terms of their complex type, slope, and physical characteristics. Differences among soil types in terms of their structure, elasticity, strength, shrink-swell potential (the extent certain clay materials will enlarge when wet and shrink when dry), and erosion potential affect their abilities to support certain applications or uses. Soil properties must be examined for their compatibility with particular activities or types of land use. Beneficial use of earth resources can vary widely based on the location and its existing geological features.

The ROI for earth resources is the Proposed Action area.

#### **3.5.2 Regulatory Setting**

For surface disturbances involving grading in Clark County, a developer must obtain a grading or building permit from Clark County Department of Public Works. Grading plan submittals are reviewed by Clark County's Department of Public Works to verify compliance with applicable codes and ordinances. Grading permits would not be issued until all requirements are met and the plan has been approved, including any geotechnical and stormwater pollution prevention documentation required (Clark County, 2024b).

#### **3.5.3 Existing Conditions**

##### **3.5.3.1 Regional Geology**

Nellis AFB is located within the physiographic area known as the Basin and Range Province in the southwestern portion of the US. This area was formed as a result of tectonic extension that created normal faults oriented north to south, resulting in north-to-south-oriented mountain ranges separated by valleys or basins filled with alluvial deposits (loose clay, gravel, sand, or silt deposited by running water or similar setting). Nellis AFB is adjacent to the Lake Mead Recreational Area, which acts as a natural divide between the northern and southern portions of the Basin and Range Province (National Park Service, 2020). The mountain ranges surrounding Nellis AFB primarily consist of limestone with portions of sandstone, shale, dolomite, gypsum, and interbedded quartzite. The alluvial deposits found within the ROI are composed of poorly sorted gravelly, cobbly, and stony sand deposits in the upper reaches that grade to finer textured material toward the valley floors. Basin floors are depositional areas of late-laid silt and clay and younger alluvial deposits. Most of these alluvial deposits have been transported by water and deposited on the sloping basin floors of the floodplains (Nellis AFB, 2019c).

##### **3.5.3.2 Topography**

Topography is characterized by the natural and physical representation of an area. Nellis AFB is situated in a topographic depression, lying northeast of the city of Las Vegas, Nevada. The installation and adjacent areas are part of two major desert regions of the US—the Mojave Desert and the Great Basin Desert (Nellis, 2018a). As part of the Las Vegas Valley, Nellis AFB is located at the base of Sunrise Mountain (to the east)

and the Spring Mountains (to the west). The ROI drains to the southwest; elevation of the ROI ranges from 1,885 feet in the southwestern corner up to 1,940 feet in the northeastern corner (US Geological Survey, 2024).

### 3.5.3.3 Soils

Nellis AFB sits atop alluvial fans and deposits with soils consisting of silty sands. These soils were formed by the erosion of the Las Vegas Mountain Range to the north and the peaks of Sunrise Mountain and Frenchman’s Peak to the east-southeast (Nellis AFB, 2018). In the foothills of Sunrise Mountain and Frenchman’s Peak, silty sands give way to carbonate rocks.

The soil types within the ROI are summarized in **Table 3-2** and illustrated in **Figure 3-2**. Soil types within the ROI include Weiser-Wechech soil association, which comprises 57 percent of the ROI, Upperline-St. Thomas-Upperline association (24 percent), Wechech-Weiser association (12.9 percent), glencarb very fine sandy loam/saline (2.9 percent), and Wechech-lfteen association (2.9 percent). The Weiser-Wechech association, glencarb very fine sandy loam, and Wechech-Weiser association are characterized by low-to-moderate slopes (0–8 percent), while the Wechech-lfteen association Weiser-Wechech and Upperline-St. Thomas-Upperline association are characterized by moderate-to-high slopes (4–30 percent). Soil characteristics discussed in this section were obtained from the [US Department of Agriculture Soil Survey Geographic Database](#).

**Table 3-2**  
**Soil Types Within the ROI**

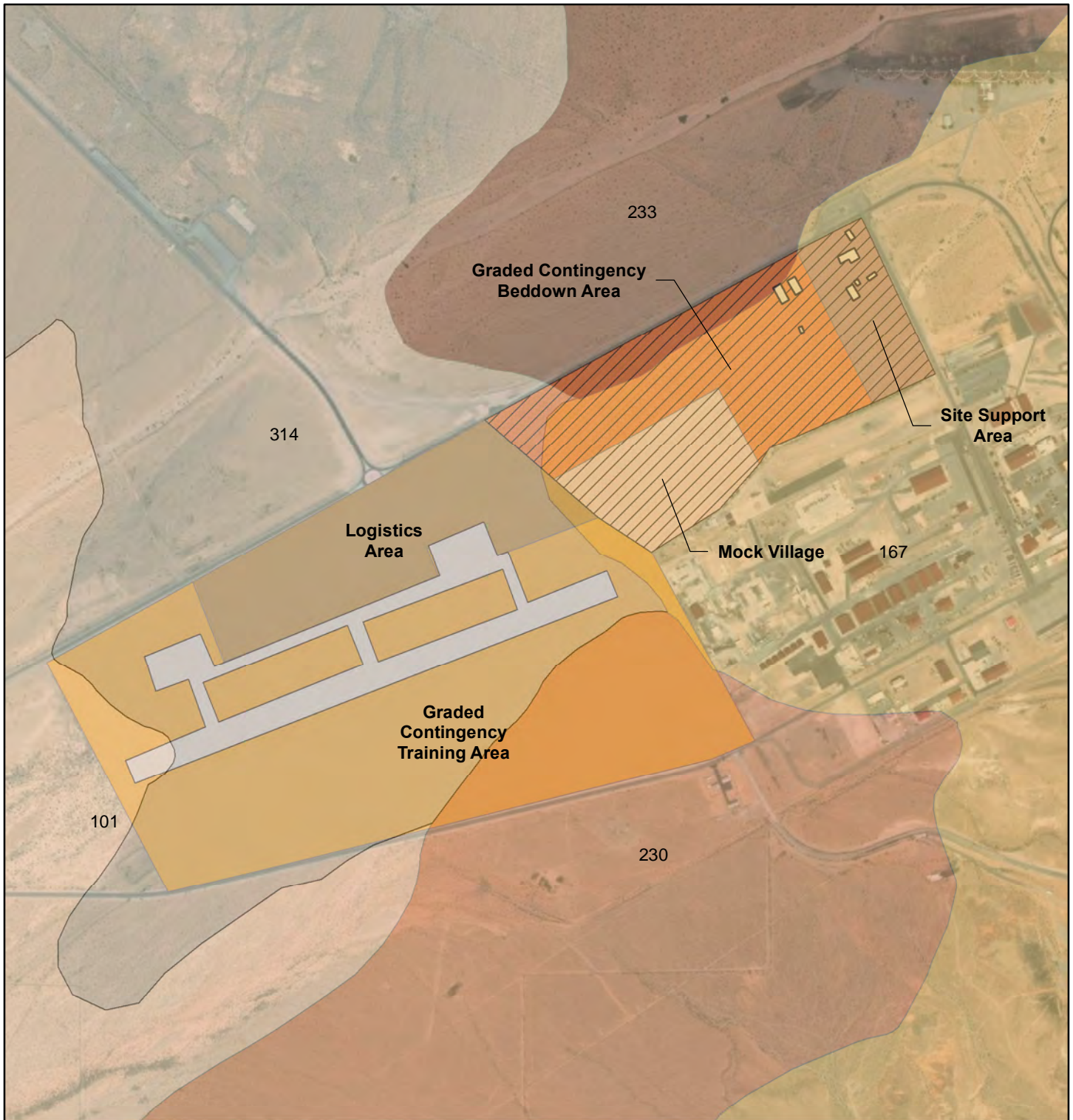
Map Unit Symbol	Name	Slope (%)	Acres in ROI	Percent of ROI (%)	Runoff Potential
hqwm	Weiser-Wechech association	2–8	117.2	57.2	Low
hr24	Upperline-St. Thomas-Upperline association	8-30	49.4	24.1	Medium
hqvz	Wechech-Weiser association	2–8	26.4	12.9	Very High
1qq9c	Glencarb very fine sandy loam	0–2	5.9	2.9	Low
Hr2w	Wechech-lfteen association	4-15	5.9	2.9	Very High

Source: [US Department of Agriculture Soil Survey Geographic Database](#)  
ROI = Region of Influence














The Weiser-Wechech association soil type is found throughout the central portion of the ROI. This soil type occurs within alluvial fan remnants and has a soil profile typically consisting of extremely gravelly fine sandy loam from 0 to 6 inches below ground surface (bgs), followed by extremely gravelly sandy loam from 6 to 60 inches bgs. This soil type is considered to have low runoff potential and is well drained. Weiser-Wechech association has a calcium carbonate content of up to 40 percent. It is considered to be non-saline to very slightly saline.

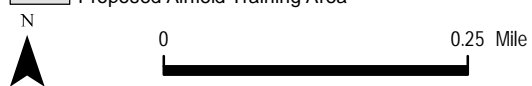
The Upperline-St. Thomas-Upperline association soil type is found mostly on the eastern portion of the ROI. This soil type includes rock pediments and hill landforms with a soil profile typically consisting of very gravelly sandy loam from 0 to 39 inches bgs, followed by bedrock from 39 to 60 inches bgs. This soil type is considered to have a medium potential for runoff.

The Wechech-Weiser association soil type is found mostly along the southeastern portion of the ROI. This soil type occurs within an alluvial fan remnants landform with a soil profile typically consisting of very gravelly sandy loam from 0 to 13 inches bgs, followed by cemented material from 13 to 60 inches bgs. The cemented material is a petrocalcic soil that is formed when secondary calcium carbonate or other carbonates accumulate in the subsoil to the extent that the soil becomes cemented into a hardpan (hardened impervious). The depth to this restrictive layer can vary from 8 to 14 inches bgs. This soil type is considered to have a very high runoff potential largely due to the restrictive cemented hardpan layer. The very high runoff potential of this and similar soils found on Nellis AFB contributes to the potential for flash flooding, as the soils are not able to effectively absorb precipitation, driving the need for stormwater infrastructure on the installation despite low rainfall (Nellis AFB, 2019).

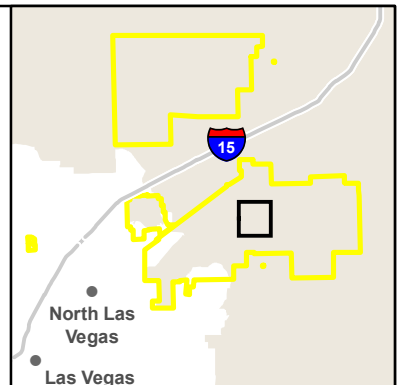


**FIGURE 3-2**  
**Soils**

- |  |  |
|--|--|
|  Existing Camp Cobra              |  Site Support Area                              |
|  Buildings to be repurposed       |  101 Glencarb very fine sandy loam, saline      |
|  Graded Contingency Beddown Area  |  167 Upperline-St. Thomas-Upperline association |
|  Graded Contingency Training Area |  230 Wechech-Weiser association                 |
|  Logistics Area                   |  233 Wechech-Ifteen association                 |
|  Mock Village                     |  314 Weiser-Wechech association                 |
|  Proposed Airfield Training Area  |  |



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



The glencarb very fine sandy loam soil type is found mostly along the western portion of the ROI. This soil type occurs within an alluvial flats landform with a soil profile typically consisting of very fine sandy loam from 0 to 6 inches bgs, followed by stratified very fine sandy loam to silty clay loam from 6 to 60 inches bgs. This soil type is considered to have low runoff potential and is well drained. Glencarb very fine sandy loam has a calcium carbonate content of up to 60 percent and a gypsum content of up to 5 percent and is considered to be moderately saline to strongly saline.

The Wechech-Iftteen association soil type is found mostly along the northeast portion of the ROI. This soil type occurs within an alluvial fan remnants landform with a soil profile typically consisting of loamy fine sand from 0 to 3 inches bgs, followed by very gravelly sandy loam from 3 to 13 inches bgs, followed by cemented material from 13 to 60 inches bgs. The cemented material is a petrocalcic hardpan. The depth to this restrictive layer can vary from 8 to 14 inches within this soil type. This soil type is considered to have a very high runoff potential largely due to the restrictive cemented hardpan layer.

### **3.5.4 Environmental Consequences**

#### **3.5.4.1 Evaluation Criteria**

Potential adverse impacts to earth resources would occur if the Proposed Action:

- substantially alters the unique or valued geologic or topographic conditions;
- substantially erodes soil, sedimentation, and/or loss of natural function (e.g., compaction);
- alters geological structure that affects underlying aquifer systems; or
- develops on soils with characteristics that do not support the intended land use.

Significant impacts to earth resources would occur if the underlying topography, soil composition, or geology was altered such that the function of these resources would change irreversibly, resulting in impacts to the broader environment.

#### **3.5.4.2 Proposed Action**

##### **Geology**

Implementation of the Proposed Action would result in short-term, minor, adverse impacts to the existing geology of Nellis AFB. Under the Proposed Action, up to 20 acres of the Proposed Action area would be covered with impervious surfaces and up to 200 additional acres would be graded. Grading would result in minor, short-term impacts to existing stormwater management infrastructure including artificial ponds and onsite reservoirs. However, the stormwater management infrastructure would be replaced with ponds or stormwater detention basins similar to those that were removed. Proper construction practices, erosion-control measures, and structural engineering design incorporated during the development of the CSTR would minimize these short-term impacts. Any substantial changes that affect stormwater ponds in the project area would follow requirements in Nellis AFB Storm Water Management Plan (Nellis AFB, 2022b). The project must meet all federal design requirements for stormwater management and retention. Overall, there would be no long-term impacts to underlying aquifer systems from changes to groundwater infiltration or groundwater recharge from changes to the existing geology under the Proposed Action.

##### **Topography**

Implementation of the Proposed Action would result in long-term, minor, beneficial impacts to the existing topography of Nellis AFB. Under the Proposed Action, up to 20 acres of the Proposed Action area would be covered with impervious surfaces and up to 200 additional acres would be graded. The grading would result in changes in topography, including changes to the existing stormwater ponds and reservoirs. However, the site grading would be completed to include restoration of stormwater management infrastructure and improved infrastructure to support the use of the site for training activities. Grading would follow requirements in the *Nellis AFB Storm Water Management Plan* (Nellis AFB, 2022b). The project must meet all federal design requirements for stormwater management and retention. Such grading would change the site over the long term. Overall, these changes would be anticipated to result in long-term, minor, and beneficial impacts.

## **Soils**

Under the Proposed Action, up to 20 acres of the Proposed Action area would be covered with impervious surfaces and up to 200 additional acres would be graded. Soil disturbance increases the potential for soil erosion and sedimentation to occur during a significant rainfall event. Approximately 15 percent of soils within the ROI are considered to have very high runoff potential. Therefore, disturbance of these soils would have the potential to contribute to increased erosion and sedimentation during rainfall events.

Implementation of the Proposed Action would result in long-term, moderate, adverse impacts to soils. These impacts would be minimized through the use of best management practices (BMPs) during and post construction as well as design standards to manage increases in stormwater runoff and to limit opportunities for sedimentation and erosion. Grading would follow requirements in the *Nellis AFB Storm Water Management Plan* (Nellis AFB, 2022b), as well as guidance from the Las Vegas Valley Stormwater Quality Management Committee (Las Vegas, 2009). The following BMPs would be implemented during site grading activities:

- Use temporary dikes, swales, and/or pipe slope drains to divert or intercept stormwater before it reaches long and/or steep slopes.
- Release captured stormwater at a slow and controlled rate to prevent damage to downstream drainage ways and structures.
- Install check dams in unlined drainage channels to slow runoff velocity and encourage settlement of sediments.
- Direct sediment-laden stormwater to temporary sediment traps and basins via berms or channels.
- Construct temporary sediment traps or basins at the drainage outlet for the site. When more than one basin is required due to the size of the site, construct these basins to operate in parallel.

Excavating medium hard-to-hard hardpan soils within the ROI may require a heavy-duty excavator or trencher or a dozer with the equivalent excavating characteristics of a Caterpillar D-10 with ripper. Excavation of hard-to-very hard and/or very hard cemented materials may require a dozer with the equivalent excavating/ripping characteristics of a Caterpillar D-11 (Geotechnical & Environmental Services, Inc., 2022). Use of the proper equipment would be required to overcome operational challenges associated with hardpan soil excavation.

### **3.5.4.3 No Action Alternative**

Under the No Action Alternative, the proposed training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness throughput requirements. There would be no changes to earth resources in the ROI beyond baseline conditions.

### **3.5.4.4 Cumulative Impacts**

Implementation of the Proposed Action would be anticipated to result in long-term, minor, adverse impacts to earth resources. Several of the projects list in **Table 3-1** include grading or construction projects of various size and scale within or in the vicinity of the Proposed Action area. Disturbance of these soils would have the potential to contribute to increased erosion and sedimentation during rainfall events. Implementation of the Nellis Master Plan and installation development projects would result in the addition of up to 1,480 acres of impervious surfaces and additional acreage would be graded. The TASS beddown action included expansion of the ramp space and live ordnance loading area on the east side of the airfield to accommodate additional aircraft (11.5 acres and 7 acres, respectively). The Nellis Reclaimed Waterline Project involved 12,100 linear feet of waterline trenching and associated grading and soil disturbance. Completed MILCON projects included the addition of approximately 204,313 ft<sup>2</sup> of new impervious surfaces and also resulted in soil disturbance from grading and excavation activities. The impacts to earth resources from these projects were considered moderate because of the associated scale of the grading, trenching, and soil disturbance.

When considered in conjunction with the effects of past, present, and reasonably foreseeable actions at Nellis AFB, long-term, minor, adverse cumulative effects to earth resources would be anticipated to occur with implementation of the Proposed Action.

## 3.6 AIR QUALITY AND CLIMATE CHANGE

### 3.6.1 Definition of the Resource

Ambient air quality refers to the atmospheric concentration of a specific compound (amount of pollutants in a specified volume of air) that occurs at a particular geographic location. Air pollution is a threat to human health and damages trees, crops, other plants, waterbodies, and animals. It creates haze or smog that reduces visibility in national parks and cities and interferes with aviation. To improve air quality and reduce air pollution, Congress passed the *Clean Air Act* ([42 USC § 7401](#) et seq., as amended) (CAA), which set regulatory limits on air pollutants and help to ensure basic health and environmental protection from air pollution.

The USEPA has divided the country into geographical regions known as air quality control regions to evaluate compliance with the National Ambient Air Quality Standards (NAAQS). Nellis AFB is in the Las Vegas Intrastate Air Quality Control Region (LVIAQCR) ([40 CFR § 81.80](#)), which serves as the ROI for the Proposed Action.

#### 3.6.1.1 Criteria Pollutants

Air quality is defined by ambient concentrations of specific air pollutants that the USEPA has determined may affect the health or welfare of the public (USEPA, 2024a). The CAA requires USEPA to set NAAQS for commonly found air pollutants known as criteria air pollutants. These are pollutants the USEPA determined can affect the health or welfare of the public (USEPA, 2024a) and include ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, inhalable particulate matter (PM<sub>10</sub>), fine inhalable particulate matter (PM<sub>2.5</sub>), and lead.

Ozone is not usually emitted directly into the air but is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants, or “ozone precursors.” These ozone precursors consist primarily of nitrogen oxides and volatile organic compounds that are directly emitted from a wide range of emission sources. For this reason, regulatory agencies limit atmospheric ozone concentrations by controlling volatile organic compound pollutants (also identified as reactive organic gases) and nitrogen oxides.

**Table 3-3** shows the specific concentration limits (primary and secondary) for each of the criteria pollutants that have been determined to impact human health and the environment. The primary NAAQS provide public health protection, including protecting the health of sensitive populations such as asthmatics, children, and the elderly. Secondary NAAQS provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

On 7 February 2024, USEPA strengthened the NAAQS for particulate matter. Specifically, the USEPA set the level of the primary annual PM<sub>2.5</sub> standard at 9.0 micrograms per cubic meter to provide increased public health protection, consistent with the available health science. The USEPA did not change the current primary and secondary 24-hour PM<sub>2.5</sub> standards, secondary annual PM<sub>2.5</sub> standard, or the primary and secondary PM<sub>10</sub> standards (USEPA, 2024c).

**Table 3-3  
National Ambient Air Quality Standards**

Pollutant	Primary/Secondary <sup>a,b</sup>	Averaging Time	Level
Carbon monoxide	Primary	8 hours	9 ppm
Carbon monoxide	Primary	1 hour	35 ppm
Nitrogen dioxide	Primary	1 hour	100 ppb
	Primary and Secondary	Annual	53 ppb
Ozone	Primary and Secondary	8 hours	0.070 ppm
PM <sub>2.5</sub>	Primary	1 year	9.0 µg/m <sup>3</sup>
	Primary	Annual	12 µg/m <sup>3</sup>
	Secondary	Annual	15 µg/m <sup>3</sup>
	Primary and Secondary	24 hours	35 µg/m <sup>3</sup>
PM <sub>10</sub>	Primary and Secondary	24 hours	150 µg/m <sup>3</sup>
Sulfur dioxide	Primary	1 hour	75 ppb
	Secondary	3 hours	0.5 ppm
Lead	Primary and Secondary	Rolling 3-month average	0.15 µg/m <sup>3</sup>

Source: [USEPA, 2024b](#)

a Primary Standards: the levels of air quality necessary, with an adequate margin of safety, to protect public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the USEPA.

b Secondary Standards: the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

µg/m<sup>3</sup> = micrograms per cubic meter; mg/m<sup>3</sup> = milligrams per cubic meter; PM<sub>2.5</sub> = fine inhalable particles with diameters of 2.5 micrometers or smaller; PM<sub>10</sub> = inhalable particles with diameters of 10 micrometers or smaller; ppm = parts per million; ppb = parts per billion

### 3.6.1.2 Greenhouse Gas Emissions

The earth's climate is changing. Multiple lines of evidence show changes in weather, oceans, and ecosystems, such as:

- changing temperature and precipitation patterns;
- increases in ocean temperatures, sea level, and acidity;
- melting of glaciers and sea ice;
- changes in the frequency, intensity, and duration of extreme weather events; and
- shifts in ecosystem characteristics, such as the length of the growing season, timing of flower blooms, and migration of birds.

The earth's temperature depends on the balance between energy entering and leaving the planet's system. When sunlight reaches the earth's surface, it can either be reflected back into space or absorbed by the earth. Incoming energy that is absorbed by the earth warms the planet. Once absorbed, the planet releases some of the energy back into the atmosphere as heat (USEPA, 2024d). Greenhouse gases (GHGs) are gases that trap heat in the atmosphere. These emissions are generated by both natural processes and human activities. The accumulation of GHGs in the atmosphere helps regulate the earth's temperature and contributes to global climate change. GHGs include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (USEPA 2024d).

Each GHG has an estimated global warming potential (GWP), which is a function of its atmospheric lifetime and its ability to absorb and radiate infrared energy emitted from the earth's surface. The GWP of a particular gas provides a relative basis for calculating its carbon dioxide-equivalent (CO<sub>2e</sub>) or the amount of CO<sub>2e</sub> to the emissions of that gas. Carbon dioxide has a GWP of 1 and is therefore the standard by which all other GHGs are measured. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases (USEPA, 2024e).

The DAF has adopted the Prevention of Significant Deterioration (PSD) threshold for GHGs of 75,000 tpy of CO<sub>2e</sub> as an indicator or "threshold of insignificance" for NEPA air quality impacts in all areas. This indicator provides a threshold to identify actions that are insignificant or too trivial or minor to merit

consideration. Actions with a net change in GHG (CO<sub>2</sub>e) emissions below the PSD threshold are considered too insignificant on a global scale to warrant any further analysis. Actions with a net change in GHG (CO<sub>2</sub>e) emissions above the PSD threshold are considered potentially significant and require further assessment to determine if the action poses a significant impact (AFCEC, 2023).

### **3.6.2 Regulatory Setting**

#### **3.6.2.1 General Conformity and Attainment**

When a region or area meets NAAQS for a criteria pollutant, that region or area is classified as in “attainment” for that pollutant. When a region or area fails to meet NAAQS for a criteria pollutant, that region or area is classified as “nonattainment” for that pollutant. In cases of nonattainment, the affected state, territory, or local agency must develop a state implementation plan for USEPA review and approval. The state implementation plan is an enforceable plan developed at the state level that lays out a pathway for how the state would comply with air quality standards. If air quality improves in a region that is classified as nonattainment, and the improvement results in the region meeting the criteria for classification as attainment, then that region is reclassified as a “maintenance” area.

Under the CAA, the General Conformity Rule requires proposed federal agency activities in designated nonattainment or maintenance areas (i.e., attainment areas reclassified from a prior nonattainment designation) to demonstrate conformity with the state implementation plan for attainment of NAAQS. Agencies are required to show that the net change in emissions from a federal proposed action would be below applicable *de minimis* threshold levels (i.e., so minor as to merit disregard).

#### **3.6.2.2 New Source Review**

Per the CAA, the USEPA’s PSD New Source Review permit program regulates criteria and certain non-criteria air pollutants for air quality control regions designated as unclassified or in attainment status with respect to the federal standards. In such areas, a PSD review is required for new “major source” or “major modification of existing source” emissions that exceed 100 or 250 tons per year (tpy) of a regulated CAA pollutant, dependent on the type of major stationary source. For “minor source” emissions, a PSD review is required if a project increases a “major source” threshold.

#### **3.6.2.3 State and Local Permits and Regulations**

The NDEP is tasked with the stewardship of the natural resources of the state, including air quality. The permitting branches in the Nevada Bureau of Air Pollution Control issue air quality operating permits to stationary and temporary mobile sources that emit regulated pollutants to ensure that these emissions do not harm public health or cause significant deterioration in areas that presently have clean air.

Air pollution in Nevada is regulated by Nevada Administrative Code (NAC) Chapter 445B, Air Controls. State standards for ambient air, including ozone, carbon dioxide, nitrogen dioxide, sulfur dioxide, particulate matter as PM<sub>10</sub> and PM<sub>2.5</sub>, lead, and hydrogen sulfide, are listed in NAC Chapter 445B Section 22097. Section 94 of the Clark County Air Quality Regulations specifies that a dust control permit is required from the Clark County Department of Air Quality and Environmental Management if construction activities impact an area greater than 0.25 acre. The permit must include a dust mitigation plan and appropriate control measures as specified per the regulations (USEPA, 2024f).

For surface disturbances greater than 5 acres and not related to agriculture, the NDEP Bureau of Air Pollution Control requires a surface area disturbance permit. Clark County, however, has its own air district and is instead under the jurisdiction of the Clark County DES, which requires a dust control operating permit for soil-disturbing or construction activities of 0.25 acre or greater in overall area, mechanized trenching 100 feet or greater in length, mechanical demolition of any structure 1,000 ft<sup>2</sup> or larger, or for temporary commercial activities of 0.25 acre or greater in overall area (Clark County, 2024a).

### 3.6.4 Existing Conditions

#### 3.6.4.1 Air Emission Sources at Nellis AFB

The LVIAQCR maintains the following designations for the NAAQS (USEPA, 2024g):

- unclassifiable/attainment for lead, nitrogen dioxide, sulfur dioxide, and PM<sub>2.5</sub>,
- maintenance/attainment for carbon monoxide and PM<sub>10</sub>, and
- moderate nonattainment for the 2015 ozone NAAQS standard.

As a federal installation that is considered a “major source” contributor for air pollution, Nellis AFB maintains a Title V Operating Permit (Part 70 Operating Permit, Source ID 114, 99th Civil Engineer Squadron, Nellis AFB, expires on 14 June 2026) which requires monitoring emissions and reporting the findings (Clark County DES, 2024). Title V is a federal program designed to standardize air quality permits and the permitting process for major sources of emissions across the country and requires the USEPA to establish a national operating permit program. USEPA defines a major source as a facility that emits or has the potential to emit any criteria pollutant or hazardous air pollutant at levels equal to or greater than the major source thresholds. The major source threshold for criteria pollutants may vary depending on the attainment status (e.g., marginal, serious, extreme) of the geographic area and the criteria or hazardous air pollutant in which the facility is located.

Stationary emissions sources at Nellis AFB include fuel storage tanks, loading racks, dispensing equipment, boilers, aggregate and concrete plants, emergency and nonemergency power generators, a hush house for engine testing, paint spray booths, media blasting equipment, degreasers, cooling towers, woodworking operations, fugitive dust, and miscellaneous chemical usage.

Mobile source emissions are generated by aircraft, vehicles, construction equipment, and other sources that move or have the potential to move from place to place. Aerospace ground equipment used to service aircraft includes generators, light carts, compressors, bomb lifts, hydraulic test stands, and other portable equipment required for aircraft operations. Equipment emissions come from forklifts, backhoes, tractors, and other onsite construction equipment. On-road vehicle emissions include both government-owned and privately owned vehicles. The most recent mobile and stationary source emissions inventories for Nellis AFB are presented in **Table 3-4**.

**Table 3-4  
Nellis AFB Stationary and Mobile Source Emission Summary  
in Tons per Year (2022)**

Emission Source	VOCs <sup>a</sup>	NO <sub>x</sub> <sup>a</sup>	CO <sup>a</sup>	SO <sub>2</sub> <sup>a</sup>	PM <sub>10</sub> <sup>a</sup>	PM <sub>2.5</sub> <sup>a</sup>	CO <sub>2</sub> e <sup>b</sup>
Stationary Sources	18.94	13.68	25.26	0.57	3.21	1.82	9,833
Fugitive Dust <sup>c</sup>	(d)	(d)	(d)	(d)	15.91	2.36	(d)
<b>Totals</b>	<b>18.94</b>	<b>13.68</b>	<b>25.26</b>	<b>0.57</b>	<b>19.12</b>	<b>4.17</b>	<b>9,833</b>

a Source: Nellis AFB, 2023a.

b Source: Nellis AFB, undated.

c Fugitive dust emissions reported for disturbed ground surfaces and haul road activity on Nellis AFB.

d Not applicable.

CO = carbon monoxide; NO<sub>x</sub> = nitrogen oxides; PM<sub>10</sub> = inhalable particles with diameters of 10 micrometers or smaller; PM<sub>2.5</sub> = fine inhalable particles with diameters of 2.5 micrometers or smaller; SO<sub>2</sub> = sulfur dioxide, VOCs = volatile organic compounds

#### 3.6.4.2 Regional Climate

The climate in Clark County varies widely across the seasons, with extremely hot summers and cold winters, with dry and mostly clear conditions year-round. Over the course of the year, the temperature typically varies from 38 degrees Fahrenheit (°F) to 105°F. The urban heat island effect has likely increased high-temperature days in Las Vegas, where a very high rate of growth has taken place since the 1950s (National Oceanic and Atmospheric Administration, 2022; World Population Review, 2024). Precipitation is minimal, with the cooler months of December through February providing the greatest chance of precipitation; the annual average precipitation is 6 inches per year. Wind remains relatively constant throughout the year, ranging on average from 7 to 9 miles per hour (Weatherspark, 2024). Wind directions are highly seasonal in the area, with winds largely blowing from the northeast in the cooler months of

October through February. By March, winds start to split between northeasterly and southerly directions, and by April the predominant winds are out of the south-southwest. This pattern continues until September when the winds again split between the southwest and northeast and return to the winter pattern of winds out of the northwest by October. Wind speeds average 7.2 miles per hour and tend to be greatest when coming out of the south, which occurs during the warmer periods of the year (Iowa State, 2024).

The regional climate is being altered due to climate change (USEPA, 2016). In the coming decades, the changing climate is likely to decrease the flow of water in the Colorado River and other rivers in Nevada, increase the probability of extreme heat and drought, increase the frequency and intensity of wildfires, and decrease the productivity of ranches and farms (USEPA, 2016).

### 3.6.5 Environmental Consequences

#### 3.6.5.1 Evaluation Criteria

The environmental impact methodology for air quality impacts presented in this EA is derived from AFMAN 32-7002, *Environmental Compliance and Pollution Prevention* (February 2020). The Proposed Action is broken down into basic units. For example, a basic development project that consists of replacing a building with a new building could be broken down into demolition (ft<sup>2</sup>), grading (ft<sup>2</sup>), building construction (ft<sup>2</sup> and height), architectural coatings (ft<sup>2</sup>), and paving (ft<sup>2</sup>). These data are then input into the DAF's Air Conformity Applicability Model (ACAM), which models emissions based on the inputs and estimates air emissions for each specific criteria and precursor pollutant, as defined in the NAAQS. The calculated emissions are then compared against the applicable threshold based on the attainment status of the ROI. If the annual net increase in emissions from the project are below the applicable thresholds, then the Proposed Action and Alternatives are not considered significant and would not be subject to any further conformity determination. Assumptions of the model, methods, and detailed summary results are provided in **Appendix C** of this EA.

The LVIAQCR is in moderate nonattainment for the 2015 ozone NAAQS standard ([40 CFR § 81.329](#)). Due to the General Conformity Rule, applicability for the nonattainment status of ozone precursors—volatile organic compounds and nitrogen oxides—are restricted to 100 tpy. The LVIAQCR is in maintenance for carbon monoxide and PM<sub>10</sub>; therefore, the 250 tpy PSD value is not used for these pollutants; instead, a more restrictive 100 tpy value is used. Additionally, due to the toxicity of lead, the use of the lead PSD threshold as an indicator of potential air quality impact insignificance is not protective of human health or the environment. Therefore, the *de minimis* value is used instead. The DAF has adopted a PSD value of 75,000 tpy for CO<sub>2</sub>e. The following thresholds are applicable to the Proposed Action:

- 100 tpy *de minimis* value for ozone precursors (volatile organic compounds and nitrogen oxides),
- 100 tpy *de minimis* value for maintenance of carbon monoxide and PM<sub>10</sub>,
- 25 tpy *de minimis* value for lead, and
- 75,000 tpy PSD value for CO<sub>2</sub>e.

#### 3.6.5.2 Proposed Action

All proposed construction would occur within the footprint of the installation. Calculations have been performed to account for construction projects being completed over the course of the three-year Proposed Action period (2025–2027). The following assumptions were used for construction projects:

- For the purposes of calculating emissions based on building volume (cubic feet), buildings are assumed to have an average height of 12 feet to account for some variation in the heights across all proposed projects.
- New impervious surfaces are assumed to be concrete or asphalt.
- Covered storage facilities do not require additional heating.

Emissions would primarily be generated by:

- diesel-powered construction equipment operating on site,
- trucks removing or delivering materials,
- trucks operating within the fence line of the proposed development area,
- construction workers commuting to and from work,
- dust created by grading and other bare earth construction activities, and
- application of architectural coatings.

Construction would follow all applicable Clark County Division of Air Quality rules, such as obtaining a dust control operating permit and preparing a dust mitigation plan prior to the start of any construction activity on any site that would include 0.25 acre or more of disturbed surface area (Air Quality Rules [Section 94](#)), and renewing the permit for each year of construction activity; controlling visible emissions (Air Quality Rules [Section 26](#)); and limiting idling of diesel-powered motor vehicles (Air Quality Rules [Section 45](#)). Additionally, stationary source permits would be required for the operation of concrete batch plants, asphalt plants, generators, storage tanks, fueling operations, or other stationary emission sources located on site for use in construction.

All proposed ongoing operations would occur within the footprint of the installation. Onsite diesel generators for ongoing training operations would include 12, 60-kilowatt (kW) advanced medium mobile power source (AMMPS) generators, 4, 30-kW AMMPS generators, and 1, 800-kW Base Expeditionary Airfield Resources power unit (BPU). Half of these generators are anticipated to be operated continuously during active training operations, and half of the generators would be emergency generators.

Calculations have been performed to account for generator emissions from ongoing operations under continuous use, worst-case scenario conditions. Both the planned continuous use and emergency generators are calculated under worst-case continuous use conditions. The following assumptions were used for generator emissions:

- The generators are assumed to be continuously used for a worst-case scenario of 8,760 hours per year. The total generators for the worst-case scenario include both the six planned 60-kW generators and the 30-kW generators include:
  - 12, 60-kW (80 horsepower) AMMPS generators;
  - 4, 30-kW (40 horsepower) AMMPS generators; and
  - 1, 800-kW (1,073 horsepower) BPU.

Detailed information on the emissions estimates and assumptions can be found in **Appendix C**.

**Air Emissions**

**Table 3-5** presents the estimated air emissions with implementation of the Proposed Action annualized over the three-year Proposed Action period. **Table 3-6** summarizes the highest estimated annual emissions for each pollutant with implementation of the Proposed Action compared to their respective thresholds within the LVIAQCR. The steady-state air emissions represent the ongoing annual emissions in future years.

**Table 3-5  
Estimated Annual Air Emissions of the Proposed Action (tpy) – Proposed Action**

Pollutant	2025	2026	2027	Steady State
VOC	0.851	17.909	17.904	17.088
NO <sub>x</sub>	1.400	179.516	179.510	178.333
CO	1.830	71.991	71.990	70.459
SO <sub>2</sub>	0.077	11.791	11.918	11.968
PM <sub>10</sub>	26.796	42.909	42.908	16.127
PM <sub>2.5</sub>	0.053	16.165	16.162	16.120
Lead	0.000	0.000	0.000	0.000
Ammonia	0.003	0.004	0.004	0.003
CO <sub>2</sub> e	338	10,433	10,493	10,238

Source: **Appendix C** of this EA.

tpy = ton per year CO = carbon monoxide; NO<sub>x</sub> = nitrogen oxides; PM<sub>10</sub> = inhalable particles with diameters of 10 micrometers or smaller; PM<sub>2.5</sub> = fine inhalable particles with diameters of 2.5 micrometers or smaller; SO<sub>2</sub> = sulfur dioxide, VOC = volatile organic compounds

**Table 3-6  
Estimated Highest Annual Air Emissions– Proposed Action**

Pollutant	Highest Annual Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (yes or no)
VOC	17.909	100	No
NO <sub>x</sub>	179.516	100	Yes
CO	71.991	100	No
SO <sub>2</sub>	11.791	250	No
PM <sub>10</sub>	42.909	100	No
PM <sub>2.5</sub>	16.165	250	No
Lead	0.00	25	No
Ammonia	0.004	250	No
CO <sub>2</sub> e	10,493	75,000	No

CO = carbon monoxide; NO<sub>x</sub> = nitrogen oxides; PM<sub>10</sub> = inhalable particles with diameters of 10 micrometers or smaller; PM<sub>2.5</sub> = fine inhalable particles with diameters of 2.5 micrometers or smaller; SO<sub>2</sub> = sulfur dioxide, VOC = volatile organic compounds

Emissions from the generators for ongoing operations could exceed General Conformity PSD thresholds for NO<sub>x</sub> under worst-case scenario conditions.

Short-term, minor-to-moderate adverse impacts to air quality would be anticipated to occur during construction as a result of an increase in emissions from construction equipment. Fugitive dust is highly regulated in Clark County, and a permit from the county is required before conducting ground-disturbing activities. Applicable construction projects must submit a dust mitigation plan, which includes the construction BMPs listed in the Section 94 Handbook of the Clark County Air Quality Regulations. BMPs include, but are not limited to:

- Stabilize soil prior to, during, and after cut and fill activities.
- Apply water to stabilize disturbed soil throughout the construction site.
- Limit vehicle traffic and disturbance on soils where possible.
- Limit the size of staging areas.
- Apply water to surface soils where support equipment and vehicles would be operated.

Construction would follow all applicable Clark County Air Quality Regulations, such as obtaining a dust control permit from the Clark County Department of Air Quality and Environmental Management for applicable construction activities, which include:

- soil-disturbing or construction projects greater than or equal to 0.25 acre,
- trenching greater than or equal to 100 feet in length, or
- mechanical demolition of any structure larger than or equal to 1,000 ft<sup>2</sup>.

The ongoing operations of the onsite generators could exceed the General Conformity PSD threshold for NO<sub>x</sub> under worst-case scenario continuous generator use conditions. Additional permitting and coordination with the Clark County Division of Air Quality is ongoing to establish operational constraints that would reduce the emissions emitted to remain below the threshold of insignificance. These operational constraints could be a fuel cap or limiting the maximum number of generators that operate at one time. These operational constraints would provide flexibility for the operation of these engines while still reducing emissions below the threshold of insignificance. Implementation of the Proposed Action would be anticipated to result in long-term, minor-to-moderate, adverse impacts to air quality.

**Greenhouse Gas and Climate Change – CO<sub>2</sub>e Emissions**

The total combined direct and indirect GHG emissions were estimated through ACAM for the estimated ongoing operations of the Proposed Action (Table 3-7).

**Table 3-7  
Estimated GHG Emissions (MT/yr) – Proposed Action**

Pollutant	2025	2026	2027	2028–2038 (steady state)
CO <sub>2</sub>	338	10,433	10,493	10,238
CH <sub>4</sub>	0.01361167	0.42019025	0.42258333	0.4126362
N <sub>2</sub> O	0.0040664	0.08742962	0.08985438	0.08859626
CO <sub>2</sub> e	339	12,003	12,063	11,808
Exceedance	No	No	No	No

CH<sub>4</sub> = methane; CO<sub>2</sub> = carbon dioxide; CO<sub>2</sub>e = carbon dioxide-equivalent; MT/yr = metric tons per year; N<sub>2</sub>O = nitrous oxide

Unlike regional air quality, the affected area of GHG and climate change is global. As such, the intensity or degree of the GHG/climate change effects of the Proposed Action are compared with state and US GHG emission inventories (**Table 3-8**). Under the Proposed Action, GHG emissions would be insignificant compared to Nevada and US GHG inventories.

**Table 3-8  
Comparison of Total GHG Emissions Relative to Nevada and US Inventories (MT) – Proposed Action**

Pollutant	2025–2038			Percent of State Total	Percent of US Total
	State Total	US Total	Proposed Action		
CO <sub>2</sub>	554,440,075	71,910,358,506	133,887	0.02414806%	0.00018619
CH <sub>4</sub>	1,193,208	358,776,764	5.395383	0.00045217%	0.00000150%
N <sub>2</sub> O	88,033	21,009,907	1.155909	0.00131305%	0.00000550%
CO <sub>2</sub> e	555,721,316	72,290,145,176	154,291	0.02776403	0.00021343%

CH<sub>4</sub> = methane; CO<sub>2</sub> = carbon dioxide; CO<sub>2</sub>e = carbon dioxide-equivalent; MT = metric ton; N<sub>2</sub>O = nitrous oxide

Overall, the Proposed Action would be estimated to release approximately 154,291 metric tons of GHG from 2025 through 2038, or 11,800 metric tons of GHG annually. This figure would account for approximately 0.02776403 percent of the state total and 0.00021343 percent of the US total of GHG projected to be released during the same period. Therefore, the Proposed Action would not be anticipated to result in a significant increase in GHG emissions.

### 3.6.5.3 No Action Alternative

Under the No Action Alternative, the proposed training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness throughput requirements. There would be no changes to air quality in the ROI beyond baseline conditions.

### 3.6.5.4 Cumulative Effects

The cumulative effects of construction occurring under the Proposed Action would generate an overall increase in ambient air pollution in Clark County.

The Nellis AFB actions, when combined with construction activities occurring under the Proposed Action, would result in an increase in localized and regional emissions in Clark County. Concurrent projects within the LVIAQCR on Nellis AFB would include development of the east side of Nellis AFB and installation development projects on the west side of the base. Implementation of the Nellis Master Plan and installation development projects would involve a large amount of grading, construction, paving, increased building heating, and trenching on the east site of the installation. Emissions associated with development of these projects would be anticipated to be below the PSD thresholds.

When considered in conjunction with other past, present, and reasonably foreseeable future actions at Nellis AFB, no significant cumulative effects to air quality would be anticipated to occur with implementation of the Proposed Action.

## 3.7 WATER RESOURCES

### 3.7.1 Definition of the Resource

Water resources include surface waters, wetlands, stormwater, groundwater, and floodplains. The *Federal Water Pollution Control Act of 1948*, as amended by the *Clean Water Act* ([33 USC § 1251](#) et seq.) (CWA) was enacted to protect water resources vulnerable to contamination and quality degradation. The CWA provides the authority to establish water quality standards, control discharges into surface and subsurface waters (including groundwater), develop waste treatment management plans and practices, and issue permits for discharges. A National Pollutant Discharge Elimination System (NPDES) permit under Section 402 of the CWA is required for discharges into navigable waters. The USEPA oversees the issuance of NPDES permits at federal facilities as well as water quality regulations (CWA, Section 401) for both surface- and groundwater.

The ROI for water resources is Nellis AFB and the Las Vegas Wash (Hydraulic Unit Code [HUC] 15010015) and Lake Mead (HUC 15010005) subbasins of the Lower Colorado Region (US Geological Survey, 2017).

#### 3.7.1.1 Surface Waters

The USEPA defines surface waters as Waters of the US, which are primarily lakes, rivers, estuaries, coastal waters, and wetlands. Jurisdictional waters, including surface water resources, as defined in [33 CFR § 328.3](#), are regulated under Sections 401 and 404 of the CWA and Section 10 of the *Rivers and Harbors Act*. Man-made features not directly associated with a natural drainage, such as upland stock ponds and irrigation canals, are generally not considered jurisdictional waters. The CWA regulates discharges of pollutants in surface Waters of the US. Section 404 of the CWA established a program to regulate the discharge of dredged and fill material into Waters of the US.

#### 3.7.1.2 Wetlands

The US Army Corps of Engineers (USACE) defines wetlands as “those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions” (Environmental Laboratory, 1987). Wetlands generally include swamps, marshes, bogs, and similar areas ([33 CFR Part 328](#)). Federal protection of wetlands is also promulgated under EO 11990, *Protection of Wetlands*, the purpose of which is to reduce adverse impacts associated with the destruction or modification of wetlands. This EO directs federal agencies to provide leadership in minimizing the destruction, loss, or degradation of wetlands.

#### 3.7.1.3 Stormwater

Stormwater is surface water runoff generated from precipitation and has the potential to introduce sediments and other pollutants into surface waters. Stormwater is regulated under the CWA Section 402 NPDES program. Impervious surfaces such as buildings, roads, parking lots, and even some natural soils increase surface runoff. Stormwater management systems are designed to contain runoff on site during construction and to maintain predevelopment stormwater flow characteristics following development through either the application of infiltration or retention practices. *Energy Independence and Security Act* ([Public Law 110-140](#)) establishes stormwater design requirements for development and redevelopment projects. Under these requirements, federal facility projects larger than 5,000 ft<sup>2</sup> must maintain or restore, to the maximum extent feasible, the predevelopment hydrology of the property with respect to the water temperature, rate, volume, and duration of flow.

#### 3.7.1.4 Groundwater

Groundwater is water that exists in the saturated zone beneath the earth’s surface in pore spaces and fractures and includes aquifers. Groundwater is recharged through percolation of water on the ground’s surface (e.g., precipitation and surface water bodies) and upward movement of water in lower aquifers through capillary movement. Groundwater is an essential resource that can be used for drinking, irrigation, and industrial processes, and can be described in terms of depth from the surface, aquifer or well capacity, water quality, recharge rate, and surrounding geologic formations. Groundwater quality and quantity are

regulated under several different programs. The federal sole source aquifer regulations, authorized under the *Safe Drinking Water Act*, protect aquifers that are critical to water supply.

### 3.7.1.5 Floodplains

Floodplains are areas of low-level ground along rivers, stream channels, or coastal waters that provide a broad area to inundate and temporarily store floodwater. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body. Floodplains are subject to periodic or infrequent inundation due to rain or melting snow. The risk of flooding is influenced by local topography, the frequency of precipitation events, and the size and characteristics of the watershed upslope of the floodplain.

The Federal Emergency Management Act (FEMA) evaluates and maps flood potential, which defines the 100-year (regulatory) floodplain. The 100-year floodplain is the area that has a one-percent annual chance of inundation by floodwater. FEMA uses letter designations for flood zone classification. Zone A designates 100-year floodplains where flood depths (base-flood elevations) have not been calculated and further studies are needed. Zone AE floodplains include calculated base-flood elevations. Base-flood elevations are minimum elevation standards for buildings. Zone X indicates areas outside of the FEMA 100-year regulatory floodplain and indicate a low risk of flooding hazards (FEMA, 2020). Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to property and human health and safety.

EO 11988, *Floodplain Management*, provides guidelines that agencies should carry out as part of their decision-making process on projects that have potential impacts to or within the floodplain. This EO requires that federal agencies avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct and indirect support of floodplain development wherever there is a practicable alternative. EO 13690, *Establishing a Flood Risk Management Standard and Process for Further Soliciting and Considering Stakeholder Input*, established a Federal Flood Risk Management Standard and a process for further soliciting and considering stakeholder input; however, this EO was later revoked by Section 6 of EO 13807, *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure*. EO 13807 did not revoke or otherwise alter EO 11988.

## 3.7.2 Existing Conditions

### 3.7.2.1 Surface Waters

Nellis AFB is located in the northeast portion of the Las Vegas Valley, an intermountain basin of approximately 1,600 square miles within the Basin and Range Province of the US, which extends southeasterly through the Las Vegas Wash into Lake Mead (Nellis AFB, 2019a).

Within Nellis AFB, natural perennial streams, rivers, springs, or lakes do not occur due to low precipitation, high evaporation rates, and low humidity. Several unnamed ephemeral streams and washes occur on Nellis AFB, including known ephemeral streams that traverse Nellis AFB and the Proposed Action area (**Figure 3-3**). Most of the ephemeral streams only contain water during infrequent storm events. However, some storm events are intense enough to result in flash flooding of these streams. Most of the ephemeral streams on Nellis AFB are connected to Waters of the US (e.g., Las Vegas Wash, Lake Mead, and Colorado River) (Nellis AFB, 2019a; USFWS, 2019). The 2015 Clean Water Rule was repealed by final rule on 29 August 2023, which states that ephemeral streams do not qualify as Waters of the US, as they are not “relatively permanent, standing, or continuous bodies of water.” Accordingly, the ephemeral streams within the Proposed Action area are considered non-jurisdictional.

Surface water impoundments across Nellis AFB consist entirely of artificially constructed ponds. Within the Proposed Action area, there are three dry ponds; two dry reservoirs located in the proposed Graded Contingency Training Area (**Figure 3-3**). Stormwater drainage channels have been excavated **within** the Proposed Action area, within and adjacent to the Nellis AFB airfield, as well as within the residential areas to the west of the airfield. Runoff from Sunrise Mountain, located southeast of the Proposed Action area, generally crosses the east side of Nellis AFB in a sheet-flow manner, depositing into these stormwater drainage channels to the west. The Proposed Action area is located just north of the currently undeveloped east side of Nellis AFB.



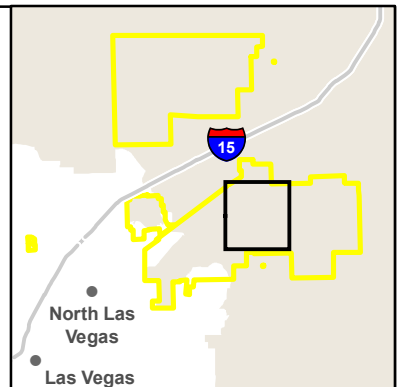
**FIGURE 3-3**  
Water

- |                            |                                  |                                 |
|----------------------------|----------------------------------|---------------------------------|
| Stream/River (Ephemeral)   | Graded Contingency Beddown Area  | Mock Village                    |
| Existing Camp Cobra        | Graded Contingency Training Area | Proposed Airfield Training Area |
| Reservoir                  | Lake/Pond                        | Site Support Area               |
| Buildings to be repurposed | Logistics Area                   |                                 |



0 0.5 Mile

Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



### 3.7.2.2 Wetlands

Although there are artificial ponds and reservoirs located within Nellis AFB, these ponds are not subject to wetlands protection under the CWA because they are man-made, artificially filled with treated groundwater, isolated, and/or do not connect to other water bodies (USACE, 2020). The remainder of the installation is arid scrub or developed land that contains no jurisdictional or non-jurisdictional wetlands (Nellis AFB, 2019a). Wetlands are not further analyzed in this EA.

### 3.7.2.3 Stormwater

In accordance with NPDES regulations, Nellis AFB is required to obtain coverage under a stormwater permit and has been issued coverage under the Nevada Industrial Stormwater General Permit based on the types of industrial activities conducted. Stormwater within Nellis AFB municipal areas is managed through NPDES for Municipal Separate Storm Sewer System permit NV-0021911 and crosses the installation in the form of sheet-flow or is diverted into one of several stormwater drainage channels. High-velocity flow derived from Sunrise Mountain to the east of the installation often results in sheet-flow flooding south of the Proposed Action area, which flows across the undeveloped portions of Nellis AFB and the paved surfaces of the flightline.

Despite the dry climate and infrequent rainfall in the area, stormwater events tend to be significant and intense in the Nellis AFB area. With the combination of the rainfall intensity and the region's soil impermeability, flooding is a major concern. Stormwater throughout Nellis AFB generally flows southeasterly via washes and ultimately empties into Lake Mead and the Colorado River. Severe thunderstorms can result in temporary flash flooding, and water sources have the potential to become contaminated. Because of the flow path and the connection other ephemeral streams and washes have with the Las Vegas Wash, implementation of BMPs would be required to reduce stormwater pollution (Nellis AFB, 2019a).

Several stormwater drainage channels exist within the Proposed Action area and carry stormwater runoff away from the site and toward other existing stormwater channels connecting to the Nellis AFB airfield and residential areas to the west of the airfield (Nellis AFB, 2024b). The expansive series of stormwater channels across Nellis AFB are both natural and man-made and include defined grass areas, bare earth, and concrete-lined structures. These channels facilitate the flow of stormwater from the installation into Clark County Regional Flood Control District channels, which in turn divert stormwater from Nellis AFB into the Las Vegas Wash. According to the Nellis Stormwater Pollution Prevention Plan, construction activities exceeding 1 acre (43,560 ft<sup>2</sup>) are excluded from the Nevada Industrial Stormwater General Permit and must obtain their own state-issued general permit for stormwater discharges (Nellis AFB, 2010).

### 3.7.2.4 Groundwater

In the Las Vegas Valley, groundwater is protected from contaminants by a thick layer of clay and fine-grained sediments. More than 6,000 wells in the Las Vegas Valley provide year-round groundwater to residents and other users who are not on municipal supply (Las Vegas Valley Water District, 2021). Groundwater, which flows west to east in the Las Vegas Valley basin, accounts for approximately 15 percent of Nellis AFB's water supply (Nellis AFB, 2019a). Due to Nevada's climate and scarcity of water in the Las Vegas Valley, Nellis AFB has implemented strict groundwater conservation measures to ensure that the use of this resource is mitigated and monitored.

### 3.7.2.5 Floodplains

Local rainstorms can be severe enough to cause flash flooding, generating an increase in flood risk due to impermeable surfaces. Developed, nonporous surfaces increase flood risk by increasing the volume and flow rate of stormwater in localized areas. Stormwater flows through ephemeral streams, resulting in washes that often create small, localized floodplains known as alluvial fans. In these areas, soil tends to be more crumbly, and erosion due to water movement is usually higher than in the surrounding areas. Alluvial fans are potentially jurisdictional surface water features and are located throughout Nellis AFB.

Floodplains on Nellis AFB are documented in mapping by both FEMA and Colorado State University (CSU) Center for Environmental Management of Military Lands (CEMML); however, a comprehensive FEMA flood insurance rate map has not been developed for Nellis AFB and the available data reflect analysis from 2011

or older (CSU, 2021). Accordingly, there are no FEMA-mapped floodplains located within the Proposed Action area. The current FEMA-mapped floodplain is not representative of the actual impacts of surface and stormwater runoff within Nellis AFB regarding flooding (CSU, 2021). As a result, most of Nellis AFB is located within FEMA Zone X—an area with reduced flood risk due to levees. CSU has conducted supplemental research to identify floodplains within Nellis AFB. CSU estimates there are 3,886 acres of 500-year and 2,585 acres of 100-year floodplains within Nellis AFB (CSU, 2021) (**Figure 3-4**). The CSU CEMML-mapped floodplains cover a large portion of the Proposed Action area, generally bisecting the area northeast to southwest.

### 3.7.3 Environmental Consequences

#### 3.7.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. Potential adverse impacts to water resources would occur if the Proposed Action:

- reduces water availability or supply to existing users,
- overdrafts groundwater basins,
- exceeds safe annual yield of water supply sources,
- adversely affects water quality,
- endangers public health by creating or worsening health hazard conditions, or
- violates established laws or regulations adopted to protect sensitive water resources.

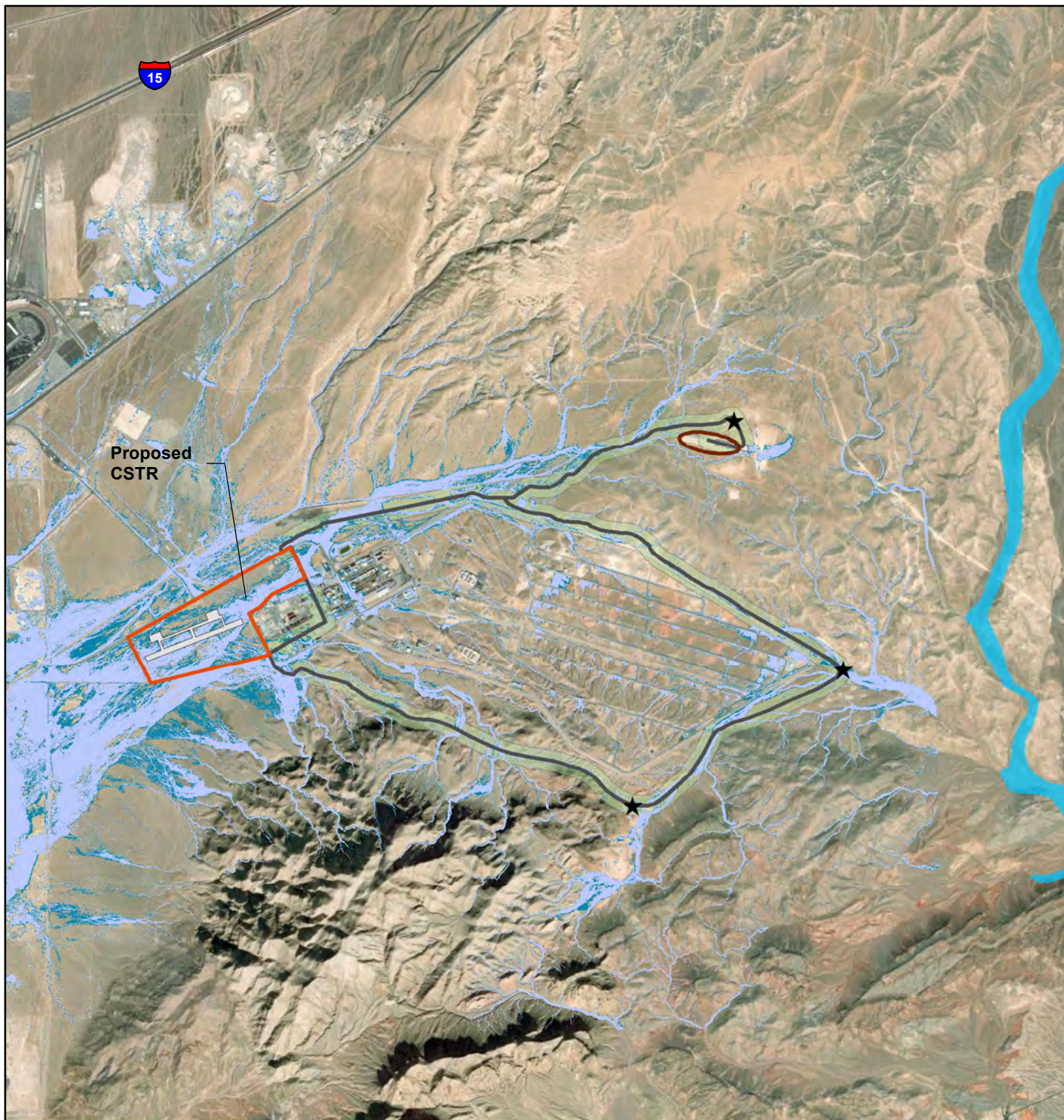
Significant impacts to water resources would occur if the surface water, stormwater, floodplains, or groundwater were altered such that the function of these resources would change irreversibly, resulting in impacts to the broader environment.

#### 3.7.3.2 Proposed Action

##### Surface Water

Final project locations within the proposed CSTR have not been established; however, the dry ponds and reservoirs likely would be regraded and replaced with ponds or stormwater detention basins similar to those that were removed. There are no permanent natural streams or rivers located within the ROI. Several unnamed ephemeral streams bisect the Mock Village Area and Graded Contingency Training Area, while additional ephemeral streams surround the ROI in all directions. Any substantial changes that affect storm drains, ponds, and ways of ephemeral streams in the project area would follow requirements in the *Nellis AFB Storm Water Management Plan* (Nellis AFB, 2022b) and General Permit No. NVS0400000-80003.

Under the Proposed Action, approximately 796,250 ft<sup>2</sup> (roughly 18 acres) of new impervious surfaces (paving) would occur, in addition to 10,556 linear feet of semi-improved roadways and 7,950 feet of fencing, requiring approximately 8 million ft<sup>2</sup> of grading in total. New construction, renovation, paving, and grading that would occur under the Proposed Action would have the potential to disrupt the flow of ephemeral streams, resulting in potentially higher rates of flow. These higher rates of flow would have the potential to contribute to increased sedimentation and erosion of soils within and downstream of the Proposed Action area. However, these streams only contain water during precipitation events and are prone to rapid evaporation. In addition, the potential for runoff from initial construction and long-term training activities would be managed through the implementation of BMPs as described below in **Stormwater**. Under the Proposed Action, long-term, minor, adverse impacts to surface waters would be anticipated to occur due to the increase in impervious surfaces.

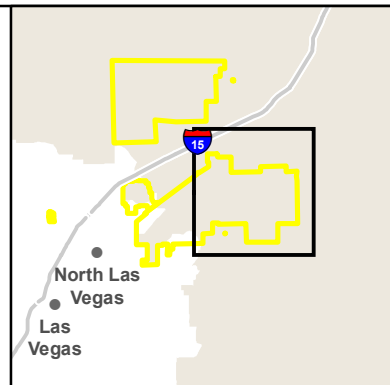


**FIGURE 3-4**  
**Floodplains**

- ★ Connex Village
- Driving Course/Foot Patrol Road
- Existing EOD Range
- Proposed Airfield Road
- Proposed Airfield
- CSU 100-Year Floodplain
- CSU 500-Year Floodplain
- 100-Year Floodplain
- 100-Yard Foot Patrol Buffer



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



### **Stormwater**

During construction, crews would adhere to BMPs for stormwater management, as determined by the Nellis AFB Natural Resources Division, to minimize runoff potential. Potential BMPs include:

- Maintain grading and topography at project locations.
- Stage equipment and construction materials in areas outside of known flash flooding areas.
- Adhere to and implement BMPs for construction and post-construction stormwater management in accordance with the [USEPA's National Menu of Best Management Practices \(BMPs\) for Stormwater](#) or other technical guidance.
- Utilize stormwater drainage through the numerous, existing, unlined channels and ephemeral streams at Nellis AFB, which have adequate capacity to support additional development.

Under the Proposed Action, approximately 796,250 ft<sup>2</sup> of new impervious surfaces (paving), as well as 10,556 linear feet of semi-improved roadways and 7,950 feet of fencing, requiring approximately 8 million ft<sup>2</sup> of grading in total, would occur over 2 to 3 years. Development of the mock airfield, aprons, and associated taxiways in the Airfield Training Area would occur within the first 6 months, resulting in 796,250 ft<sup>2</sup> of new impervious surface. The remaining development (i.e., preserved [repurposed], new construction, and grading) would occur over the proposed 2–3-year timeframe (see **Table 2-1**).

The construction of new buildings and renovation of existing facilities to meet CSTR objectives has the potential to introduce opportunities for stormwater contamination through the short-term use of construction equipment and materials. In the long term, new buildings, paved areas, and other impervious surfaces development would be constructed to support the CSTR. Operation of a CSTR would include vehicle maintenance facilities, and the use of other training materials such as propane-fed fire trainings and tear gas. Regular operations under the Proposed Action would result in potential increases in stormwater contamination from fuels (diesel, motor vehicle gasoline), oils and lubricants, used oils, and hazardous chemicals (see **Section 3.11** of this EA). The driving course project would involve regrading and repair of an existing, semi-improved roadway and establishment of a foot path. The foot path would not require any grading or additional pavement.

The exact locations of the new facilities, mock airfield, and pavements that would be located within Proposed Action area are not currently known. An increase in impervious surfaces would have the potential to route more runoff through Nellis AFB's extensive stormwater channel system over the course of development and use of the CSTR; however, in accordance with the *Energy Independence and Security Act*, if the footprint of an individual project exceeds 5,000 ft<sup>2</sup>, development designs would be required to maintain or restore, to the maximum extent feasible, the predevelopment hydrology of the area with respect to the water temperature, rate, volume, and duration of flow.

Nellis AFB must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit Order NVR100000) prior to the construction of individual projects. To obtain coverage, Nellis AFB would need to submit a Notice of Intent, stormwater pollution prevention plan, other required documents, and permit fee to NDEP. Construction activities subject to this permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation.

With the use of BMPs during and post construction (e.g., BMPs outlined in the installation Stormwater Management, Stormwater Pollution Prevention, and Spill Prevention, Control, and Countermeasure [SPCC] plans), and design standards to manage increases in stormwater runoff and to limit opportunities for stormwater contamination, long-term, minor, adverse impacts to stormwater would have the potential to occur with implementation of the Proposed Action.

### **Groundwater**

Implementation of the Proposed Action would result in short-term, negligible, adverse impacts to the groundwater recharge of Nellis AFB. Under the Proposed Action, up to 20 acres of the Proposed Action area would be covered with impervious surfaces and up to 200 additional acres would be graded. Grading would remove existing stormwater management infrastructure including artificial ponds and onsite reservoirs; this would reduce potential groundwater infiltration on a short-term basis. The stormwater management infrastructure would be replaced with ponds or stormwater detention basins similar to those that were removed. The 20 acres of impervious service likely would result in long-term, negligible, adverse

impacts to underlying aquifer systems. The infiltration would be decreased by the impervious area; however, the improved stormwater basins and stormwater management infrastructure would serve as a BMP to retain water on site for longer, allowing for more infiltration. Overall, only negligible impacts to groundwater aquifers would be anticipated from changes to groundwater infiltration or groundwater recharge under the Proposed Action.

Ground disturbance would occur over a currently disturbed and/or developed area of Nellis AFB with the addition of pavements, roadway improvements, grading, and construction of new structures. During redevelopment and construction, heavy machinery and chemicals may be used to support development. Due to the types of airfield training expected to occur post-development, heavy machinery and chemicals may be used to support training missions. Groundwater is recharged through the permeation of surface and stormwater precipitation; as such, groundwater would have the potential to become contaminated during short-term construction and during long-term operations of the CSTR if contaminated stormwater reached the groundwater supply. However, the groundwater resources in the area are vast and deep and any contaminants are likely to remain in shallow groundwater resources with no historical evidence of contaminants reaching the deeper aquifer that underlies Nellis AFB. Furthermore, Nellis AFB would implement BMPs to manage stormwater runoff, thereby reducing the potential contamination of groundwater resources. Therefore, implementation of the Proposed Action would be anticipated to result in long-term, negligible, adverse impacts to groundwater.

### **Floodplains**

There are no FEMA-mapped floodplains located within the Proposed Action area. The nearest identified FEMA floodplain is located approximately 1 mile west of the Proposed Action area. The CSU CEMML-mapped floodplains cover a large portion of the Proposed Action area, generally bisecting the area northeast to southwest (see **Figure 3-4**). Construction and renovation within the floodplain would adhere to applicable regulations defined by Nellis AFB as well as BMPs. Such regulations and BMPs could include, but would not be limited to, the construction of structures above the base-flood elevation (that is, the elevation of surface water that results from a flood that has a 1-percent chance of equaling or exceeding that level in any given year), dry- (preventing or limiting water from entering a building) or wet-proofing of foundations, and use of permanent tie-downs of non-structural equipment such as propane tanks or wash racks. Prior to construction and renovation, Nellis AFB would consult current floodplain regulations to ensure that development designs are in compliance and that the construction and renovation would not result in adverse impacts to floodplains without proper mitigation. As described in the **Stormwater** section above, Nellis AFB would implement BMPs to manage the flow and outfall of stormwater due to increased impervious surfaces and impediments to reduce adverse impacts to floodplains.

With adherence to regulations and implementation of BMPs, long-term, moderate, adverse impacts to CSU CEMML-mapped floodplains would be anticipated to occur with implementation of the Proposed Action. There would be no impacts to FEMA-mapped 100-year floodplains; accordingly, a Finding of No Practicable Alternative for the Proposed Action is not required.

### **3.7.3.3 No Action Alternative**

Under the No Action Alternative, the proposed training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness throughput requirements. There would be no changes to water resources in the ROI beyond baseline conditions.

### **3.7.3.4 Cumulative Impacts**

Implementation of the Proposed Action would be anticipated to result in long-term, minor, adverse impacts to surface water and groundwater and long-term, moderate, adverse impacts to stormwater and floodplains; no impacts to wetlands would occur. The projects identified in **Table 3-1** evaluate the construction of additional facilities, parking, structures, and/or other impervious surfaces within the ROI for water resources.

The TASS beddown project, Nellis Aggressor EA, Nellis IDP EA, and completed MILCON projects all involved further development Nellis AFB pavements. The increase in impervious surfaces would be anticipated to increase the potential for stormwater runoff west of the Proposed Action area when combined with impervious surfaces under the Proposed Action. Implementation of the Nellis Master Plan and

installation development projects would be anticipated to result in an increase of 1,480 acres of additional impervious surfaces. Increased runoff from impervious surfaces during stormwater events would have the potential to contribute to increased impacts to surface water, stormwater, and floodplains. Stormwater improvements to infrastructure would have the potential to occur, resulting in long-term, beneficial impacts to stormwater infrastructure management throughout Nellis AFB.

Additionally, the Clark County Regional Flood Control District project proposes an expansion of existing flood control infrastructure located in the southwestern portion of the installation. The expansion is currently under consideration and expected to begin design no sooner than 2028. When combined with the Proposed Action, cumulative, beneficial impacts to stormwater drainage and infrastructure would occur.

## **3.8 BIOLOGICAL RESOURCES**

### **3.8.1 Definition of the Resource**

Biological resources include native or invasive plants and animals; sensitive and protected floral and faunal species; and the associated habitats, such as wetlands, forests, grasslands, cliffs, and caves in which they exist. Habitat can be defined as the resources and conditions in an area that support a defined suite of organisms. The following is a description of the primary federal statutes that form the regulatory framework for the evaluation of biological resources.

The ROI for biological resources is the Proposed Action area.

#### **3.8.1.1 Endangered Species Act**

The ESA established protection for threatened and endangered species and the ecosystems upon which they depend. Under the ESA, an “endangered species” is defined as any species in danger of extinction throughout all, or a large portion, of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. The ESA also allows the designation of geographic areas as critical habitat for threatened or endangered species. The USFWS maintains a list of candidate species being evaluated for possible listing as threatened or endangered under the ESA. Although candidate species receive no statutory protection under the ESA, the USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and may warrant protection in the future under the ESA.

#### **3.8.1.2 Migratory Bird Treaty Act**

The *Migratory Bird Treaty Act* ([16 USC § 703](#) et seq.) MBTA makes it unlawful for anyone to take migratory birds or their parts, nests, or eggs unless permitted to do so by regulations. Per the MBTA, “take” is defined as “pursue, hunt, shoot, wound, kill, trap, capture, or collect” ([50 CFR § 10.12](#)). Birds protected under the MBTA include nearly all species in the US except for non-native/human-introduced species and some game birds.

EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, requires all federal agencies undertaking activities that may negatively impact migratory birds to follow a prescribed set of actions to further implement the MBTA. EO 13186 directs federal agencies to develop a Memorandum of Understanding with the USFWS that promotes the conservation of migratory birds.

The *National Defense Authorization Act for Fiscal Year 2003* ([Public Law 107-314, 116 Stat. 2458](#)) provided the Secretary of the Interior the authority to prescribe regulations to exempt the Armed Forces from the incidental take of migratory birds during authorized military readiness activities. Congress defined military readiness activities as all training and operations of the US Armed Forces that relate to combat and the adequate and realistic testing of military equipment, vehicles, weapons, and sensors for proper operation and suitability for combat use. Further, in October of 2012, the Authorization of Take Incidental to Military Readiness Activities was published in the Federal Register ([50 CFR § 21.15](#)), authorizing incidental take during military readiness activities unless such activities may result in significant adverse effects on a population of a migratory bird species.

In December 2017, the US Department of the Interior issued M-Opinion 37050, which concluded that the take of migratory birds from an activity is not prohibited by the MBTA when the purpose of that activity is

not the take of migratory birds, eggs, or nests. On 11 August 2020, the US District Court, Southern District of New York, vacated M-37050. Thus, incidental take of migratory birds is again prohibited. The interpretation of the MBTA remains in flux, and additional court proceedings are expected.

### 3.8.1.3 Bald and Golden Eagle Protection Act

The *Bald and Golden Eagle Protection Act of 1940* ([16 USC §§ 668–668c](#)) (BGEPA) prohibits actions to “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” Further, the BGEPA defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb,” and “disturb” is defined as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, injury to an eagle, a decrease in productivity by substantially interfering with the eagle’s normal breeding, feeding or sheltering behavior, or nest abandonment by substantially interfering with the eagle’s normal breeding, feeding, or sheltering behavior.” The BGEPA also prohibits activities around an active or inactive nest site that could result in disturbance to returning eagles.

### 3.8.1.4 Invasive Species

Invasive species are non-native species whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health. EO 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, requires federal agencies to identify actions that may affect invasive species; use relevant programs to prevent introductions of invasive species; detect, respond, and control such species; monitor invasive species populations; and provide for restoration of native species. Invasive species damage native habitat and impede successful vegetation management by outcompeting native species.

## 3.8.2 Existing Conditions

### 3.8.2.1 Vegetation

Nellis AFB occurs in the Mojave Desert. Creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) vegetation communities typically characterize much of the Mojave Desert and are adapted to the hot, dry climate. The composition of vegetation communities is influenced by soil, geomorphology, and disturbance from human activity. Nellis AFB has completed mapping of vegetation communities consistent with the US Natural Vegetation Classification system (Wion and Olech, 2022). Vegetation communities were mapped to the alliance level of classification and, when identifiable, to the association level. Information on vegetation communities within the ROI was also recorded during desert tortoise surveys conducted in October 2024 (Nellis AFB, 2024).

The proposed Graded Contingency Training Area and Logistics Area contain two primary vegetation communities, creosote bush-burrobush bajada and valley desert scrub alliance and Parry’s saltbush (*Atriplex parryi*) wet shrubland alliance as shown in **Figure 3-5**. This area slopes from the northeast to the southwest. Soils are alluvial deposits from stormwater flow that generally flows from the north-northeast to the south-southwest. Several stormwater washes run through the central part of this area. These channels carry stormwater runoff that originates on site and upgradient to the northeast. The washes are typically shallow—1 to 3 feet deep in most locations. There is evidence of broader shallow surface flow of water in areas near the channels. There are also several small water catchment basins that have been constructed in this area. The vegetation in the washes and water retention basins is classified as Parry’s saltbush wet shrubland alliance. Common plant species in this plant community are listed in **Table 3-9**. Because stormwater provides a larger and more frequent water source, the Parry’s saltbush wet shrubland alliance has a greater plant diversity and larger shrub species. The drier, upland sites outside the washes contain a creosote bush-burrobush bajada and valley desert scrub alliance that is typical of the Mojave Desert. This plant community is dominated by creosote bush and burrobush with some saltbush. Shrubs are widely spaced, and the creosote bush is relatively short (1.5 to 3 feet high). The herbaceous layer consists mostly of Arabian schismus, an introduced annual grass. A third plant community, Mojave rabbitbrush Mojave Desert wash scrub alliance, occurs in the area proposed for the Mock Village Area, Graded Contingency Beddown Area, and Site Support Area (existing Camp Cobra).

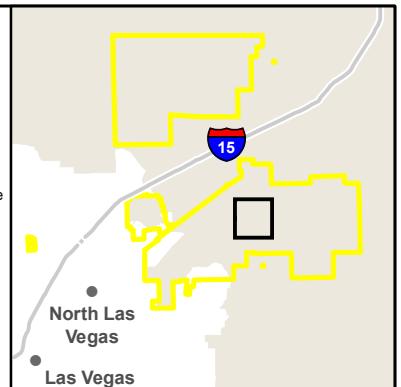


**FIGURE 3-5**  
**Vegetation**

- |  |  |
|--|--|
| Existing Camp Cobra  | Graded Contingency Beddown Area                      |
| Barren Land  | Graded Contingency Training Area                     |
| Big Galleta Desert Grassland Alliance                                      | Logistics Area                                       |
| Buildings to be repurposed   | Mock Village   |
| Burrobush Desert Dwarf Scrub Alliance                                      | Mojave Rabbitbrush Mojave Desert Wash Scrub Alliance |
| Burrobush - Sweetbush Mojave-Sonoran Desert Wash Scrub Alliance            | Parry's Saltbush Wet Shrubland Alliance              |
| Creosotebush - Brittlebush - Burrobush Desert Shrubland Association        | Proposed Airfield Training Area                      |
| Creosotebush - Burrobush Bajada and Valley Desert Scrub Alliance           | Site Support Area                                    |
| Creosotebush - Burrobush/Big Galleta Desert Shrubland Association          | Tamarisk species Ruderal Riparian Scrub Alliance     |
| Creosotebush - Burrobush - Shadscale Saltbush Desert Shrubland Association | Torrey's Joint-fir Shrubland Alliance                |



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



**Table 3-9  
Common Plant Species In Vegetation Communities In the Proposed Action Area**

Species	Vegetation Community		
	Parry's Saltbush Wet Shrubland Alliance	Creosote Bush – Burrobush Bajada And Valley Desert Scrub Alliance	Mojave Rabbitbrush Mojave Desert Wash Scrub Alliance
Scientific Name	Common Name		
<i>Ambrosia dumosa</i>	Burrobush	Burrobush	Burrobush
<i>Atriplex parryi</i>	Parry's saltbush	Parry's saltbush	(a)
<i>Atriplex canescens</i>	Fourwing saltbush	Fourwing saltbush	(a)
<i>Baccharis sarothroides</i>	(a)	(a)	Desertbroom
<i>Chorizanthe rigida</i>	(a)	Devil's spineflower	(a)
<i>Chilopsis linearis</i>	Desert willow	(a)	Desert willow
<i>Cucurbita palmata</i>	Coyote gourd	(a)	Coyote gourd
<i>Encelia</i> spp	Brittlebush	(a)	(a)
<i>Ephedra nevadensis</i>	Nevada jointfir	(a)	(a)
<i>Ericameria paniculata</i>	Mojave rabbitbrush	(a)	Mojave rabbitbrush
<i>Krameria erecta</i>	Littleleaf ratany	(a)	(a)
<i>Larrea tridentata</i>	Creosote bush	Creosote bush	Creosote bush
<i>Physalis crassifolia</i>	Thick leaf ground cherry	(a)	(a)
<i>Pleuraphis rigida</i>	Big galleta grass	(a)	(a)
<i>Schismus arabicus</i>	Arabian schismus	Arabian schismus	Arabian schismus
<i>Sphaeralcea ambigua</i>	Desert globemallow	(a)	(a)

a species not present or common in the vegetation community.

Two stormwater channels/ washes occur in this area. In addition to creosote bush and burrobush, Mojave rabbitbrush, desertbroom, and desert willow are common species. This area also contains a small area of creosote bush – burrobush bajada and valley desert scrub alliance vegetation along the north side and a previously developed area occupied by the existing Camp Cobra.

### 3.8.2.2 Wildlife

Common wildlife species that occur in the ROI include reptiles (e.g., lizards), small mammals (e.g., rodents and bats), birds, and medium-sized mammals (e.g., carnivores and jackrabbits) (Nellis AFB, 2024b). Biologists have identified 21 species of reptiles and one amphibian, Woodhouse's toad (*Anaxyrus woodhousii*), on Nellis AFB. Common native reptile species include the side-blotched lizard (*Uta stansburiana*), western banded gecko (*Coleonyx variegatus*), long-tailed brush lizard (*Urosaurus graciosus*), Great Basin whiptailed lizard (*Aspidocelis tigris*), Great Basin collared lizard (*Crotaphytus bicinctores*), desert iguana (*Dipsosaurus dorsalis*), desert tortoise, and sidewinder (*Crotalus cerastes*). Two non-native species of reptile known to occur on Nellis AFB are the rough-tailed bowfoot gecko (*Cyrtopodion scabrum*) and Mediterranean gecko (*Hemidactylus turcicus*). The desert tortoise is listed as threatened under the ESA and is discussed in **Section 3.8.2.3**.

A variety of small mammal species occurs within the ROI (Nellis AFB, 2024b). Common rodent species include Merriam's kangaroo rat (*Dipodomys merriami*), chisel-tooth kangaroo rat (*Dipodomys microps*), desert pocket mouse (*Chaetodipus penicillatus*), southern grasshopper mouse (*Onychomys torridus*), desert woodrat (*Neotoma lepida*), valley pocket gopher (*Thomomys bottae*), and white-tailed antelope ground squirrel (*Ammospermophilus leucurus*). Many of the small mammal species live underground and are abundant in the alluvial soils as evidenced by the abundance of burrows observed during desert tortoise surveys. Medium-sized mammals include desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), and coyote (*Canis latrans*) (Nellis AFB, 2024b). Six species of bats have been confirmed present in the vicinity of the ROI based on acoustic data records (greater than 20 calls) (Nellis AFB, 2020a). Calls of four additional bats species were also recorded. The most common species recorded were the canyon bat (*Parastrellus hesperus*), California myotis (*Myotis californicus*), Mexican free-tailed bat

(*Tadarida brasiliensis*), western red bat (*Lasiurus blossevillii*), western yellow bat (*Lasiurus xanthinus*), and the hoary bat (*Lasiurus cinereus*). All except the western yellow bat are considered special-status species based on state of Nevada or federal agency designations, as discussed in **Section 3.8.2.3**.

Most bird species are protected under the MBTA. Birds that potentially occur in the ROI are discussed in **Section 3.8.2.3**.

### **3.8.2.3 Threatened or Endangered Species and Other Protected Species**

Threatened or endangered species are species that have federal status and protection under the ESA. Other protected species includes birds protected under the MBTA or BGEPA, and Nevada state-listed and classified species, as well as Nevada species of greatest conservation need (SGCN).

#### **Threatened or Endangered Species**

Of the 16 endangered and 11 threatened species known to occur in Nevada, only the desert tortoise occurs on Nellis AFB (Nellis AFB, 2024b). The desert tortoise was listed as threatened in 1990. Nellis AFB most recently consulted with the USFWS in 2023 (**Appendix B**) under Section 7 of the ESA regarding potential effects of future and ongoing DAF activities at Nellis AFB. The Mojave population of the desert tortoise occurs north and west of the Colorado River in desert areas of Nevada, California, Utah, and Arizona. It occupies desert flats and slopes dominated by creosote shrubs at lower elevations and blackbrush (*Coleogyne ramosissima*) and Great Basin desert ecotone vegetation at higher elevations and on the northern edge of its range. Critical habitat was designated for the desert tortoise in 1994 but does not include Nellis AFB (USFWS, 1994; Nellis AFB, 2024b).

Surveys for desert tortoises on Nellis AFB have been conducted since 1990; most designed to determine presence/absence or for clearance for construction projects. Only a few surveys were designed to estimate relative abundance or abundance/density (Nellis AFB, 2020b, 2021, 2023a). Most observations of desert tortoises have occurred in Area II surrounding the MSA in the location of the proposed driving course, but northeast of the approximately 205-acre CSTR footprint. The MSA is excluded by a tortoise-proof fence; however, the proposed driving course is located outside of the tortoise-proof fence within an area anticipated to be suitable tortoise habitat based on relative abundance of tortoise observations. Desert tortoises are also relatively abundant on the Small Arms Range, which is controlled and managed by the DAF but is outside the ROI for the Proposed Action.

Tortoise surveys that included small parts of the proposed CSTR or were adjacent to the CSTR were conducted in 2018, 2019, 2020, and 2021. The 2018 survey included the western edge of the CSTR and documented a possible desert tortoise burrow in creosote bush-burrobush vegetation (Nellis AFB, 2019a). Surveys in 2019 focused on Area II and the Small Arms Range but did not include the CSTR. The most comprehensive tortoise surveys near the CSTR were conducted in October 2020 and April 2021. These surveys were designed to estimate desert tortoise abundance and evaluate the quality of tortoise habitat but only included a small area on the southside of the CSTR. A 100-percent coverage survey using transects spaced 10 meters (32.8 feet) apart was conducted in October 2024 in all portions of the CSTR that were identified as potential desert tortoise habitat (**Appendix D**). The surveys covered approximately 151 acres and included creosote bush-burrobush bajada and valley desert scrub alliance, Parry's saltbush wet shrubland alliance, and Mojave rabbitbrush Mojave Desert wash scrub alliance. The surveys were broken into two survey areas: a 143-acre survey area and an 8-acre survey area.

No evidence of tortoises was found in either survey area (**Figure 3-6**). One old, deteriorated burrow that may once have been a tortoise burrow was found, but it was partially collapsed, and vegetation had grown in the burrow entrance indicating no recent activity. The shrub cover in the creosote bush-burrobush bajada and valley desert scrub alliance areas was sparse, and the creosote bushes were relatively short (1.5 to 3 feet high), providing poor cover. A series of washes in the central part of the larger survey area were occupied by Parry's saltbush wet shrubland alliance. Vegetation in the wash areas were well developed and in healthy condition, many in flower. The wash channels were observed to be relatively shallow, with no visible caliche layers. Several small stormwater catchment basins have been constructed in the area



**FIGURE 3-6**  
Tortoise Survey Transects

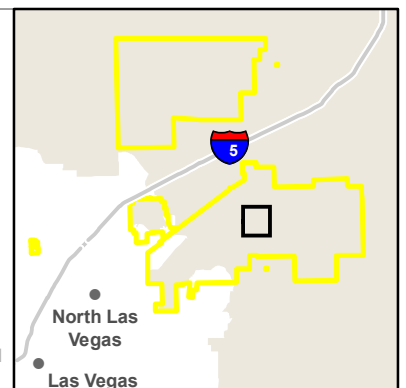
//// Survey Transects (30 meters)

▭ Survey Area



0 0.25 Mile

Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



and are vegetated. Although these areas would provide sufficient cover and areas for construction of burrows by tortoises, it was evident that the area frequently collects and channels stormwater, which may prevent use by tortoises. Overall considering the vegetation, cover, and existing conditions, the habitat in the larger survey area (143 acres) would be considered fair-to-good tortoise habitat.

The smaller survey area (8 acres) was located between the existing RED HORSE squadron facilities and Camp Cobra. The vegetation in this area is classification as Mojave rabbitbrush Mojave Desert wash scrub alliance. The two prominent features of the area are two wash channels that drain stormwater from the northeast. These channels merge on the west end of the survey area to form a wide channel area with abundant vegetation but is likely flooded during thunderstorms. This area drains into the larger survey area to the west. The habitat in this area was considered poor tortoise habitat primarily because it is isolated from other surrounding tortoise habitat by existing facilities, disturbed areas, chain-link fences, and roads.

### **Migratory Birds**

Surveys for migratory birds have been conducted at Nellis AFB since 2007 (Nellis AFB, 2023b). The relative abundance and presence of individual species vary seasonally because species may be year-round residents, summer residents, temporary migrants, or winter residents. Common bird species likely to occur in the ROI based on stationary point counts include American kestrel (*Falco sparverius*), black-throated sparrow (*Amphispiza bilineata*), horned lark (*Eremophila alpestris*), house finch (*Haemorhous mexicanus*), white-crowned sparrow (*Zonotrichia leucophrys*), mourning dove (*Zenaida macroura*), and Gambel's quail (*Callipepla gambelii*) (Nellis AFB, 2023b). Several migratory birds that occur on Nellis AFB are considered special-status species. Of these species, the American kestrel, common nighthawk (*Chordeiles minor*), western burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), Le Conte's thrasher (*Toxostoma lecontei*), long-billed curlew (*Numenius americanus*), and sagebrush sparrow (*Artemisiospiza nevadensis*) were observed in similar habitat just south of the ROI during the 2020 and 2021 desert tortoise surveys (Nellis AFB, 2021).

Western burrowing owls are a special management interest on Nellis AFB (Nellis AFB, 2023c). Burrowing owls are declining in abundance and distribution throughout their range due to man-made threats (Smallwood and Morrison, 2018). In addition to being classified as a sensitive species by the BLM and a species of conservation concern by nine western states, including Nevada, the burrowing owl is listed by the USFWS as a National Bird of Conservation Concern (USFWS, 2021). Nellis AFB conducts surveys and nest monitoring of burrowing owls (Nellis AFB, 2024b, 2023d). Formerly, most of the burrowing owl activity was in the southwestern part of Area I near the Sunrise Vista Golf Course. However, because of a bird aircraft strike incident involving a burrowing owl near Nellis AFB Runway 03, those burrowing owls were relocated to the northern part of Area II in 2023 in accordance with the Nellis AFB Bird/Wildlife Aircraft Strike Hazard Plan (Nellis AFB, 2016). Fifteen artificial owl burrows were constructed in Area II for the relocation effort. The relocation was performed under a depredation permit from the USFWS. Existing burrows were collapsed after relocation to prevent reuse by owls. No burrowing owls or owl burrows were observed in the ROI during desert tortoise surveys in October 2024 (**Appendix D**).

### **Invasive Species**

Nellis AFB has conducted surveys for invasive plants and noxious weeds. Three state-listed noxious weeds have been found on Nellis AFB: salt cedar (*Tamarix* spp.), African mustard (*Brassica tournefortii*), and Malta starthistle (*Centaurea melitensis*) (Nellis AFB, 2023d). Invasive species found on Nellis AFB include cheatgrass (*Bromus tectorum*), red brome (*B. rubens*), salt lover (*Halogeton glomeratus*), and Russian thistle (*Salsola tragus*) (Nellis AFB, 2024b). While salt cedar, African mustard, and Malta starthistle are well established and may be impossible to entirely eradicate, Nellis AFB has ongoing programs to identify and eradicate them to the extent feasible (Nellis AFB, 2023d). Although a few Russian thistles were observed during desert tortoise surveys, no areas were observed that had significant stands of invasive plants and noxious weeds. No salt cedars were observed in the wash areas in the central part of the ROI.

### 3.8.3 Environmental Consequences

#### 3.8.3.1 Evaluation Criteria

The level of impact on biological resources is based on the following:

- importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource;
- proportion of the resource that would be affected relative to its occurrence in the region;
- sensitivity of the resource to the proposed activities; and
- duration of potential ecological impact.

A biological resources impact would be adverse if

- species or habitats of concern were affected over relatively large areas, or
- disturbances caused reductions in population size or distribution of a federally listed species.

A significant impact to biological resources within the ROI would occur if the Proposed Action results in the following:

- negatively affects species or habitats of concern;
- causes reductions in population size or distribution of species of high concern;
- disturbs or destroys habitats of concern;
- removes or changes critical protections provided to species and habitats of concern;
- causes substantial amount of vegetation removal from riparian habitats;
- results in direct loss or substantial degradation of terrestrial (e.g., fragmentation) or aquatic (e.g., wetlands) habitats; and/or
- causes an adverse effect on the recovery of a federally listed or candidate species.

#### 3.8.3.2 Proposed Action

##### Vegetation

There are approximately 160 acres of undisturbed vegetation within the Proposed Action area. This area also contains approximately 9 acres of bare ground and 28 acres of developed land. Approximately 173 acres would be graded under the Proposed Action (see **Table 2-1**). For the estimation of potential impacts, it is assumed that up to 160 acres of undisturbed vegetation would be disturbed during project development (**Table 3-10**). The creosote bush-burrobush bajada and valley desert scrub alliance is relatively common on Nellis AFB, with over 6,000 acres. The disturbance of 105.3 acres represents about 1.7 percent of the mapped creosote bush-burrobush bajada and valley desert scrub alliance on the base. Creosote bush is a major component of approximately 50 percent of the vegetation on Nellis AFB and is common throughout the Mojave Desert. Impacts to this vegetation alliance would be minor, adverse, and long term. The Mojave rabbitbrush Mojave Desert wash scrub alliance is confined to ephemeral wash areas and is less abundant on Nellis AFB with 343 mapped acres. The potential disturbance of 18.4 acres of this vegetation alliance represents about 5.4 percent of the alliance on the base. Impacts to the Mojave rabbitbrush Mojave Desert wash scrub alliance would be minor, adverse, and long-term. The Parry's saltbush wet shrubland alliance occurs on 1,274 acres on Nellis AFB. The Proposed Action would disturb approximately 36.2 acres of this alliance, representing approximately 2.8 percent of the Parry's saltbush wet shrubland alliance on Nellis AFB. Impacts to this vegetation alliance would be minor, adverse, and long-term.

**Table 3-10  
Estimated Area of Potential Land Disturbance by Vegetation Type**

Vegetation Association	Acres Disturbed	Percent of Association on Nellis AFB
Creosote bush-burrobush bajada and valley desert scrub alliance	105.3	1.7
Mojave rabbitbrush Mojave Desert wash scrub alliance	18.4	5.4
Parry's saltbush wet shrubland alliance	36.2	2.8

Approximately 12 acres would be graded during development of the driving course. The driving course would be routed along existing gravel roads and improvements would include regrading and repairs in areas that are washed out. Impacts to vegetation would be expected to be negligible.

### **Wildlife**

Up to 160 acres of wildlife habitat occupied by a variety of reptile, mammal, and bird species would have the potential to be disturbed and removed during project development; impacts to bird species are discussed under **Migratory Birds**. Populations of small mammals and reptiles in the Proposed Action area would be lost during vegetation removal as a result of mortality during land clearing. Species that are considered sensitive by the BLM and SGCN by the state of Nevada that could be affected by the loss of habitat include the desert horned lizard, desert iguana, Great Basin collared lizard, long-tailed brush lizard, and Mojave sidewinder. Monitoring studies indicate that several bat species occur in the area and likely forage for insects in or near the ROI. Because bats are highly mobile, project development likely would not cause direct mortality of bats. Larger species such as jackrabbits likely would move to adjacent areas. Impacts to reptile and small mammal populations would be expected to be minor but long-term from the loss of habitat. The reptile and small mammal species that occur in the ROI are relatively abundant and common in the Mojave Desert, and loss of local populations would not affect regional populations. The only evidence of predatory species in the ROI were several old badger burrows. Impacts to wildlife would be expected to be minor, adverse, and long-term from loss of habitat.

### **Threatened and Endangered Species**

The only federally listed species that occurs on Nellis AFB is the threatened Mojave desert tortoise (*Gopherus agassizii*). Surveys were conducted in October 2024 to determine the presence or absence of the desert tortoises on 151 acres of potential tortoise habitat in the proposed CSTR area (Nellis AFB, 2024). No evidence of tortoises was found. One old partially collapsed burrow could have been a possible desert tortoise burrow. Vegetation had grown in the mouth of the burrow and no sign of tortoise activity was evident. The area is separated from adjacent habitat by paved roads on the north and south sides. The creosote bush-burrobush vegetation is relatively sparse and short, providing poor cover for tortoises. The central part of this area contains several wash channels that carry stormwater from the northeast to southwest. Several water catchment basins have been constructed in the area to catch and slow water runoff. These areas contain Parry's saltbush wet shrub alliance vegetation. Because of the water flow that occurs here and also the water retained in the catchment basins, vegetation is healthy and well developed. However, the soils are alluvial, and no caliche layers are present that would provide burrows or cover areas for desert tortoises. Any burrows likely would be flooded frequently enough to prevent long-term use. Overall, considering the vegetation, cover, and existing conditions, the habitat in the larger survey area (143 acres) would be considered fair-to-good tortoise habitat.

A second area of approximately 8 acres was surveyed within the existing Camp Cobra. The survey area was considered poor tortoise habitat because of the size, the surrounding development, and sparse vegetation in the area with the exception of two stormwater channels. No sign of desert tortoises or their activity was found.

The DAF has determined that Proposed Action would likely adversely affect the desert tortoise because approximately 143 acres of potential tortoise habitat would be disturbed within the CSTR footprint. The 8 acres of habitat in the second survey was not considered viable desert tortoise habitat. The proposed driving course area is within an area anticipated to be suitable tortoise habitat based on the relative abundance of tortoise observations.

The DAF conducts operations and programs at Nellis AFB under a PBO issued by the USFWS under Section 7 of the ESA for potential impacts to the Mojave desert tortoise. In 2023, the DAF prepared a programmatic Biological Assessment (PBA) to assess the continued operations and programs that occur at Nellis AFB over a 10-year period beginning with the issuance of the final PBO by the USFWS (Nellis AFB, 2023e). The Proposed Action in this EA was evaluated in the PBA and included in the final PBO issued by the USFWS September 2023 (**Appendix B**). The CSTR portion of the Proposed Action in this EA is identified in the PBA and PBO as the "Rapid Airfield Damage Repair Regional Training School (RADRRTS) Expansion and Training Activities" and is part of the Facilities Program in the PBO. The proposed driving course is not included in the PBO. The PBO establishes the maximum number of acres (i.e., adverse effect thresholds or limits) of desert tortoise habitat that may be affected by each program. At

the time the PBO was issued, it was estimated that the RADRRTS may result in the disturbance of approximately 115 acres of suitable Mojave desert tortoise habitat. However, the combined PBO Mojave desert tortoise habitat disturbance limit for the Facilities Program is 1,395 acres, of which 1,300 acres can be new, permanent disturbance and up to 95 acres of new, temporary disturbance (**Appendix B**). Although the 143 acres of Mojave desert tortoise habitat disturbance for the Proposed Action would be greater than the initial estimate of 115 acres, the total permanent disturbance would still be within the 1,300-acre total permanent disturbance limit set in the PBO for the Facilities Program (**Appendix B**).

The PBO also establishes take limits for the Facilities Program. Ten tortoises per year can be moved out of harm's way (i.e., non-injury/non-mortality capture). Two detected injuries or mortalities of tortoises may occur incidental to the proposed activities. Exceeding these limits would require reinitiation of Section 7 consultation with the USFWS. Nellis AFB would implement all the terms and conditions, conservation measures, and reporting requirements specified in the PBO. These environmental protection measures, identified in **Appendix B**, would ensure that potential impacts to desert tortoises and their habitat would be minimized. Implementation of the environmental protection measures would preclude requirements for further consultation for this Proposed Action under Section 7 of the ESA.

A tortoise inspection would be conducted prior to construction. The inspection would include all areas within and adjacent to construction sites, including access routes, staging areas, disposal/stockpile sites adjacent to and in the construction sites (including any off-road areas), and in irrigation pipes, ditches, culverts, and other habitat features. Permanent tortoise exclusion fencing would be installed around the perimeter of the RADRRTS mock airfield, as identified in the PBO. In areas where permanent fencing is not installed, temporary exclusion fencing would be installed around the perimeter of excavation areas during construction activities and removed after all activities are completed and the site restored. All construction areas in tortoise habitat, including open trenches, would be fenced with temporary exclusion fencing and periodically inspected to ensure that there are no breaches in the fencing and there are no tortoises pacing the fence. The proposed driving course was determined to require permanent fencing to meet the ongoing operational requirements of the driving course; however, the fencing potentially would isolate and segregate approximately 430 acres of desert tortoise habitat not included in the PBO.

Project personnel would exercise vigilance when commuting to the project area to minimize wildlife-vehicle collisions on paved and unpaved roads leading to and from the project site. Speed limits would be clearly marked, and all workers would be made aware of these limits. A speed limit of 35 miles per hour would be maintained on paved roads through areas of tortoise habitat. Speed limits of 25 miles per hour would be maintained for all regular vehicle travel on gravel roads and 15 miles per hour on two-track roads and trails. Because the driving course element of the Proposed Action could result in significant, adverse impacts to biological resources, the driving course will not be carried forward in the FONSI as part of the Proposed Action.

### **Migratory Birds**

Approximately 151 acres of habitat used by a variety of migratory bird species would have the potential to be lost from development of the Proposed Action. Bird species that use the ROI would be displaced to other habitats, but survival and nesting success would depend on whether suitable habitat and nesting territories are available. The MBTA makes it unlawful to take migratory birds or their parts, nests, or eggs. To avoid potential take of migratory birds, nests, or eggs, ground clearing would be conducted outside the nesting season (March 1 through July 31) if practicable, or a preconstruction survey would be conducted during the nesting season (BLM, 2024). If nests are found, an appropriately sized buffer area would be established around the nest until the nesting attempt is completed. If no nests are found, land clearing would proceed within a designated timeframe following the survey. Birds designated as SGCN by the state of Nevada that are known to occur in the area and would have the potential to be displaced during project implementation include the American kestrel, common nighthawk, Le Conte's thrasher, long-billed curlew, and sagebrush sparrow. The impact on SGCN bird species would be expected to be minor and long term. The population size of these species in the ROI is not known, but breeding and nesting habitat would be lost for some individuals.

The western burrowing owls occur on Nellis AFB north of the ROI. As described in **Section 3.8.2.3**, burrowing owls located near the Sunrise Vista Golf Course were relocated in 2023 to artificial burrows in the northern part of Area II, north of the ROI. No burrowing owls or their burrows were observed in the ROI

during the desert tortoise surveys in October 2024. Prior to clearing of vegetation, preconstruction surveys would be conducted to confirm the presence or absence of migratory birds, including burrowing owls. No impacts to western burrowing owls would be anticipated from implementation of the Proposed Action.

### **Invasive Species**

Invasive species and noxious weeds were not abundant in the areas surveyed on October 2024. However, with the grading of the Proposed Action area, bare soil may provide conditions favorable to the establishment of invasive species such as Russian thistles and noxious weeds. During construction, crews would adhere to BMPs to minimize invasive species establishment. Potential BMPs include:

- Clean and inspect all equipment before being brought on site to avoid dispersal of non-native invasive species.
- Monitor and control invasive plant species.

The Proposed Action may have minor and long-term effects on the establishment of invasive and noxious weed species.

### **3.8.3.3 No Action Alternative**

Under the No Action Alternative, the proposed combat support training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness requirements. There would be no changes to biological resources in the ROI beyond baseline conditions.

### **3.8.3.4 Cumulative Impacts**

The Proposed Action would likely adversely affect the desert tortoise because approximately 151 acres of wildlife habitat, including 143 acres of potential tortoise habitat, would be developed with implementation of the Proposed Action. The projects identified in **Table 3-1** would also result in impacts to biological resources at Nellis AFB. Impacts to biological resources from Nellis Master Plan and installation development projects would result in the loss of approximately 1,000 acres of desert tortoise habitat immediately south of the Proposed Action area. The 2023 PBO allows for cumulative take of up to 1,395 acres of desert tortoise habitat between the Facilities Program projects identified as the Nellis Master Plan and installation development projects and the projects under the Proposed Action. The cumulative desert tortoise habitat impact would be approximately 1,143 acres, which would be below the allowable acreage impacts to desert tortoise habitat.

Cumulative impacts to creosote bush-burrobush bajada and valley desert scrub alliance would be minor, adverse, and long term because this vegetation alliance is relatively abundant on Nellis AFB and in the Mojave Desert. The east-side development of Nellis AFB would disturb approximately 56 percent of Parry's saltbush wet shrubland alliance on Nellis AFB. The approximately 36.2 acres of Parry's saltbush wet shrubland alliance that would be disturbed by the Proposed Action would result in a minor (an additional 2.8 percent), adverse, and long-term cumulative impact. Cumulative impacts to the Mojave rabbitbrush Mojave Desert wash scrub alliance would be minor and long-term because a relatively small amount of cumulative acres (approximately 22 or 6.4 percent) would be disturbed.

The loss of approximately 151 acres of wildlife habitat from implementation of the Proposed Action would result in a moderate, adverse, and long-term cumulative impact to wildlife from the loss of approximately 1,000 acres of desert tortoise habitat from the east-side development of Nellis AFB. The projects listed in **Table 3-1** would result in long-term, minor, adverse impacts to biological resources because construction associated with these projects would occur primarily within previously disturbed or developed areas. When considered in conjunction with the Proposed Action, implementation of the projects identified in **Table 3-1** would result in long-term, adverse impacts to biological resources due to the removal of large areas of native vegetation.

## 3.9 CULTURAL RESOURCES

### 3.9.1 Definition of the Resource

Cultural resources are prehistoric and historic sites, structures, artifacts, and any other evidence of a particular culture or community. They include archaeological resources, historic architectural resources, and traditional cultural properties. Archaeological resources are locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains (e.g., arrowheads, bottles). Historic architectural resources include standing buildings and other structures of historic or aesthetic significance. Architectural resources generally must be more than 50 years old to be considered eligible for National Register of Historic Places (NRHP) inclusion. However, structures less than 50 years may be considered for inclusion if shown to have historical significance, such as Cold War-era properties. Traditional cultural resources are associated with cultural practices and beliefs of a cultural group that are rooted in their history and maintain the community's identity. Historic properties are significant architectural, archaeological, or traditional resources that are defined as eligible for NRHP inclusion ([36 CFR § 60.4](#)).

Traditional Cultural Properties (TCPs) include land areas, sites, or resources associated with the cultural practices or beliefs of a present-day community (cultural group). TCPs could be plants, objects, raw material, archaeological resources, location of significant events, or hunting areas. These items link a community with its past and help to maintain the present-day cultural identity. TCPs may be eligible for NRHP inclusion.

Due to present-day community importance, the DoD American Indian and Alaska Native Policy emphasizes the importance of respecting and consulting with tribal governments on a government-to-government basis. The policy requires consultation with federally recognized tribes associated with a proposed action location to assess effects prior to making decisions. DoDI 4710.02, *DoD Interactions with Federally Recognized Tribes* (September 2018), implements DoD policy, assigns responsibilities, and provides procedures for DoD interactions with federally recognized tribes in accordance with its American Indian and Alaska Native Policy and other DoD Directives. Additionally, DAFI 90-2002, *Department of the Air Force Interactions with Federally Recognized Tribes* (August 2020), provide guidance for installations to ensure compliance.

EO 13007, *Indian Sacred Sites*, defines sacred sites as any specific, discrete, narrowly delineated location on federal land that is identified by a Native American tribe or individual as sacred by virtue of its established religious significance to or ceremonial use by a Native American religious practitioner and identified as such to the land managing agency. EO 13007 also requires federal agencies to accommodate access to, and ceremonial use of, sacred sites by Native American religious practitioners and to avoid adversely affecting their integrity.

#### 3.9.1.1 Regulatory Setting

Federal laws protecting cultural resources include the *Archaeological and Historic Preservation Act of 1974* ([54 USC §§ 312501–312508](#)), the *American Indian Religious Freedom Act of 1978* ([42 USC § 1996](#)), the *Archaeological Resources Protection Act of 1979*, as amended ([16 USC §§ 470aa–470mm](#)) (ARPA), the *Native American Graves Protection and Repatriation Act of 1990* ([25 USC §§ 3001–3013](#)), the *National Historic Preservation Act* ([54 USC § 30010](#) et seq.) (NHPA) and its implementing regulations ([36 CFR Part 800](#)). The NHPA requires federal agencies to consider effects of federal undertakings on historic properties prior to making a decision or taking an action and integrate historic preservation values into their decision-making process. Federal agencies fulfill this requirement by completing the NHPA Section 106 consultation process, as set forth in [36 CFR Part 800](#). NHPA Section 106 also requires agencies to consult with federally recognized American Indian tribes with a vested interest in the undertaking. NHPA Section 106 requires all federal agencies to seek to avoid, minimize, or mitigate adverse effects to historic properties ([36 CFR § 800.1\(a\)](#)).

In accordance with Section 106 of NHPA, determinations regarding the potential effects of an undertaking on historic properties are presented to the SHPO. Section 106 also requires that federal agencies give the Advisory Council on Historic Preservation a “reasonable opportunity to comment” on proposed actions. Federal agencies must consider whether their activities could affect historic properties that are already listed, determined eligible, or not yet evaluated under the NRHP criteria. Properties that are either listed on or eligible for listing on the NRHP are provided the same measure of protection under Section 106.

Representatives of both the Nevada SHPO and the Advisory Council on Historic Preservation have been involved with ongoing consultation regarding the potential impacts of the Proposed Action and Alternatives on historic properties and mitigation procedures for potential adverse effects.

Not all cultural resources qualify as “historic properties”; i.e., those properties eligible for inclusion on the NRHP. The following criteria have been established as guidance for evaluating potential entries to the NRHP ([36 CFR § 60.4](#)). “Significance” in American history, architecture, archaeology, and culture is granted to districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that meet at least one of the following criteria:

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

Generally, architectural resources must be more than 50 years old to be considered for inclusion on the NRHP. More recent structures must meet a higher level of exceptional significance to be considered NRHP-eligible (Criterion Consideration G). DoD structures of the Cold War-era (1946–1989) are evaluated under explicit guidance of [National Park Service Bulletin 22](#).

EOs have been issued to ensure federally recognized tribes are consulted. EO 12875, *Enhancing the Intergovernmental Partnerships* (October 1993), and EO 13175, *Consultation and Coordination with Indian Tribal Governments* (November 2000), provide direction to improve government-to-government relations with tribes. Further, EO 13007, *Indian Sacred Sites* (May 1996), defines sacred sites as “any specific, discrete, narrowly delineated location on federal land that is identified by a Indian tribe or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion, provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.” EO 13007 also requires federal agencies “to accommodate access to and ceremonial use of Indian sacred sites to avoid adversely affecting the physical integrity of the Indian sacred sites.”

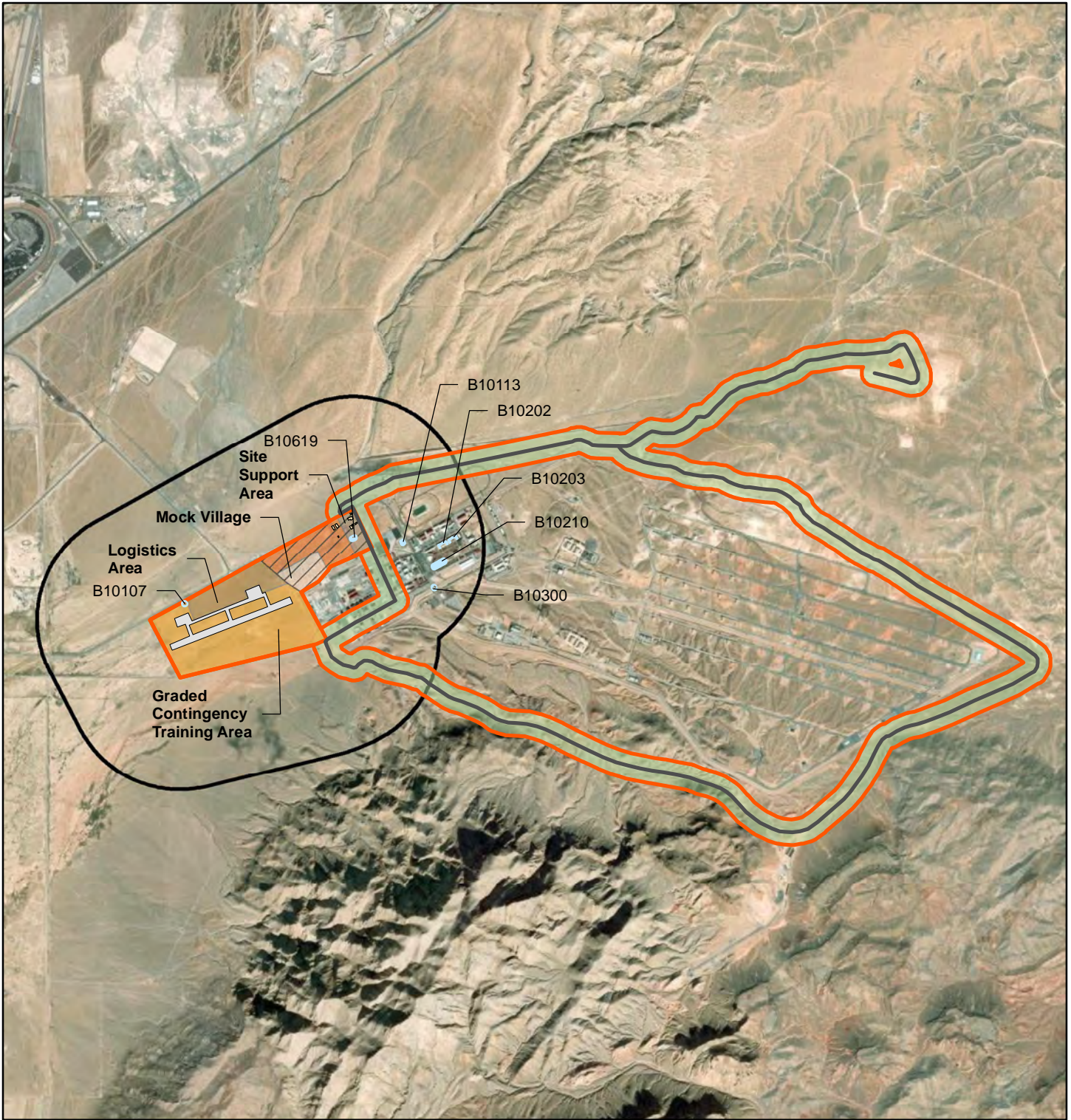
### 3.9.1.2 Region of Influence

The ROI for cultural resources is equivalent to the Area of Potential Effects (APE), as defined by [36 CFR § 800.16\(d\)](#): the “geographic area or areas within which an undertaking (project, activity, program, or practice) may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist,” and thereby diminish their historic integrity. The terms “direct effect” and “indirect effect” are not defined in the NHPA nor in the Section 106 regulations. In March 2019, the District of Columbia circuit court issued an opinion that clarified the meaning of the term “directly” in Section 110(f) (US Court of Appeals, 2019). The opinion in *National Parks Conservation Association v. Semonite* concluded that:

“...the meaning of the term ‘directly’ in Section 110(f) refers to the causality, and not the physicality, of the effect. This means that if the effect comes from the undertaking at the same time and place with no intervening cause, it is considered ‘direct’ regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). ‘Indirect’ effects are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.”

In other words, direct effects are not limited to those physical in nature. Visual, auditory, and atmospheric effects may be considered “direct effects” depending on the specific circumstances of each undertaking. The APE is influenced by the scale and nature of the undertaking and may be different for various kinds of effects caused by the undertaking.

The physical APE for the Proposed Action includes the approximately 205-acre CSTR footprint (**Figure 3-7**) as well as the 8-mile driving course, including the 100-yard buffer on both sides of the road. The visual APE

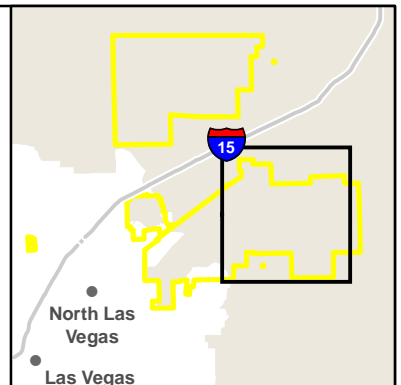


**FIGURE 3-7**  
**Cultural Resources**

- |                                 |                                       |
|---------------------------------|---------------------------------------|
| Driving Course/Foot Patrol Road | Graded Contingency Beddown Area       |
| 100-Yard Foot Patrol Buffer     | Graded Contingency Training Area      |
| Physical APE                    | Logistics Area                        |
| Visual APE                      | Proposed Airfield Training Area       |
| Existing Camp Cobra             | Site Support Area                     |
| Buildings to be repurposed      | Unevaluated Historic Resources in APE |



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



includes a 0.5-mile radius of the CSTR footprint, which also incorporates the radius of atmospheric, auditory, and cumulative effects. This APE has yet to be reviewed and confirmed by SHPO, and this EA will be updated, as necessary, upon issuance of guidance by SHPO. In accordance with NHPA Section 106, the DAF is consulting with the Nevada SHPO, federally recognized tribes, and other agencies regarding definition of the APE and its determination of effects.

### 3.9.2 Existing Conditions

Nellis AFB has an Integrated Cultural Resources Management Plan (ICRMP) that provides direction for the protection and management of cultural resources on the installation in compliance with the NHPA and other legal requirements (Nellis AFB, 2019c) and describes cultural surveys undertaken by Nellis to identify historic properties. In addition to review of the ICRMP, information on cultural resources and surveys within the APE was acquired by searching the Nevada SHPO’s [Nevada Cultural Resources Inventory System](#).

#### 3.9.2.1 Historic Architectural Resources

To date, 43 buildings and structures of historic age (or within the installation’s period of historical significance) have been identified within the visual APE. Of these resources, 36 buildings and structures have been determined not eligible for listing in the NRHP. Seven buildings and structures are unevaluated and, for the purposes of this EA, are considered eligible (**Table 3-11**). Four historic buildings or structures are located within the physical APE—two that have been determined not eligible for listing in the NRHP and two that are unevaluated.

**Table 3-11**  
**NRHP-Eligible, Potentially Eligible, and Unevaluated Architectural Resources within the APE**

Bldg. No.	Name	NRHP Status	APE
10107	Nellis, BLDG 10107, Water Pump Station	Unevaluated	Physical
10113	Nellis, BLDG 10113, Water Pump Station	Unevaluated	Visual
10202	Nellis, BLDG 10202, Special Operations	Unevaluated	Visual
10203	Nellis, BLDG 10203, Special Operations	Unevaluated	Visual
10210	Nellis, BLDG 10210, Heating Plant	Unevaluated	Visual
10300	Nellis, BLDG 10300, Entry Control Building	Unevaluated	Visual
10619	Nellis, BLDG 10619, Operations Support Shed	Unevaluated	Physical

Source: Nellis AFB Real Property and Cultural Resources  
APE = Area of Potential Effect

Four historic architectural studies have been completed within the APE (**Table 3-12**).

**Table 3-12**  
**Architectural Surveys Conducted within the APE**

Report Number	Report Author(s)	Report Name	Year
Pending	Edmiston, Kelly, Ashley Konoske Wiley, et al.	Desktop Architectural Assessment for Unidentified National Register of Historic Places Historic Districts at Area II and Area III, Nellis Air Force Base, Clark County, Nevada	2024
24132	Edwards, Erin	Historical Building Inventory of Nellis AFB, Creech AFB, and Nevada Test and Training Range, Las Vegas, Nevada	2018
20297	Edwards, Susan	Documentation Regarding Nine Demolished Buildings at Nellis and Creech Air Force Bases, Clark County, Nevada	2015
19822	JRP Historical Consulting, LLC	Survey and Evaluation of 121 Buildings at Nellis Air Force Base, Clark County, Nevada	2014

Source: [Nevada Cultural Resources Inventory System](#)  
APE = Area of Potential Effect

#### 3.9.2.2 Archaeological Properties

To date, 31 archaeological sites have been identified within the APE as a result of seven archaeological surveys covering the entirety of the physical APE (**Table 3-13**). Of these sites, 30 have been determined not eligible for NRHP listing or non-contributing to the eligibility of larger, linear sites (with SHPO

concurrence). One site (26CK4984) within the physical APE (in the foot patrol buffer) has been determined eligible for listing in the NRHP (**Table 3-14**).

**Table 3-13**  
**Archaeological Surveys Conducted within the APE**

SHPO Report Number	Report Author(s)	Report Name	Year
34541	Toussaint, M., and J. Roberson	Archaeological Inventory and Evaluation of 1,000 Acres on the Nellis Air Force Base, Clark County, Nevada	2023
34386	Younie et al.	Class III Archaeological Inventory for the Fence-to-Fence Environmental Services at Nellis Air Force Base, Clark County, Nevada	2022
23535	Smith, Lisa M.	Nellis Air Force Base: Section 110 Archaeological Survey, Area II, Clark County, NV	2017
13137	Lawrence et al.	Nellis Air Force Withdrawal Lands, Clark County, Nevada	1999
MISC62	Bergin, Kathleen A.	Archaeology of Areas II and III, Nellis Air Force Base, Clark County, Nevada	1995
11366	Peter, Duane E.	Report of Negative Findings for Additional Survey of Area II Wastewater Service Area Sewer Line, Nellis Air Force Base, Nevada	1992
13296	Hatoff, Brian W.	#N-7262, Nellis AFB Withdrawal of BLM lands	1975

Source: [Nevada Cultural Resources Inventory System](#)  
APE = Area of Potential Effect

**Table 3-14**  
**NRHP-Eligible and Unevaluated Archaeological Resources within the APE**

Site No.	Temporal Affiliation	Description	NRHP Status	APE
CK4984	Precontact	Lithic quarry and reduction site	Eligible	Physical

Source: [Nevada Cultural Resources Inventory System](#)  
APE = Area of Potential Effect

### 3.9.2.3 Traditional Cultural Properties

Sixteen federally recognized Native American tribes have historical ties to Nellis AFB and the surrounding area. To date, no TCPs have been identified within the APE. In accordance with NHPA Section 106, the DAF consulted with federally recognized tribes regarding definition of the APE and its determination of effects. Tribal consultation correspondence can be found in **Appendix A**.

### 3.9.3 Environmental Consequences

#### 3.9.3.1 Evaluation Criteria

Adverse impacts to cultural resources would occur if the Proposed Action:

- physically alters, damages, or destroys all or part of a resource;
- alters characteristics of the surrounding environment that contribute to the resource's significance;
- introduces visual or audible elements that are out of character with the property or alter its setting or feeling;
- neglects the resource to the extent that it deteriorates or is destroyed; and/or
- results in the sale, transfer, or lease of the property out of agency ownership (or control) without adequate enforceable restrictions or conditions to ensure preservation of the property's historic significance.

For the purposes of this EA, an impact would be considered significant if it alters the integrity of a NRHP-listed, -eligible, or potentially eligible resource or would have the potential to impact TCPs.

### 3.9.3.2 Proposed Action

#### Architectural Properties

There are seven unevaluated historic architectural resources within the APE for the Proposed Action, two of which are within the physical APE (see **Table 3-14**). Until these resources are evaluated for NRHP eligibility, they are considered eligible. Adverse physical effects to historic architectural resources would have the potential to occur if the unevaluated archaeological resources within the physical APE were determined to be eligible for listing in the NRHP and were not avoided during ground-disturbing activities. The Proposed Action would not include demolition of or physical modifications to either of the two unevaluated architectural resources within the physical APE. Therefore, the Proposed Action is unlikely to cause adverse physical effects to architectural resources within the physical APE. A precise layout for the CSTR has not been determined, and potential direct, minor, adverse physical effects could occur if either of the two unevaluated architectural resources within the physical APE were determined to be eligible for listing in the NRHP and were not avoided during ground-disturbing activities.

Adverse visual effects to historic architectural resources would have the potential to occur from introduced visual or audible elements from development of the Proposed Action that are out of character with historic architectural resources that alter their setting or feeling. Adverse visual effects would have the potential to occur if unevaluated architectural resources within the visual APE were determined to be eligible for listing in the NRHP and had visual modifications that alter their setting or feeling. The projects included in the Proposed Action are military in nature and would be in character with the surrounding built environment. Therefore, the Proposed Action is unlikely to cause an adverse visual, auditory, or atmospheric effect to architectural resources within the APE. A precise layout for the CSTR has not been determined, and potential direct, minor, adverse visual effects could occur if any of the seven unevaluated architectural resources within the APE were determined to be eligible for listing in the NRHP and were altered to be out of character for their architectural setting during project development. Nellis AFB will continue to consult with the SHPO on potential effects and determine whether mitigation measures would be necessary.

#### Archaeological Properties

There is one NRHP-eligible archaeological site (CK4984) within the physical APE for the Proposed Action, which could be subject to physical effects with implementation of the Proposed Action. The only physical impacts to which site CK4984 may be subject would be from occasional foot patrols. Most of the site is outside of the foot patrol buffer. Nellis AFB will continue to consult with the SHPO on potential effects and determine whether mitigation measures would be necessary.

#### Traditional Cultural Properties

To date, there have been no TCPs identified within, or associated with, the APE. Therefore, implementation of the Proposed Action would be anticipated to result in no effects to TCPs in the ROI. Work would be conducted in accordance with the ICRMP, including procedures for inadvertent discovery of archaeological resources. If artifacts, features, or structural remains are discovered, during but not exclusive to mission actions, personnel would implement the following BMPs (Nellis AFB, 2019c):

- Immediately cease activities at the archaeological resource and make efforts to ensure protection until arrival of the CRM.
- Mark the resource to provide an efficient relocation, making effort to minimize the types of signs that would attract personnel and thus placing the resource in danger.
- Leave artifacts in place; it is illegal to collect or disturb archaeological materials under ARPA.
- Notify the CRM (99 CES/CEIEA 702-652-5813 or 7429) within 24 hours of the discovery.
- Be available to assist in relocating the resource.

### 3.9.3.3 No Action Alternative

Under the No Action Alternative, the proposed combat support training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness requirements. There would be no changes to cultural resources in the ROI beyond baseline conditions.

### 3.9.3.4 Cumulative Impacts

The Proposed Action would have the potential to result in minor, direct, adverse visual and physical effects to cultural resources at Nellis AFB, depending on the results of ongoing SHPO consultation. The projects listed in **Table 3-1** involve construction of additional facilities, parking, structures, and/or other impervious surfaces within the visual and physical APE for the Proposed Action. Construction projects have the most potential to physically disturb archaeological sites and historic buildings. Renovation most often impacts architectural resources, infrastructure development poses physical and environmental threats to all historic properties, if present, and demolition is most likely to affect historic buildings and the historic landscape.

Implementation of the Nellis Master Plan and installation development projects would be anticipated to result in direct, adverse, visual impacts to cultural resources. The Red Flag Historic District and the Thunderbirds Hangar would have the potential to experience direct visual effects as a result of new construction within their viewshed. Consultation with the Nevada SHPO would occur on a project-by-project basis prior to beginning construction.

Completed MILCON projects at Nellis AFB constructed within the viewshed of historic properties resulted in adverse, direct, visual effects to cultural resources.

Several cultural resources would be adversely affected by proposed construction, renovation, infrastructure, and demolition projects evaluated in the Nellis IDP EA, including demolition of the Lomie Heard Elementary School, an NRHP-eligible historic district. Nellis AFB and the Nevada SHPO signed a Memorandum of Agreement for demolition of the district that stipulates required mitigation measures for the action. Other proposed projects evaluated in that EA would continually directly and indirectly impact cultural resources.

None of the seven unevaluated buildings or the one eligible archaeological resource would be impacted by the other planned projects. Additionally, any cumulative visual effects would be consistent with a military environment and any permanent construction would adhere to installation facilities standards. When considered in conjunction with the effects of past, present, and reasonably foreseeable actions at Nellis AFB, no adverse cumulative effects to cultural resources would be anticipated to occur with implementation of the Proposed Action.

## 3.10 NOISE

### 3.10.1 Definition of the Resource

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Noise is generally described as unwanted sound. Unwanted sound can be grounded in objectivity (e.g., hearing loss or damage to structures) or subjectivity (e.g., an individual's level of tolerance or annoyance to different sounds). Noise events elicit varying responses within a population or area based on the activity generating noise and its perceived importance and related factors, such as setting, time of day, exposure period or duration, and receptor sensitivity. In addition to humans, noise may also affect wildlife as indicated by behavioral changes during nesting, foraging, migration, or other life-cycle activities (USEPA, 1978).

Noise and sound levels are expressed in logarithmic units measured by decibels (dB). A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech equates to a sound level of approximately 60 dB; sound levels above 120 dB begin to be felt inside the human ear as discomfort, and sound levels between 130 and 140 dB are felt as pain (Berglund and Lindvall, 1995). To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted. For example, environmental noise measurements usually employ an "A-weighted" scale, denoted as dBA, that de-emphasizes very low and very high frequencies to better replicate human sensitivity.

In accordance with DoD guidelines and standard practice for environmental impact analysis documents, the noise analysis herein uses the Day-Night Average Sound Level (DNL) and the Onset-Rate Adjusted DNL. DNL is a cumulative measure of multiple flight and engine maintenance activities throughout an average year.

The *Noise Control Act of 1972* ([Public Law 92-574](#)) directs federal agencies to comply with applicable federal, state, and local noise control regulations. In 1974, the USEPA provided information suggesting that continuous and long-term noise levels greater than 65 dBA are normally unacceptable for noise-sensitive receptors such as residences, schools, churches, and hospitals (USEPA, 1974).

The ROI for noise is Nellis AFB.

### 3.10.2 Existing Conditions

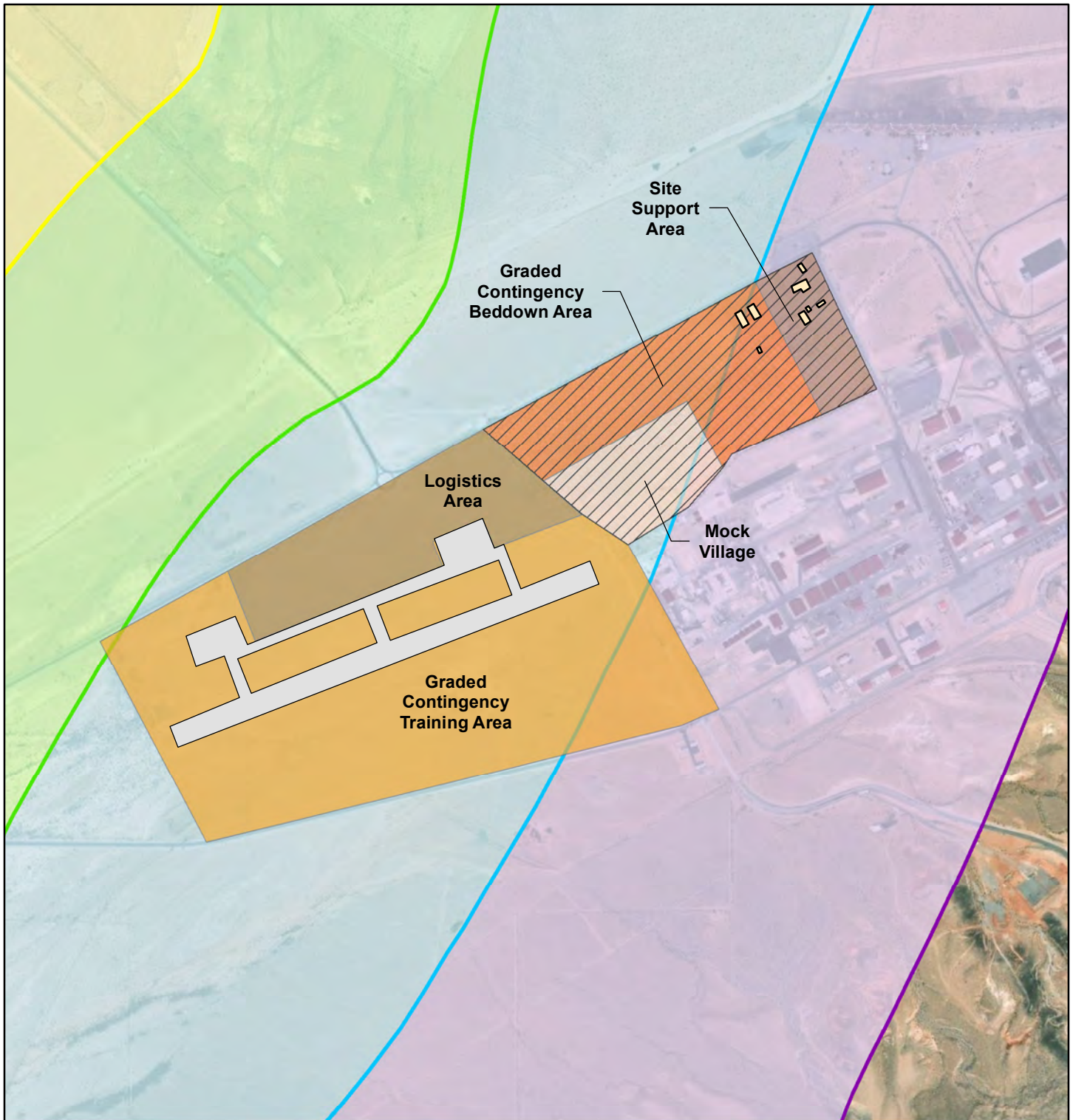
The goal of the AICUZ program at Nellis AFB is to protect the health, safety, and welfare of individuals living or working near the military installation, while maintaining the DAF's operational mission. The program recommends operational noise levels be incorporated into local community planning decisions to minimize impacts to residents. The AICUZ study at Nellis AFB was updated in 2017 and represents an accurate depiction of the aircraft activities through 2024. The AICUZ allows the neighboring communities to take a long-range view in land use planning surrounding the installation (DAF, 2017a).

Aircraft operations are the primary source of noise associated with Nellis AFB. The level of noise exposure relates to a number of variables, including the aircraft type, engine power setting, altitude flown, direction of the aircraft, flight track, temperature, relative humidity, frequency, and time of operation (day/night). Aircraft assigned to Nellis AFB include the A-10 Thunderbolt, F-15 Eagle, F-16 Fighting Falcon, F-22 Raptor, F-35A, C-12 Huron, and the HH60G Pave Hawk helicopter. Aircraft that are not permanently assigned but conduct operations from the installation on an occasional basis are referred to as transient aircraft. Transient aircraft include the F/A-18 Super Hornet, KC-135 Stratotanker, C-130 Hercules, B-1 Lancer, B-2 Spirit, and the B-52 Stratofortress.













Multiple variables contribute to the overall noise environment surrounding Nellis AFB, including aircraft type, engine power settings, altitude, direction, temperature, humidity, and time of day. The airfield is located in the center of Area I and is generally aligned southwest to northeast. It includes aircraft hangars for maintenance and storage, aircraft parking ramps and taxiways, two hard-surface runways, assorted office buildings, munitions storage areas, and support facilities such as hush houses (buildings specifically designed to muffle engine noise) for engine run maintenance. Maintenance is also an integral part of any flying operation, and it requires a dedicated team of professionals to ensure that units can meet flying schedule requirements. Two key tasks in maintaining aircraft are low- and high-powered engine maintenance runs. Engine runs may be conducted at any power setting between idle and maximum power. The noise associated with these maintenance operations also contributes to the overall noise environment at Nellis AFB.

The DAF has established a program with the goal of reducing noise and vibrations from military aircraft, weapons systems, and munitions. The Nellis AFB Noise Abatement Program contains strategies, techniques, and procedures that have been put in place that help to protect people and structures from harmful effects of noise and vibration. Aircraft departing the installation expedite their turns and climbs after takeoff for noise abatement and to avoid populated areas around the installation (Nellis AFB, 2018). Leadership evaluates flight operations and practices periodically as well as complaints from public use areas. Being located away from main public areas, Nellis AFB has limited the number of noise complaints (DAF, 2017a).

In accordance with DAFI 32-1015, *Integrated Installation Planning* (11 April 2025), Nellis AFB models its noise exposure using the NOISEMAP suite of computer programs containing the core computational programs called "NMAP" version 7.3 and "MRNMap" version 3.0 for environmental analysis of aircraft noise. These programs generate noise planning contours, or levels, to inform future land development. These noise levels are based on the best available estimates of future mission needs and anticipated aircraft life cycles. These levels are represented in 5-decibel (dB) increments surrounding the Nellis AFB airfield, as shown in **Figure 3-8**, and reflect anticipated aircraft operations in the year 2024 (DAF, 2017a). The DAF uses the DNL to describe the cumulative noise exposure that results from all aircraft operations. DNL is a standard noise metric created by USEPA to describe the effects of noise on humans. This metric represents long-term exposure to noise and not on an individual occurrence.

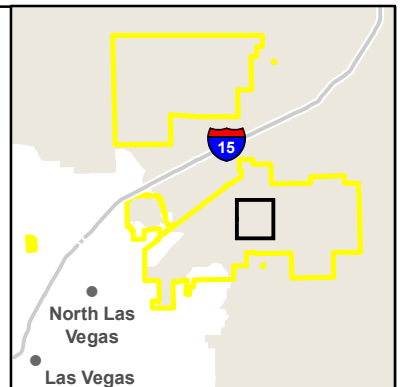


**FIGURE 3-8**  
Noise

- |  |   |   |
|--|---|---|
|  Existing Camp Cobra              |  Logistics Area                  |  60 db |
|  Buildings to be repurposed       |  Mock Village                    |  65 db |
|  Graded Contingency Beddown Area  |  Proposed Airfield Training Area |  70 db |
|  Graded Contingency Training Area |  Site Support Area               |  75 db |



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



### 3.10.3 Environmental Consequences

#### 3.10.3.1 Evaluation Criteria

When evaluating noise effects, several aspects are examined:

- the degree to which noise levels generated by construction and operational activities would be higher than the ambient noise levels;
- the degree to which there would be hearing loss and/or annoyance; and
- the proximity of noise-sensitive receptors (e.g., residences, schools, hospitals, parks) to the noise source.

Adverse impacts to the noise environment would occur if the Proposed Action causes increases in the ambient noise environment within the ROI. The impacts would be considered significant if they cause long-term noise outside of the recommended noise limits for land use planning as outlined in Air Force Handbook 32-7084, *AICUZ Program Manager's Guide*. An environmental analysis of noise includes the potential effects on the local population and estimates the extent and magnitude of the noise generated by the Proposed Action.

#### 3.10.3.2 Proposed Action

The Proposed Action would result in temporary noise increases during construction activities. Construction of the training facilities, the mock training airfield, the foot patrol path, and repairs to the driving course would require machinery that would temporarily introduce noise to the environment. Noise associated with the operation of construction equipment is generally short term, intermittent, and localized. The analysis in this EA uses A-weighted decibel (dBA) metrics to provide a weighted scale for judging loudness that corresponds to the hearing threshold of the human ear. A-weighting accounts for the frequency sensitivity of the human ear. The loudest machinery typically produces peak sound pressure levels ranging from 86 to 95 dBA at a 50-foot distance from the source (**Table 3-15**).

**Table 3-15**  
**Peak Sound Pressure Level of Construction Equipment from 50 Feet**

Equipment	Sound Pressure Level (dBA)
Bulldozer	85
Scraper	85
Front Loader	80
Backhoe	80
Grader	85
Crane	85

Source: Federal Highway Administration, 2006  
dBA = A-weighted decibel

All construction associated under the Proposed Action would occur within the installation's boundaries and would be intermixed with other existing noise-compatible activities, such as military training and aircraft operations. As a result of the existing ambient noise environment, construction noise would not be anticipated to be noticeably louder than background noise levels.

Adherence to standard DAF Occupational Safety and Health regulations that require hearing protection along with other personal protective equipment and safety training would minimize the risk of hearing loss to construction workers. Activities on military installations are not subject to local noise ordinances. Individuals on the installations, such as military personnel and government contractors living and working near the sites, might notice the noise. In addition, a limited number of delivery trucks and worker vehicles would be audible along nearby roadways as they arrive at and depart from the sites. Given the temporary nature of proposed construction activities, distance to nearby noise-sensitive areas, and existing noise environment, these effects would be anticipated to be negligible.

Operation of the facilities under the Proposed Action would not result in significant impacts to the existing noise environment. Associated operational activities would result in intermittent noise that would be

indistinguishable from the noise generated by ongoing aircraft operations. Noise would be introduced to the existing environment through RADR training operations. A large focus of the RADR training would be to train personnel on rapid repair of runways damaged under combat-simulated conditions. Both damaging and repairing the runways would be anticipated to result in intermittent noise. These training operations would be limited to the proposed mock airfield and would be infrequent, at up to 12 RADR trainings annually. The proposed mock airfield is 1.4 miles from the closest boundary of Nellis AFB to the north, Las Vegas Boulevard. No noise-sensitive receivers are located within the project vicinity, and the existing 65 dB noise contour that originates from the Nellis AFB airfield encompasses the Proposed Action area. The driving course would be constructed along an existing gravel road, and vehicle noise during future operations would be expected to be similar to current conditions. The operation of the foot patrol path would not contribute measurably to the noise environment.

No observable long-term impacts or operational increases in noise would be expected to occur with implementation of the Proposed Action; existing noise contours would be unaffected.

### **3.10.3.3 No Action Alternative**

Under the No Action Alternative, the proposed combat support training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness requirements. There would be no changes to the noise environment in the ROI beyond baseline conditions.

### **3.10.3.4 Cumulative Impacts**

Implementation of the Proposed Action would be anticipated to result in short-term, negligible impacts to the noise environment during construction activities and would have no significant impact on the long-term noise environment at Nellis AFB. The projects listed in **Table 3-1** involve the addition or modification of airframes and aircraft training operations within the ROI—the area covered by the Nellis AFB AICUZ program.

The TASS beddown, Nellis Aggressor beddown, and CCA EOU beddown involve modifications to aircraft composition and operations, which are the primary sources of noise at Nellis AFB. New aircraft and additional sorties have the potential to increase noise and expand the footprint of the noise planning contours on the timeline evaluated in each respective environmental document; the potential impacts to the noise environment have been incorporated into planning documents. The existing Nellis AFB AICUZ noise contours include anticipated actions at the installation through the year 2024. Future projects that could alter the composition of airframes operating out of Nellis AFB would have the potential to alter these planning guidelines. These changes would need to be accounted for in the next iteration of AICUZ documentation and would have the potential to result in changes to the existing noise contours.

Installation development actions under the Nellis IDP EA, MILCON projects, Nellis Master Plan and installation development projects, Nellis Reclaimed Waterline Project, and CCRFCD flood control utility projects would not be anticipated to result in significant impacts to noise from construction and demolition. Construction and demolition activities would result in short-term, temporary noise impacts, and operation of the new facilities would not be anticipated to alter the overall noise environment.

When considered in conjunction with the effects of past, present, and reasonably foreseeable actions at Nellis AFB, no significant cumulative effects to the noise environment would be anticipated to occur with implementation of the Proposed Action.

## **3.11 HAZARDOUS MATERIALS AND WASTES, TOXIC SUBSTANCES, PETROLEUM PRODUCTS, AND CONTAMINATED SITES**

### **3.11.1 Definition of the Resource**

Hazardous materials (HAZMAT) and hazardous wastes, toxic substances, and petroleum products are substances that, when released into the environment or handled incorrectly have the potential to cause harm to human health and the environment. These substances are evaluated together under a single topic because they all have the potential to cause harm. The definition of each type of substance is nuanced

and, as such, each category of substance is regulated under different federal regulations and DAF policies. A more detailed definition of each category of is presented in the following sections.

The ROI for HAZMAT, hazardous waste, toxic substances, petroleum products, and contaminated sites is the Proposed Action area.

### **3.11.1.1 Hazardous Materials and Wastes**

The *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* ([42 USC § 9601](#)) (CERCLA), as amended by the *Superfund Amendments and Reauthorization Act* (SARA) and the *Toxic Substances Control Act* ([15 USC § 2601](#), et seq., as implemented by [40 CFR Part 761](#)) (TSCA), defines HAZMAT as any substance with physical properties of ignitability, corrosivity, reactivity, or toxicity that might cause an increase in mortality, serious irreversible illness, and incapacitating reversible illness, or that might pose a substantial threat to human health or the environment. The Occupational Safety and Health Administration (OSHA) is responsible for the enforcement and implementation of federal laws and regulations pertaining to worker health and safety under [29 CFR Part 1910](#). OSHA also includes the regulation of HAZMAT in the workplace and ensures appropriate training in their handling.

The *Solid Waste Disposal Act*, as amended by the *Resource Conservation and Recovery Act of 1976* ([42 USC § 6901](#)) (RCRA), which was further amended by the *Hazardous and Solid Waste Amendments of 1984*, defines hazardous wastes as any solid, liquid, contained gaseous, or semi-solid waste, or any combination of wastes, that pose a substantial present or potential hazard to human health or the environment. In general, both HAZMAT and hazardous wastes include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, might present substantial danger to public health and welfare or the environment when released or otherwise improperly managed.

AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*, establishes procedures and standards that govern management of HAZMAT throughout the DAF. This manual applies to all personnel acting on behalf of the DAF who authorize, procure, issue, use, or dispose of HAZMAT, and to those who manage, monitor, or track any associated activities.

### **3.11.1.2 Toxic Substances**

Toxic substances are substances that might pose a risk to human health but are not regulated as contaminants under the hazardous waste statutes. Included in this category are asbestos-containing materials (ACMs), lead-based paint (LBP), radon, polychlorinated biphenyls (PCBs) and polyfluoroalkyl substances (PFAS). The presence of special hazards or controls over them might affect, or be affected by, a proposed action. Information on special hazards such as locations, quantities, and conditions help in determining the significance of a proposed action.

#### **Asbestos**

DAFI 32-1001, *Civil Engineering Operations*, provides the direction for asbestos management at DAF installations. This instruction incorporates by reference applicable requirements of [29 CFR Part 669](#), [29 CFR § 1910.1025](#), [29 CFR § 1926.58](#), [40 CFR § 61.140](#), CAA Section 112, and other applicable D/AFIs and DoD Directives. DAFI 32-1001 requires bases to develop an asbestos management plan to maintain a permanent record of the status and condition of ACM in installation facilities, as well as to document asbestos management efforts. In addition, DAFI 32-1001 requires installations to develop an asbestos operating plan detailing how the installation manages known existing asbestos. USEPA regulates asbestos with the authority promulgated under OSHA at [29 USC § 669](#). CAA Section 112 regulates emissions of asbestos fibers to ambient air. USEPA policy is to leave asbestos in place if disturbance or removal could pose a health threat.

#### **Lead-Based Paint**

Human exposure to lead has been determined an adverse health risk by agencies such as OSHA and USEPA. Sources of exposure to lead are dust, soils, and paint. In 1973, the Consumer Product Safety Commission established a maximum lead content in paint of 0.5 percent by weight in a dry film of newly applied paint. In 1978, under the *Consumer Product Safety Act* ([Public Law 101-608](#), as implemented by [16 CFR Part 1303](#)), the Commission lowered the allowable lead level in paint to 0.06 percent (600 ppm).

The Act also restricted the use of LBP in nonindustrial facilities. DoD implemented a ban on LBP use in 1978; therefore, it is possible that facilities constructed prior to or during 1978 may contain LBP.

### **Radon**

The US Surgeon General defines radon as an invisible, odorless, and tasteless gas, with no immediate health symptoms, that comes from the breakdown of naturally occurring uranium inside the earth. Radon that is present in soil can enter a building through small spaces and openings, accumulating in enclosed areas such as basements. No federal or state standards are in place to regulate residential radon exposure at the present time, but guidelines were developed. AFMAN 48-148, *Ionizing Radiation Protection*, provides direction for radon management at DAF installations. All installations must have radon assessments for structures supporting housing, child development centers, and DoD Education Activity schools. Although 4.0 picocuries per liter is considered an “action” limit, any reading over 2 picocuries per liter qualifies as a “consider action” limit. USEPA and the US Surgeon General have evaluated the radon potential around the country to organize and assist building code officials in deciding whether radon-resistant features are applicable in new construction. Radon zones can range from 1 (high) to 3 (low).

### **Polychlorinated Biphenyls (PCBs)**

PCBs are a group of chemical mixtures used as insulators in electrical equipment, such as transformers and fluorescent light ballasts. Chemicals classified as PCBs were widely manufactured and used in the US until they were banned in 1979. The disposal of PCBs is regulated under TSCA, which banned the manufacture and distribution of PCBs, with the exception of PCBs used in enclosed systems. Per DAF policy, all installations should have been free of PCBs as of 21 December 1998. In accordance with [40 CFR Part 761](#) and DAF policy, both of which regulate all PCB articles, PCBs are regulated as follows:

- Less than 50 ppm—non-PCB (or PCB free)
- 50 ppm to 499 ppm—PCB-contaminated
- 500 ppm and greater—PCB equipment

TSCA regulates and the USEPA enforces the removal and disposal of all sources of PCBs containing 50 ppm or more; the regulations are more stringent for PCB equipment than for PCB-contaminated equipment.

### **Per- and Polyfluoroalkyl Substances**

PFAS are a group of man-made chemicals that are very persistent in the environment and have the potential to lead to adverse human health impacts. PFAS include many individual chemical compounds, the most extensively studied of these are perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). These chemicals are not naturally occurring, but low levels can be found in soils, water, packaging, and many industrial and consumer products (Military Health System, 2021).

Popular for their ability to increase heat resistance and reduce friction, PFAS have been widely used since the 1950s. In the 1970s, the DoD utilized aqueous film forming foam (AFFF) for fire suppression, which contains PFOS and PFOA. PFOS is a long-chain PFAS found in older stocks of AFFF and as a breakdown product of precursor compounds. PFOA is also a long-chain PFAS. PFOA is not an intended ingredient in AFFF but is a side product created during the manufacturing process. Many AFFF formulations contain other unintended PFAS side products that have similar health and environmental concerns (Alaska Department of Environmental Conservation, 2024).

AFFF is considered mission critical for its ability to effectively extinguish petroleum-based fires. Recently, the DoD has made efforts to phase out the use of PFAS-containing AFFF and transition to PFAS-free foams currently on the market. In 2016, the USEPA recognized the potential health risks associated with PFOS and PFOA accumulations in the human body and issued a lifetime health advisory for these compounds in drinking water (Military Health System, 2021).

#### **3.11.1.3 Petroleum Products**

Section 311 of the CWA, as amended by the *Oil Pollution Act* ([Public Law 101-380](#)), defines petroleum oil as crude and refined petroleum products, such as gasoline, fuel oils, and asphalt. Uncontrolled release of petroleum products has the potential to threaten the health and wellbeing of wildlife species, botanical habitats, soil systems, and water resources.

The CWA establishes requirements to prevent, prepare for, and respond to oil discharges at specific types of facilities, including military installations. The goal of the *Oil Pollution Act* is to prevent oil from reaching navigable waters and adjoining shorelines and to contain discharges of oil. The Act established the SPCC rule under [40 CFR Part 112](#). The SPCC rule requires facilities with an aggregate aboveground petroleum storage capacity greater than 1,320 gallons or an aggregate underground storage capacity of 42,000 gallons to develop and implement an SPCC plan. The SPCC plan establishes procedures, methods, and equipment requirements for managing the storage, transfer, and potential release of petroleum products. These plans must be prepared by or under the supervision of a professional engineer and must be designed to prevent a release from reaching navigable waters.

Department of the DAF Manual 32-1067, *Water and Fuel Systems*, identifies compliance requirements for underground storage tanks (USTs) and aboveground storage tanks (ASTs), and associated piping, that store petroleum products and hazardous substances. Evaluation of HAZMAT and hazardous wastes focuses on USTs and ASTs as well as the storage, transport, and use of pesticides, fuels, oils, and lubricants.

### **3.11.1.4 Pesticides**

Pesticides, herbicides, and insecticides can be used to control pest populations. Pest management programs include measures to control health-related pests (e.g., mosquitoes, ticks and fleas, bees and wasps, scorpions, spiders, venomous snakes, lice, mites, and chiggers); structural pests (e.g., termites and powder post beetles); general household/nuisance pests (e.g., ants, cockroaches and flies); weed pests (e.g., mixed vegetation and turf diseases); vertebrate pests (e.g., bats, rodents, gophers, feral animals, coyotes, and foxes); and bird pests (e.g., pigeons). Chlordane was used as a pesticide until it was banned in 1988. It is a persistent bio accumulative and toxic pesticide that was often applied to the soil around building foundations to control termites (Agency for Toxic Substances and Disease Registry, 2018).

### **3.11.1.5 Environmental Restoration Program**

The *Superfund Amendments and Reauthorization Act of 1986* ([Public Law 99-499](#)) (SARA) established cleanup mandates for the DoD and established the DoD Environmental Restoration Program (ERP), which comprises the Installation Restoration Program and the Military Munitions Response Program. Through the ERP, each DoD installation is required to identify, investigate, and clean up hazardous waste disposal or release sites. Remedial activities for ERP sites follow the Hazardous and Solid Waste Amendments under the RCRA Corrective Action Program. The ERP aims to reduce risk to human health and the environment by identifying, evaluating, and responding to a release or threat of a release into the environment from DoD activities or DoD facilities. ERP sites involve releases of hazardous substances, pollutants or contaminants, hazardous waste, and petroleum products. In accordance with DoDI 4715.07, *Defense Environmental Restoration Program* (August 2018), the ERP goals are to facilitate compliance with applicable statutes, regulations, and other legal requirements and conduct environmental restoration activities.

## **3.11.2 Existing Conditions**

### **3.11.2.1 Hazardous Materials and Wastes**

Activities at Nellis AFB require the use and storage of a variety of HAZMAT, including flammable and combustible liquids, acids, corrosives, caustics, anti-icing chemicals, compressed gases, solvents, paints, paint thinners, and pesticides. The corresponding safety data sheets of the hazardous and toxic substances used on Nellis AFB are documented through the Installation Hazardous Materials Pharmacy.

Hazardous and toxic substances disposal procedures are identified in the Nellis AFB Hazardous Waste Management Plan (Nellis AFB, 2015), and wastes are disposed of in compliance with applicable federal, state, and local regulations. The Nellis AFB SPCC plan identifies Building 10146, which is located within the Proposed Action area, as a site for HAZMAT and hazardous waste activity (Oneida Total Integrated Enterprises, 2021).

Current activities consist predominantly of storage and administrative functions. Very little, if any, hazardous waste is generated, and bulk storage of HAZMAT does not occur on site. Small quantities of HAZMAT may be present and contained within the equipment and materials stored on site. Training activities are not expected to generate hazardous waste or use hazardous materials. The visiting troops would be trained in

accordance with the Nellis SPCC, and any waste from spill response would be transported to the 90-day satellite accumulation site for proper management. ACM and LBP waste are not anticipated because activation of the training activities would not disturb existing building materials. The Nellis AFB SPCC identifies only one on-base 90-day satellite hazardous waste accumulation point. The satellite accumulation point is located in building 853 and is not within the Proposed Action area.

### 3.11.2.2 Toxic Substances

Toxic substances can be present in the production, use, and disposal of specific chemicals. Nellis AFB maintains operation and procedure manuals that are in accordance with regulations and guidelines specific to toxic substances. Toxic substances such as asbestos, lead, and PCBs are being phased out of common materials, no known PCBs are present but ACM and LBP are still present in some areas of the installation.

#### Asbestos

Many buildings on Nellis AFB date from the 1940s through the 1980s; however, the majority of the buildings currently at Camp Cobra were built after 1990, ACM has not been identified in many of these facilities (**Table 3-16**). The USEPA issued a ban on asbestos-containing products in 1989 that phased out the use of asbestos-containing building materials. Buildings constructed prior to 1989 are assumed to be asbestos-containing. There are currently seven standing buildings within the Proposed Action area. Based on the age of the structures currently standing in the ROI, Building 10112 is presumed to contain ACM.

**Table 3-16  
Asbestos Status of Structures within the ROI**

Building #	Date Built	Status	Notes
10112	1954	PACM	Presumed to contain ACM.
10136	1989	Non-PACM	Survey may be required for renovation, including roof.
10146	1991	Non-PACM	No asbestos history, roof not tested.
10155	2007	Non-PACM	No asbestos history, roof not tested.
10157	2004	Non-PACM	No asbestos history, roof not tested.
10164	1998	Non-PACM	No asbestos history, roof not tested.
10165	2000	Non-PACM	No asbestos records, survey may be required for renovation.

Source: Nellis AFB, 2003b

PACM = presumed asbestos-containing material

Nellis AFB routinely conducts testing for asbestos and LBP regardless of the age of the building for projects requiring renovation, demolition, and maintenance. Nellis AFB civil engineering personnel review all renovation or demolition of installation structures to ensure that appropriate measures are taken to reduce potential exposure to, and release of, friable (easily crumbled or pulverized) asbestos. Renovation and demolition work performed at Nellis AFB is completed in accordance with the Nellis AFB Asbestos Management and Operations Plan (Nellis AFB, 2021), which complies with Clark County DES and National Emission Standard for Hazardous Air Pollutants standards.

#### Lead-Based Paint

LBP with lead levels equal to or higher than 0.06 percent or 600 ppm was banned for use in the US in 1978. As such, buildings constructed prior to that date may contain LBP. Of the seven structures that exist in the Proposed Action area, all but one were constructed after 1978. Building 10112 was reported to have been constructed in 1954 and, thus, may have LBP present.

An LBP survey was conducted in 1993 and again in 1998. While LBP was found on various components within surveyed areas, the surveys focused on the Nellis AFB housing units and did not extend to the Proposed Action area.

Renovation and demolition work performed at Nellis AFB are completed in accordance with the *Nellis AFB Lead-Based Paint Management Plan* guidelines (Nellis AFB, 2003a) and follows regulations established by Clark County Health Authority and the USEPA.

### **Radon**

The USEPA radon zone for Clark County is Zone 3 (low potential, predicted indoor average level less than 2 picocuries per liter); however, radon potential throughout the county can vary (USEPA, 2024f). Each zone designation reflects the average short-term radon measurement that can be expected in a building without the implementation of radon control methods, such as ventilation, room pressurization, or sealing of cracks.

Radon sampling has been conducted in accordance with AFMAN 48-148 at the child developmental centers/youth program buildings over the past two years and results have confirmed low risk/exposures. Clark County is USEPA low risk (Zone 3) for radon; as such, additional sampling is at the discretion of the Installation Radiation Safety Officer in coordination with Defense Centers of Public Health-Dayton. The Installation Radiation Safety Officer has also conducted sampling at below-grade buildings on base, and current data suggests that Nellis AFB is at low risk for exceeding 0.8 working level months per year, which is the standard that would require remediation. Due to the low potential for radon within the ROI, radon is not further analyzed in this EA.

### **Polychlorinated Biphenyls**

PCBs were commercially manufactured from 1929 until production was banned in 1979 via TSCA. Many of the products that contained PCBs have been removed from use; however, legacy equipment that contains PCBs at concentrations greater than 50 ppm are occasionally encountered.

According to a 2002 Nellis AFB Management Action Plan, transformers containing concentrations of PCBs greater than 50 ppm have been removed from the installation (Nellis AFB, 2002). A 2003 Environmental Baseline Survey completed for a different portion of Nellis AFB states that Nellis AFB has met the criteria established by the DAF as being “PCB free” (Nellis AFB, 2003b). Therefore, the seven transformers located on the Proposed Action area are considered to be “PCB free.”

### **Per- and Polyfluoroalkyl Substances**

Nellis AFB is currently undertaking an extensive study of PFAS and their past use on the installation. PFAS are known for their persistence in nature and their resistance to breaking down. PFAS are often prevalent at airports due to the use of AFFF for fire suppression.

A preliminary assessment was performed in 2015 to identify locations at Nellis AFB where perfluorinated compounds may have been released and to provide an initial assessment of possible migration pathways and receptors of potential contamination. Fire-training areas and non-fire-training areas where AFFF storage or usage may have occurred were selected for evaluation. Three fire-training areas were identified as locations with a high mass of AFFF releases and probable groundwater contamination (CH2M Hill, 2015). A further investigation on several sites selected from the 2015 survey was conducted in 2018 (Oneida Total Integrated Enterprises, 2018). The ROI was not included for the identification and evaluation of PFAS in either assessment, potentially due to a lack of AFFF storage or usage in the area. Because the ROI has not been evaluated for PFAS, the potential for PFAS/AFFF contamination cannot be ruled out.

#### **3.11.2.3 Petroleum Products**

The use, storage, and transportation of petroleum products is vital to the mission of Nellis AFB. Petroleum products are used to heat buildings and provide fuel for emergency generators, vehicles, and operation of airborne assets across the installation.

The Nellis AFB SPCC plan was prepared in accordance with Title 40 CFR 112. Operating procedures and controls for spill prevention are practiced under the guidelines of the SPCC and section 311 of the Clean Water Act. There are no ASTs or USTs located in the Proposed Action area; however, there are currently eight in-service ASTs containing petroleum products, and one out-of-service AST directly southeast of the Proposed Action area. A sewer oil-water separator is located west of Building 10136 within the Proposed Action area. Active oil-water separators on the installation undergo monthly inspections and alarm testing. The oil-water separators at Nellis AFB are not used as oil storage containers and therefore are not subject to the provisions of 40 CFR 112 (Oneida Total Integrated Enterprises, 2021).

Most of the mobile emergency generators used throughout Nellis AFB have a diesel capacity of 55 gallons or less. The quantity of mobile generators with 55 gallons or more on the installation is unknown but would be subject to the provisions of 40 CFR 112 (Oneida Total Integrated Enterprises, 2021).

### 3.11.2.4 Pesticide Management

The Pest Management Program at Nellis AFB utilizes an integrated surveillance and control effort as implemented by DoDI 4150.7, *DoD Pest Management Program* (December 2019), and AFMAN 32-1053, *Integrated Pest Management Program* (August 2019). Pest management procedures are addressed in the Nellis Pest Management Plan (Nellis AFB, 2000). Pest Management personnel adhere to the pesticide label directions when handling pesticides. The Pest Management personnel provide treatment for all installation buildings and housing areas. Pest Management personnel maintain and monitor files of building and home treatments, including chemicals issued by the Facilities Improvement Center, which dispenses pest control supplies to residents through a self-help program.

Soil samples collected from Nellis AFB in August 2002 were tested for pesticides. The ROI was not included in this soil investigation. However, past routine, licensed application of pesticides may have resulted in contamination of the soil within the ROI. Chlordane was formerly applied to the soil around building foundations to control termites. Entomology shop records indicate that chlordane was used at Nellis AFB between 1985 and 1988; records of usage prior to 1985 are not available. Although all uses of chlordane were banned in 1988, it is a persistent, bio accumulative (gradual accumulation of substances, such as pesticides in an organism) and toxic chemical that is still present in the soils.

Based on the age of the structures currently standing within the ROI, most of which were constructed after 1985, it is unlikely that chlordane was applied around the building foundations of the existing buildings. However, it is possible that chlordane was applied to Building 10112, which was constructed in 1954. No chlordane investigations of the soil surrounding the foundation of Building 10112 are known to have been conducted.

### 3.11.2.5 Environmental Restoration Program

There are 46 ERP sites at Nellis AFB. These sites include former landfills, dump areas, the former sewage treatment plant, disposal and pit areas, fuel spills, the fire-training area, radioactive waste storage, bulk jet fuel storage tanks, and USTs. Twelve sites required remediation and nine of those are still being remediated (Nellis AFB, 2018). The remaining sites require no further action.

One ERP site (LF-7) is located within the ROI. LF-7 is a former trench-type landfill located on the south side of the Proposed Action area as shown in **Figure 3-9**. LF-7 is approximately 3.06 acres in size and located entirely within the Proposed Action area. The landfill site contains waste from as early as the 1950s and in 1996 was issued a No Further Remedial Action Planned/Closed status. An Installation Restoration Program (IRP) Phase I study conducted in 1981 determined that some waste may be hazardous, but that hazardous waste was not generated at quantities sufficient for contamination. The site was not considered to present significant environmental concerns and was not reviewed during an IRP Phase II study. In 1996, Nellis AFB removed surface debris at LF-7 and graded native fill material to channel surface runoff water away from the site to meet “no further action” requirements. LF-7 is under long-term monitoring, undergoing landfill cap/cover inspections and maintenance for report submission every 5 years. There are no current land use control requirements associated with LF-7; however, the integrity of the cap/cover should remain intact (Nellis AFB, 2020a).

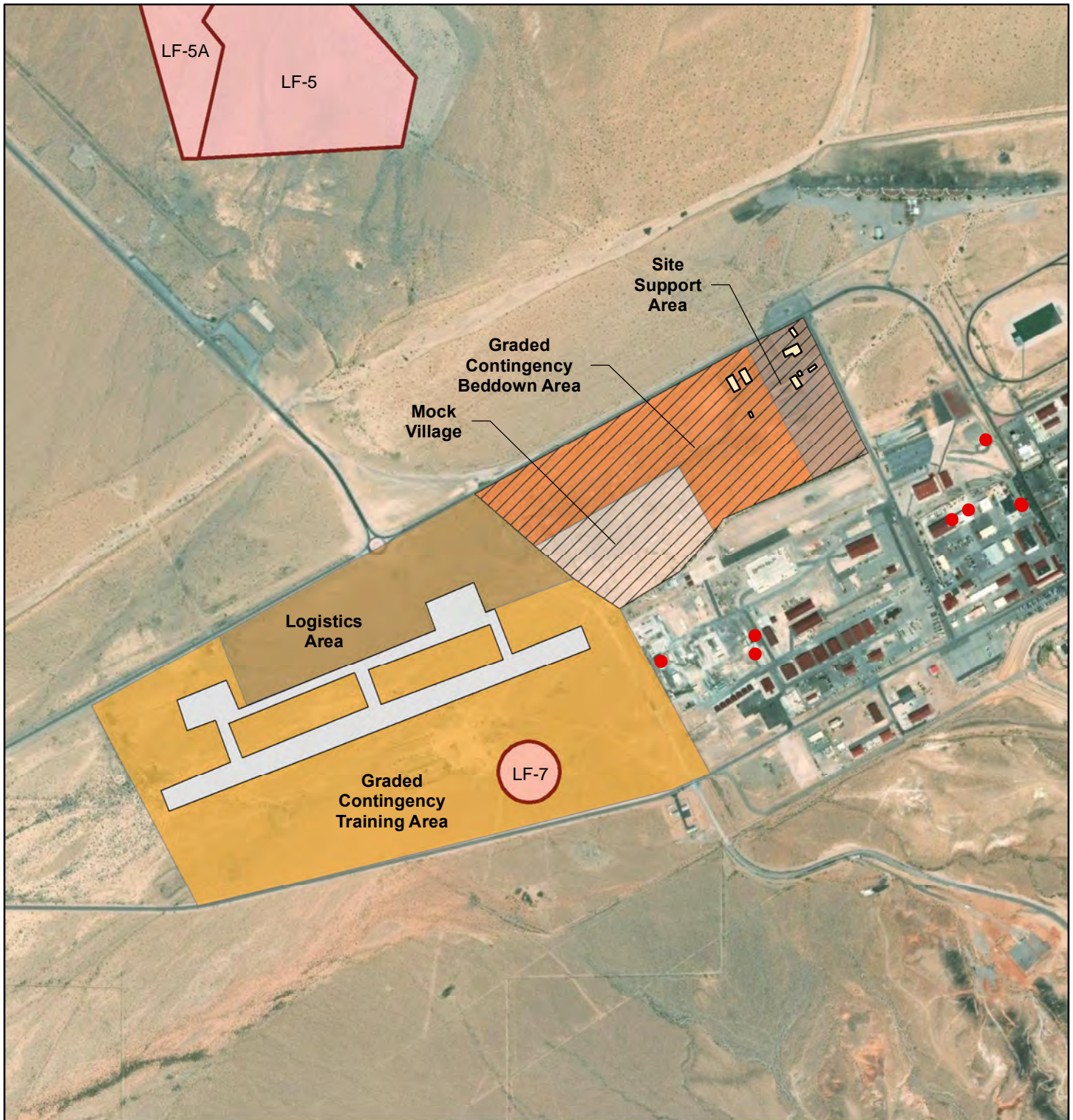
## 3.11.3 Environmental Consequences

### 3.11.3.1 Evaluation Criteria

Impacts from HAZMAT or hazardous wastes would be significant if the Proposed Action:

- generates, uses, or stores HAZMAT or hazardous wastes in violation of federal or state regulations; or
- exposes construction workers to increased health risks from working in existing contamination without proper training and equipment.

Impacts to ERP sites would be considered adverse if the Proposed Action disturbs (or creates) contaminated sites resulting in adverse effects to human health or the environment. Physical development of contaminated sites could expose construction and maintenance workers, visitors, occupants, or ecological systems to potential hazards associated with contaminants.

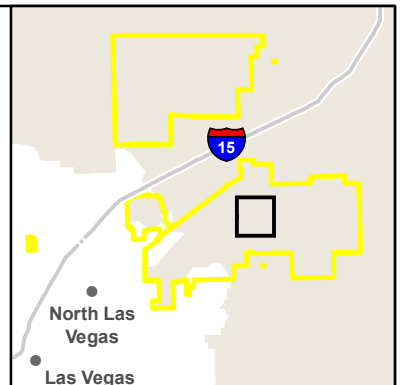


**FIGURE 3-9**  
Hazardous Materials and Wastes

- Aboveground Storage Tank
- ▨ Existing Camp Cobra
- ▨ Buildings to be repurposed
- ▨ Environmental Restoration Site
- ▨ Graded Contingency Beddown Area
- ▨ Graded Contingency Training Area
- ▨ Logistics Area
- ▨ Mock Village
- ▨ Proposed Airfield Training Area
- ▨ Site Support Area



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



A significant impact to HAZMAT and waste, petroleum/oil/lubricants, toxic substances, and contaminated sites within the ROI would occur if the Proposed Action results in the following:

- is noncompliant with applicable federal and state regulations;
- increases the amounts of hazardous waste generated or procured beyond Nellis AFB's current waste management procedures and capacities; and/or
- disturbs or creates contaminated sites resulting in negative effects on human health or the environment.

### **3.11.3.2 Proposed Action**

#### **Hazardous Materials and Wastes**

The use of certain HAZMAT would be required during proposed development associated with the Proposed Action; HAZMAT that could be used include paints, adhesives, welding gases, solvents, preservatives, sealants, and pesticides. Construction contractors would be responsible for monitoring exposure to HAZMAT. Adherence to the Nellis AFB Hazardous Waste Management Plan would minimize impacts from the handling and disposal of hazardous substances and ensure compliance with state and federal HAZMAT regulations (Nellis AFB, 2015).

Operation of the CSTR likely would require the use of routine HAZMAT and would produce small amounts of hazardous waste. Many of the same HAZMAT that would be used during construction of the site likely would be used for maintenance of the facility and reconfiguration of the site to suit training needs. A large focus of the training range would be to train personnel on rapid repair of runways damaged under combat-simulated conditions. The runway and associated taxiways would be constructed of a variety of different materials so that personnel could gain experience repairing various types of asphalt and concrete surfaces. Some of the materials used for runway repair, such as additives, solvents, adhesives, and paints, would be HAZMAT, and unused portions of these materials would contribute to the generation of hazardous waste at the site.

Implementation of the Proposed Action would result in short-term, negligible, adverse impacts to HAZMAT. Camp Cobra currently uses a small quantity of HAZMAT and generates a small amount of hazardous waste. Nellis AFB does not anticipate any major changes in hazardous waste generation from training operations. The visiting troops would be trained in accordance with the Nellis SPCC, and any waste from spill response would be transported to the 90-day satellite accumulation point for proper management. The satellite accumulation point is located in Building 853 and is not within the Proposed Action area. Operation of the CSTR would be conducted in compliance with the *Nellis AFB Hazardous Waste Management Plan*. Asbestos and LBP waste are not anticipated because activation of the training activities would not disturb existing building materials.

#### **Toxic Substances**

##### **Asbestos**

No buildings are slated to be demolished or renovated under the Proposed Action, as such, adverse impacts to ACM would not be anticipated to occur with implementation of the Proposed Action.

##### **Lead-Based Paint**

No buildings would be demolished under the Proposed Action, as such, adverse impacts to LBP would not be anticipated to occur with implementation of the Proposed Action.

##### **Polychlorinated Biphenyls**

PCBs would not be anticipated to be encountered within any of the existing transformers or electrical equipment on Nellis AFB under the Proposed Action. As such, adverse impacts related to PCBs would not be anticipated to occur with implementation of the Proposed Action.

##### **Per- and Polyfluoroalkyl Substances**

There are no known AFFF sites identified within the Proposed Action area. The area has not been evaluated for PFAS/AFFF; therefore, the possibility of contamination cannot be ruled out. However, as there is no known presence of PFAS within the Proposed Action area, adverse impacts related to PFAS, including PFOA and PFOS, would not be anticipated to occur with implementation of the Proposed Action.

### **Petroleum Products**

Implementation of the Proposed Action would result in short-term, negligible, adverse impacts related to petroleum products. The Proposed Action would be anticipated to result in an increase in the amount of petroleum products used on site, as well as an increased risk of petroleum release. The use of certain petroleum products would be required during development activities associated with the Proposed Action. Hydraulic fluids and petroleum products, such as diesel and gasoline, would be used in construction and grading vehicles. Construction contractors would be responsible for handling petroleum products in accordance with BMPs.

During operational activities, petroleum products would be used on site in vehicles for troop movement, heavy-equipment used in runway repair, and generators. The Proposed Action includes refueling at least a portion of the equipment on site. Refueling would be anticipated to be completed using mobile refueling techniques. As such, installation of permanent petroleum infrastructure would not be anticipated. All petroleum products used or dispensed on site would be handled in accordance with the SPCC plan. The visiting troops would be trained in accordance with the Nellis SPCC, and any waste from petroleum spills would be transported to the 90-day satellite accumulation point for proper management.

### **Pesticide Management**

No evidence of chlordane use or other pesticide contamination was identified.

### **Environmental Restoration Program**

Inactive demolition landfill LF-7 is located within the Proposed Action area along the southern boundary, as shown in **Figure 3-9**. Excavation or grading on LF-7 could potentially impact the integrity of the landfill cap. If grading and/or paving activities impact the integrity of the cap, Nellis AFB may need to engage with the NDEP to ascertain whether such impacts would require changes to the long-term monitoring plan and/or the composition of the cap.

Long-term, moderate, adverse impacts to the LF-7 ERP site likely would occur with implementation of the Proposed Action, requiring coordination with NDEP.

#### **3.11.3.3 No Action Alternative**

Under the No Action Alternative, the proposed combat support training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness requirements. There would be no changes to HAZMAT, hazardous waste, toxic substances, petroleum products, or contaminated sites in the ROI beyond baseline conditions.

#### **3.11.3.4 Cumulative Effects**

Implementation of the Proposed Action would be anticipated to result in short-term, negligible, adverse impacts to hazardous wastes and petroleum products and long-term moderate, adverse impacts to the LF-7 ERP. The projects identified in **Table 3-1** would have the potential to generate new hazardous wastes during construction, demolition, and renovation activities at Nellis AFB. Hazardous wastes associated with the Nellis Master Plan and installation development projects, TASS beddown, completed MILCON projects, Nellis Aggressor beddown, and Nellis IDP projects would be managed in accordance with the Nellis AFB Hazardous Waste Management Plan. Adherence to the Nellis AFB Hazardous Waste Management Plan would minimize impacts from the handling and disposal of hazardous substances and ensure compliance with state and federal HAZMAT regulations (Nellis AFB, 2015). Potential impacts from the accidental release of such products would be minimized by following response procedures specified in Nellis AFB's Facility Response Plan (Nellis AFB, 2021). Construction activities proposed within contaminated sites would be managed in accordance with the RCRA Corrective Action Program.

When considered in conjunction with the effects of past, present, and reasonably foreseeable actions at Nellis AFB, no significant, adverse cumulative effects to HAZMAT, hazardous waste, toxic substances, petroleum products, or contaminated sites would be anticipated to occur with implementation of the Proposed Action.

## **3.12 INFRASTRUCTURE, INCLUDING TRANSPORTATION AND UTILITIES**

### **3.12.1 Definition of the Resource**

Infrastructure consists of the systems and structures that enable a population in a specified area to function. Infrastructure is wholly man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as developed. The availability of infrastructure and its capacity to support more users, including residential and commercial expansion, are generally regarded as essential to the economic growth of an area.

The infrastructure components include utilities, solid waste management, sanitary and storm sewers, and transportation. Utilities include electrical, natural gas, liquid fuel, potable water supply, sanitary sewage/wastewater, and communications systems. Solid waste management primarily relates to the availability of landfills to support a population's residential, commercial, and industrial needs. Sanitary and storm sewers (also considered utilities) include those systems that collect, move, treat, and discharge liquid waste and stormwater. Transportation is defined as the system of roadways, highways, and transit services in the vicinity of the installation that potentially could be affected by a proposed action.

The ROI for infrastructure is Nellis AFB.

### **3.12.2 Existing Conditions**

#### **3.12.2.1 Transportation**

Nellis AFB is located northeast of the city of North Las Vegas, with Las Vegas Boulevard North connecting the installation to downtown Las Vegas. Las Vegas Boulevard North runs northeast/southwest through Nellis AFB. East Craig Road runs east/west to the western boundary of Nellis AFB, where it intersects Las Vegas Boulevard North at the Nellis AFB Main Gate. East Craig Road is also a major artery that funnels traffic from Interstate 15 (I-15) north of the installation to Las Vegas Boulevard North.

Nellis AFB has eight access control points across the installation: Main Gate, Beale South Gate, 215, Landings, Range Road, Speedway/Area II and Large Vehicle Inspection Station, Tyndale, and closed Hollywood Gate. Daily traffic on East Craig Road, Las Vegas Boulevard North, and North Nellis Boulevard is relatively heavy on weekdays, particularly during morning and evening commute times for installation personnel.

Nellis AFB has approximately 147 miles of paved roads. Intersections are controlled by stop signs (there are no traffic lights on the installation), which can cause minor traffic delays at these stopping points. Unpaved roads can be found in Areas II and III, with the majority located along the perimeter of the installation.

#### **3.12.2.2 Electricity and Natural Gas**

Nellis AFB receives most of its electricity from Nevada Energy (NVE), supplemented by hydropower from the Western Area Power Administration and two large on-base solar arrays, Nellis Solar Array (NSA) 1 and NSA 2. Western Area Power Administration provides approximately 14.3 megawatt-hours, about 11% of Nellis AFB's annual electricity needs. The 14.2-megawatt NSA 1, completed in 2007 and located in Area III, spans approximately 140 acres with roughly 72,000 solar panels. It is owned and managed by Solar Star NAFB, LLC, and Brookfield Renewable Partners. The 18.8-megawatt NSA 2, completed in 2015 and situated in Area I between the Sunrise Vista Golf Course and East Carey Avenue, covers approximately 102 acres with roughly 43,000 solar panels. NVE owns and manages this array. Together, NSA 1 and NSA 2 generate approximately 40% of Nellis AFB's annual electricity requirement, enabling the base to meet daytime peak power demands during the summer (Nellis AFB, 2020c). As part of the NSA 2 lease agreement, NVE constructed a new 22-megavolt-ampere distribution substation, named the Clinton substation, at the southwest corner of NSA 2 and extended a distribution feeder from the off-base, NVE-owned Carey Avenue substation into southern Area I. These upgrades, including the Clinton and Carey Avenue substations, enhance the resilience of the electrical distribution system, providing power to the installation even when the Northgate substation is offline for maintenance or other reasons. The Nellis AFB electrical system is robust enough to handle current and future mission requirements (Nellis AFB, 2018).

Southwest Gas Company supplies natural gas to Nellis AFB through four delivery points: Area I, Area II, Area III, and the Michael O'Callaghan Federal Medical Center. Nellis AFB owns and maintains approximately 200,000 linear feet (40 miles) of natural gas piping downstream of the Southwest Gas delivery points. Family housing gas distribution was privatized in 2004. Facilities east of the flight line are not connected to the natural gas system. The current supply of natural gas is adequate to meet current the installation's needs (Nellis AFB, 2020c).

### **3.12.2.3 Liquid Fuel Storage**

Jet fuel, diesel, and gasoline are delivered to Nellis AFB by the CALNEV Pipeline (owned and operated by Kinder Morgan, a company that transports petroleum). The CALNEV Pipeline moves fuel from California to Nellis AFB and Reid International Airport via a 550-mile, two-line pipe system, and provides Clark County with approximately 130,000 barrels of fuel per day (Clark County Planning Commission, 2006).

Nellis AFB manages a bulk storage system with four aboveground jet fuel tanks, containing a total of 47,400 barrels, or 1,990,800 gallons, of fuel. Nellis AFB also manages two operating storage tank facilities: the West Transient Ramp Type III Hydrant System and the Eastside Revetment modified Type III Hydrant System (Nellis AFB, 2018). The West Transient Ramp system includes two 10,000-barrel tanks with six aircraft refueling fill stands and nine aircraft fueling outlets. The West Transient Ramp facility receives fuel from the four bulk operating storage tanks (Nellis AFB, 2018). JET-A I fuel at the Eastside Revetment is provided by Kinder Morgan, from an off-installation bulk storage facility. Nellis AFB has seven combined commercial and governmental fill stations that provide unleaded, diesel, biodiesel, and JET-A products. Spill prevention, control, and countermeasures are specified in the Nellis, Creech, and Nevada Test and Training Range Facility Response Plan (Nellis AFB, 2021).

### **3.12.2.4 Potable Water Supply**

The Las Vegas Valley gets approximately 90 percent of its water from the Colorado River. The Southern Nevada Water Authority (SNWA) provides potable water to the valley and delivers water from the Colorado River via an intake in Lake Mead to one of two treatment facilities: the Alfred Merritt Smith Water Treatment Facility or the River Mountains Water Treatment Facility. The North Las Vegas Water District (NLVWD) and SNWA connections are the primary supply to Nellis AFB. There are no current concerns regarding potable water supply from Lake Mead, and Nellis AFB currently has an adequate potable water supply to meet mission demands (Nellis AFB, 2023f). Long-term concerns due to Lake Mead's capacity do exist, as Lake Mead's water level has been at an all-time low due to record drought conditions. The combination of an ongoing drought, lower water levels in Lake Mead due to declining snowpack in the Colorado Rocky Mountains, and increased population in the Las Vegas Valley has contributed to the water level in the lake dropping to a minimum elevation of 1,040 feet in 2022 and triggering the first-ever shortage of water in the Colorado River (Bureau of Reclamation, 2023).

The Nellis AFB drinking water system provides water for domestic usage, irrigation, and fire protection. The system provides water to the entire installation excluding military family housing (Nellis AFB, 2015). Currently, the installation drinking water system consists of three supply connections (two NLVWD connections and one SNWA connection) and two active groundwater wells.

### **3.12.2.5 Sanitary Sewer System**

The Clark County Water Reclamation District (CCWRD), a member of the SNWA, processes the wastewater generated by Nellis AFB. CCWRD governs the Clark County section of SNWA and services all areas in Clark County, collecting more than 110 million gallons of incoming wastewater per day (Lau, 2024; Nellis AFB, 2019). CCWRD's discharge connection at Nellis AFB currently takes in approximately 1.5 million gallons of installation wastewater per day. Nellis AFB's sanitary sewer system is capable of handling increased demand in the event that future expansion is required (Nellis AFB, 2020c). Septic systems are in place for areas on Nellis AFB that have remote access or no access to pipes.

### **3.12.2.6 Solid Waste Management**

On average, Nellis AFB generates 2,704 tons of nonhazardous waste per year. Solid waste is taken by Republic Services, a solid waste collection company, to an approved landfill that has sufficient capacity to meet current and future mission demands (Nellis AFB, 2018).

### 3.12.3 Environmental Consequences

#### 3.12.3.1 Evaluation Criteria

A significant impact to or from infrastructure, including transportation and utilities, within the ROI would occur if the Proposed Action results in the following:

- measurable change or service reduction within the regional transportation network;
- prolonged or repeated interruption of public transportation services regionally;
- prolonged or repeated service disruptions to utility end users; and/or
- substantial increase in utility demand relative to existing and planned regional uses.

Adverse impacts to infrastructure would occur if the Proposed Action:

- disrupts or improves the existing levels of service,
- increases energy or water consumption, and/or
- exceeds the capacity of sanitary sewer and solid waste management systems.

Adverse impacts to transportation would occur if the Proposed Action:

- substantially increases traffic that would cause a decrease in the level of service,
- substantially increases the use of the street systems or mass transit, and/or
- fails to meet on-installation parking needs.

Adverse impacts to utilities would occur if the Proposed Action:

- creates a demand that exceeds the existing supply capacity, and/or
- requires services in conflict with adopted plans and policies for the area.

#### 3.12.3.2 Proposed Action

##### Transportation

Under the Proposed Action, approximately 729,000 ft<sup>2</sup> of grading is proposed to develop and repair semi-improved roadways in the Site Support Area, Contingency Beddown Area, Mock Village Area, Logistics Area, and Graded Contingency Training Area, and on the driving course. Approximately 70 percent of the proposed roadway grading would occur on the driving course to improve an existing 8-mile long, 12-foot-wide roadway.

The projects under the Proposed Action would occur over a 2–3-year period under a phased approach. The mock airfield would be completed within the first 6 months. Traffic levels on the installation would be anticipated to increase during construction and grading activities, with potential impacts determined by the amount of construction and grading occurring at the same time. The 820 RHS, located on-installation, would be responsible for all clearing, grading, paving, and construction associated with the Proposed Action, reducing the volume of traffic from off-site construction. Nearby Las Vegas and Nellis Boulevards, Craig Road, and I-15 would be able to accommodate the anticipated temporary increase in traffic from construction activities. Although implementation of the Proposed Action would have the potential to impact existing roadways and vehicle circulation on the installation, such impacts would be temporary and localized. Negligible, long-term, beneficial impacts would be expected to occur to transportation systems within the ROI from the improvements to roadways at the CSTR project site.

An 11,000 ft<sup>2</sup> Vehicle Maintenance Facility is proposed in the Site Support Area under the Proposed Action. This facility would have minor, long-term, beneficial impacts to traffic flow in the ROI by providing reduced vehicle travel to and from maintenance facilities located off the installation.

##### Electricity and Natural Gas

Under the Proposed Action, six facilities would be constructed within the proposed CSTR. A Vehicle Maintenance Facility and covered storage area are proposed in the Site Support Area; latrines, a laundry facility, and an expeditionary dining facility are proposed in the Contingency Beddown Area; and a covered storage area is proposed in the Logistics Area. These facilities would require connections to Nellis AFB's electrical distribution systems. Nevada Energy (NVE) provides the majority of Nellis AFB's electricity

through the electrical grid. The remaining energy is provided by Western Area Power Administration hydropower, NSA 1, and NSA 2.

Construction activities associated with the Proposed Action would be anticipated to result in short-term, negligible, adverse impacts to the installation's electrical distribution systems due to brief service interruptions that could occur when existing electrical lines are connected to newly constructed facilities. The newly constructed facilities would have the potential to increase the demand on the system. Energy-efficient construction design standards would be anticipated to minimize the potential increase in demand. Net changes in long-term demand would be anticipated to be negligible, as the electrical systems at Nellis AFB have the capacity required to meet increased demands (Nellis AFB, 2018, 2025b).

In addition to newly constructed facilities, electric utility connections would be installed at the Contingency Beddown Area to simulate the connection of expeditionary power distribution to a power plant. This would include the temporary use of mobile generators.

Facilities east of the flight line are currently served by individual propane tanks, as there is no natural gas connection in this area. No impacts would be expected to the natural gas system at Nellis AFB because the Proposed Action area is located east of the flight lines, where there are no natural gas pipelines.

### **Liquid Fuel Storage**

Implementation of the Proposed Action would result in long-term, negligible, adverse impacts to the liquid fuel storage at Nellis AFB. Liquid fuel would be provided by a fuel truck from the Logistics Readiness Squadron. The fuel requirements of onsite equipment would vary based on the running time and operations of various types of equipment. The fuel trucks would come from the Main Base about 10 minutes away. As long as advanced notice is provided, there would be no issues with fuel or fuel truck availability. Nellis AFB manages two operating storage tank facilities: the West Transient Ramp Type III Hydrant System and the Eastside Revetment modified Type III Hydrant System (Nellis AFB, 2018). Nellis AFB has seven combined commercial and governmental fill stations that provide unleaded, diesel, biodiesel, and JET-A products. Multiple bulk fuel storage facilities are located across Nellis AFB to ensure fuel continuity. The Nellis AFB fuel tank infrastructure has adequate fuel storage volume to meet the fuel supply needs for the Proposed Action. After construction, additional training activities would continue to cause increased demand for fuel on the installation. Changes in demand would be negligible, and the existing liquid fuel storage has the capacity to accommodate the additional demand.

### **Potable Water Supply**

Under the Proposed Action, construction of new facilities that require access to potable water would occur in the Site Support Area and the Contingency Beddown Area. In the Contingency Beddown Area, water source connections, water storage, and discharge points for water purification would also be installed. Shower/shave/latrine units would be connected to the water system and would require extensions of utility lines to make those connections. Any alterations to the public water system would require review by NDEP Bureau of Safe Drinking Water.

The potable water system at Nellis AFB provides water for domestic, irrigation, and fire protection uses. There are no current concerns regarding potable water supply from Lake Mead, and Nellis AFB currently has an adequate potable water supply to meet mission demands (Nellis AFB, 2023f).

The Proposed Action would be anticipated to result in short-term, negligible, adverse impacts on the potable water supply system due to brief service interruptions that could occur during construction when existing lines are connected to newly constructed facilities. Negligible, long-term, adverse impacts would have the potential to occur because the operation of the new facilities would increase demand on the potable water supply system.

### **Sanitary Sewer System**

Under the Proposed Action, three new facilities in the Contingency Beddown Area would be connected to the sanitary sewer system. Short-term, negligible, adverse impacts on the sanitary sewer system would be anticipated during construction due to brief service interruptions that could occur when existing lines are connected to newly constructed facilities. Negligible, long-term, adverse impacts would have the potential to occur because the operation of the new facilities would increase demand on the sanitary sewer system.

Changes in demand would be minimal, and the sanitary sewer system has the capacity required to meet new demand.

### **Solid Waste Management**

Under the Proposed Action, a total of 146,150 ft<sup>2</sup> of new construction is proposed: 21,200 ft<sup>2</sup> in the Site Support Area, 31,150 ft<sup>2</sup> in the Contingency Beddown Area, and 84,000 ft<sup>2</sup> in the Graded Contingency Training Area. Short-term, minor, adverse impacts on solid waste management could occur due to waste from construction. On average, Nellis AFB generates 2,704 tons of nonhazardous waste per year. Solid waste is taken by Republic Services, a solid waste collection company, to an approved landfill that has sufficient capacity to meet current and future mission demands (Nellis AFB, 2018).

The USEPA guidance on estimating solid waste from construction projects indicates that approximately 4.39 pounds (lbs)/ft<sup>2</sup> of debris would be generated for each square foot of construction activity; this formula can be applied to the construction of both buildings and impervious surfaces (USEPA, 2003). Using this formula, solid waste generated from all construction projects under the Proposed Action would be anticipated at approximately 321 tons. Contractors would be required to comply with federal, state, and local regulations for the collection and disposal of solid waste generated under the Proposed Action, and all solid waste generated would be collected and transported off the installation for disposal or recycling in accordance with AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*.

#### **3.12.3.3 No Action Alternative**

Under the No Action Alternative, the proposed training area at Nellis AFB would not be constructed and the beneficial impacts from the improvements to roadways at the CSTR project site would not occur. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness throughput requirements. There would be no changes to infrastructure in the ROI beyond baseline conditions.

#### **3.12.3.4 Cumulative Impacts**

The concurrent Master Plan and installation development projects on the east side of Nellis AFB would result in the placement of up to 224 acres of utilities and infrastructure improvements including power lines, underground utility lines, and power substations (Nellis AFB, 2025). The projects identified in **Table 3-1** would result in an overall increase in the demand for utilities that service Nellis AFB and the surrounding communities.

The TASS beddown, Nellis Aggressor beddown, Nellis IDP projects, and CCA EOU beddown would result in long-term, adverse impacts related to the overall increase in demand for utilities. However, several identified past, present, and reasonably foreseeable projects would address existing infrastructure deficiencies and result in beneficial impacts to infrastructure. The Nellis Reclaimed Waterline Project created a new pipeline between the CNLV-WRF and the Sunrise Vista Golf Course to deliver non-potable reclaimed water for irrigation, resulting in beneficial impacts to wastewater infrastructure. The CCRFCD project proposes an expansion of existing flood control infrastructure located in the southwestern portion of the installation. The expansion is currently under consideration and expected to begin design no sooner than 2028. Under the proposed expansion, the existing north/south stormwater drain would be connected to an expanded flood control basin, resulting in beneficial, cumulative impacts to stormwater infrastructure.

When considered in conjunction with the effects of past, present, and reasonably foreseeable actions at Nellis AFB, no significant, adverse cumulative effects to infrastructure would be anticipated to occur with implementation of the Proposed Action.

### **3.13 SAFETY AND OCCUPATIONAL HEALTH**

#### **3.13.1 Definition of the Resource**

This section discusses safety and occupational health concerns associated with ground, flight, and explosives activities. Ground safety considers safety issues associated with ground operations and maintenance activities that support unit operations. Ground safety also considers the safety of personnel and facilities on the ground that may be placed at risk from flight operations in the vicinity of the airfield and

in the airspace. Clear zones (CZ) and accident potential zones (APZs) around the airfield restrict the public's exposure to areas where there is a higher accident potential. Flight safety considers aircraft risks such as midair collisions, bird/wildlife aircraft strike hazards (BASH), and in-flight emergencies. Explosives safety relates to the management and safe use of ordnance and munitions.

The ROI for safety and occupational health is Nellis AFB.

### **3.13.2 Existing Conditions**

#### **3.13.2.1 Ground Safety**

Ground safety considerations include ground operations, industrial and maintenance activities, and motor vehicle use, as well as risks from flight operations to personnel and safety on the ground. The Proposed Action area is not in the vicinity of the airfield at Nellis AFB and does not fall within a CZ or APZ. Therefore, ground safety considerations related to flight operations are not discussed further in this EA.

Ground mishaps can occur from the use of equipment or materials and from construction, demolition, and maintenance functions. Ongoing DAF safety programs covering construction, industrial activities, operation of motor vehicles and other equipment, and everyday operations are continuously refined as new activities and new information becomes available. All DAF personnel receive regular safety training to keep the chances of mishaps as low as possible.

All construction contractors operating on Nellis AFB must follow ground safety regulations to avoid posing any risks to workers or personnel on or off base. Construction contractors and personnel are responsible for reviewing potentially hazardous workplace operations, monitoring exposure to workplace chemicals (e.g., ACM, LBP, HAZMAT), physical hazards (e.g., noise propagation, slips, trips, falls), and biological agents (e.g., infectious waste, wildlife, poisonous plants).

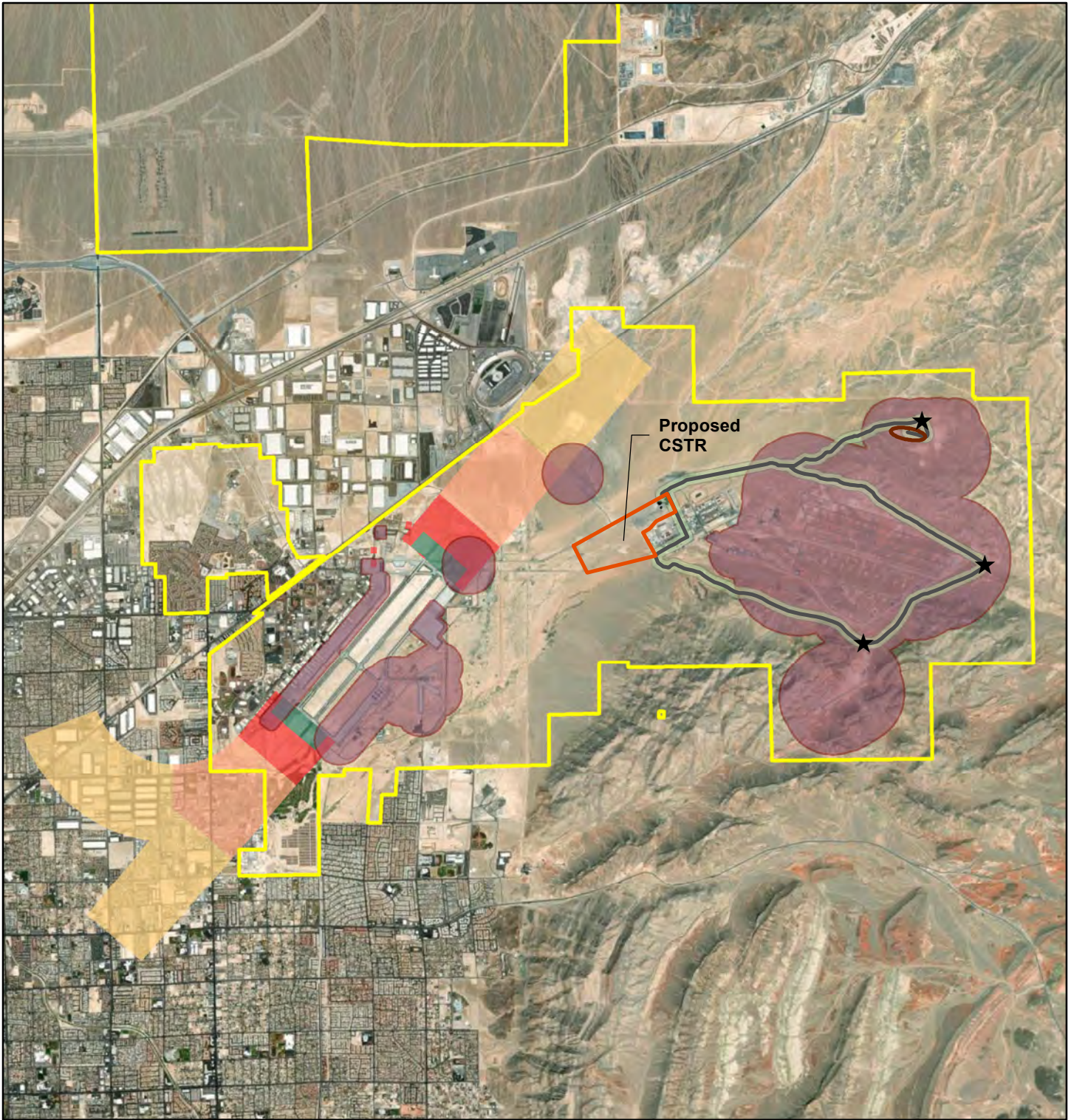
#### **3.13.2.2 Flight Safety**

The potential for aircraft mishaps during flight is a public safety concern. Incidents may occur because of midair collisions, collisions with man-made structures or terrain, mechanical failure, weather-related accidents, pilot error, or BASH. The Proposed Action would include the construction of a mock airfield that would not be used for flight activities, and training associated with the proposed CSTR would not involve any flight operations. Therefore, flight safety is not discussed further this EA.

#### **3.13.2.3 Explosives Safety**

Aircraft and weapon munitions include ammunition, propellants (solid and liquid), pyrotechnics, warheads, explosives devices, and chemical agent substances and associated components that present real or potential hazards to life, property, or the environment. Defense Explosive Safety Regulation 6055.09\_DAF Manual (DESR6055.09\_AFMAN) 91-201, *Explosives Safety Standards* (November 2023), defines the guidance and procedures that deal with munition storage and handling.

Operational constraints are primarily associated with ESQD arcs, munitions storage, and transportation routes. ESQD arcs provide a buffer between potentially hazardous areas and both on- and off-base populated areas and create defined distances that are maintained between MSAs, live ordnance loading areas, and other similar types of facilities (Nellis AFB, 2018). These distances are determined by the type and quantity of explosive material to be stored. Each explosive material storage or handling facility has ESQD arcs extending outward from its sides and corners for a prescribed distance. Within these ESQD arcs, development is either restricted or prohibited altogether to ensure personnel safety and to minimize potential for damage to other facilities in the event of an accident. There are several areas with ESQD arcs on Nellis AFB, including a 3,960-acre ESQD arc associated with the base's primary MSA and overlaps with approximately 6.9 miles of the 8-mile-long driving course included in the Proposed Action (Nellis AFB, 2018) (**Figure 3-10**).



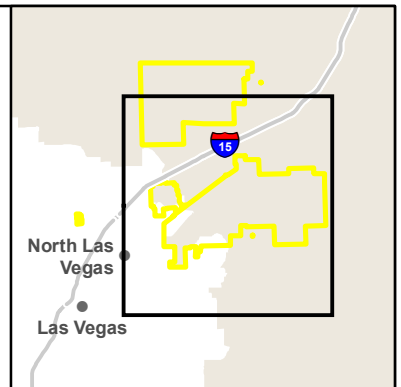
**FIGURE 3-10**  
Safety Environment

- |                                      |                       |                             |
|--------------------------------------|-----------------------|-----------------------------|
| ★ Connex Village                     | Installation Boundary | ESQD Arc                    |
| — Driving Course / Foot Patrol Roads | APZ I                 | Graded Area                 |
| — Proposed Airfield Road             | APZ II                | 100-Yard Foot Patrol Buffer |
| Existing Range                       | CZ                    |                             |



0 2 Mile

Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



APZ = Accident Potential Zone; CZ = Clear Zone; ESQD = Explosives Safety Quantity Distance.

### 3.13.3 Environmental Consequences

Under DoD NEPA implementing procedures, an action must assess direct and indirect impacts of the proposed action and alternatives on the safety and health of DAF employees and others at a work site. Air Force Policy Directive (AFPD) 91-2, *Safety Programs*, is implemented by DAFI 91-202, *The DAF Mishap Prevention Program*, which manages risks to protect DAF personnel from occupational deaths, injuries, or illnesses and minimize loss of DAF resources. These standards apply to all DAF activities; adherence to DAF's Mishap Prevention Program ensures DAF workplaces meet federal safety and health requirements.

#### 3.13.3.1 Evaluation Criteria

Safety-related impacts from a proposed activity are assessed according to the potential to increase or decrease safety risks to personnel, the public, property, or the environment. Adverse impacts related to safety would occur if the Proposed Action resulted in DAF OSHA criteria being exceeded or the improper implementation of established or proposed safety measures, creating unacceptable safety risk to personnel. Adverse impacts would occur if the Proposed Action:

- increases risks associated with the safety of construction personnel, contractors, military personnel, or the local community;
- hinders the ability to respond to an emergency; or
- introduces a new health or safety risk for which the base is not prepared or does not have adequate management and response plans in place.

Significant adverse impacts to safety resources would occur if the Proposed Action:

- substantially increases risks to the health and safety of workers or the public;
- substantially increases rates of injuries, illnesses, accidents, or emergencies;
- substantially affects the ability of law enforcement or other emergency response personnel to respond promptly to accidents and emergencies;
- causes workers or the public to reasonably perceive that health and safety risks had substantially increased; and/or
- contributes to a violation of any local, state, or federal regulation.

#### 3.13.3.2 Proposed Action

##### Ground Safety

Under the Proposed Action, training activities that would take place at the proposed CSTR would have the potential to create ground safety hazards related to increased fire risk from the use of pyrotechnics (i.e., ground burst simulators and propane-fed fire trainers); risks to DAF personnel from the use of smoke, tear gas, and other training analogs; and the operation of directed energy equipment (Joint Pacific Alaska Range Complex, 2013). To minimize these risks, Nellis AFB personnel would continue to comply with all applicable occupational safety and fire safety and prevention requirements and standards in accordance with DAFMAN 91-203, *Safety* (March 2022), which implements AFPD 91-2, and would follow all applicable directed energy equipment safety policies in accordance with AFPD 91-4, *Directed Energy System Safety* (January 2020). With adherence to relevant safety requirements, training activities associated with implementation of the Proposed Action would not be anticipated to result in impacts to ground safety at Nellis AFB.

During construction activities, the Proposed Action would be anticipated to result in short-term, negligible, adverse impacts to ground safety. Construction of new facilities and renovation of existing facilities would expose DAF personnel to safety hazards from heavy-equipment operation, HAZMAT, falls, construction equipment, and potentially noisy and confined environments. To minimize health and safety risks, ground operations and activities would adhere to all applicable occupational safety policies and procedures throughout construction and post-construction activities in accordance with DAFMAN 91-203.

##### Explosives Safety

Under the Proposed Action, the improved driving course would pass through an ESQD arc associated with the MSA. The proposed improvements to and operation of the driving course would occur on pre-existing,

semi-improved roadways. The personnel, vehicles, foot traffic, and Conex villages are not associated with the MSA explosives mission and would be prohibited from entering the driving course to ensure personnel safety in the event of an accident. Improving and operating the driving course within an ESQD arc requires completion of a risk assessment, in accordance with [AFI 90-2001](#), *Mission Sustainment*. The risk assessment would require approval at the Wing or Installation Command levels, depending on proximity to ESQD arcs and the amount of personnel and annual time spent within the ESQD arcs. Personnel within the ESQD arcs would require inhabited building distance protection. The DAF has not completed a risk assessment for the driving course. For purposes of analysis, this EA conservatively assumes that the proposed improvements to and operation of the driving course would result in significant, adverse impacts to explosives safety. Therefore, the driving course will not be carried forward in the FONSI as part of the Proposed Action.

### 3.13.3.3 No Action Alternative

Under the No Action Alternative, the proposed training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness throughput requirements. There would be no changes to safety and occupational health in the beyond baseline conditions.

### 3.13.3.4 Cumulative Impacts

The Proposed Action would be anticipated to result in short-term, negligible, adverse impacts to safety and occupational health due to risks to construction personnel associated with construction activities. Several projects listed in **Table 3-1**, including Nellis Master Plan and installation development, TASS beddown, CNLV-WRF, and completed MILCON projects, similarly would result in risks associated with construction activities. Cumulatively, these actions would result in short-term, negligible, adverse impacts to safety and occupational health. When considered in conjunction with other past, present, and reasonably foreseeable actions at Nellis AFB, no significant cumulative impacts to safety and occupational health would be anticipated to occur with implementation of the Proposed Action.

## 3.14 SOCIOECONOMICS

### 3.14.1 Definition of the Resource

Socioeconomics is the relationship between economics and social elements, such as population levels and economic activity. Several factors can be used as indicators of economic conditions for a geographic area, such as demographics, median household income, unemployment rates, percentage of dependents living below the poverty level, employment, and housing data. Employment data identify gross numbers of employees, employment by industry or trade, and unemployment trends. Data on industrial, commercial, and other sectors of the economy provide baseline information about the economic health of a region. Socioeconomic data are typically presented at county, state, and national levels to characterize baseline socioeconomic conditions in the context of regional, state, and national trends.

The ROI for this socioeconomics is Nellis AFB and its environs; in particular, the six census tracts (CTs) that make up the base and overlap with the base boundary: CTs 36.49, 60.01, 62.04, 72, 78.01, and 78.02.

### 3.14.2 Existing Conditions

#### 3.14.2.1 Population

Nellis AFB is located within Clark County, the most populated county in Nevada. It is home to an estimated 2,704,204 people: approximately 73 percent of the state's total population. The combined population of the 6 CTs in the ROI is an estimated 23,138 people or approximately 0.9 percent of Clark County's total population and approximately 0.7 percent of Nevada's total population (US Census Bureau [USCB], 2022a).

**Table 3-17** shows the population estimates for the ROI in 2012 and 2022, as well as the total percent change in population growth (percent growth rate) and annual average population growth rates over this 10-year period. CT 36.28 and CT 78 were subdivided after 2012; therefore, the USCB does not provide 2022 population estimates for either tract. Instead, 2022 population estimates were calculated using the

combined populations of the new tracts created by the subdivision. These values were used to calculate percent growth and average annual growth rates for CT 78. Former CT 36.28 was subdivided into multiple tracts aside from current CT 36.49 that are not part of the ROI for this Proposed Action and population growth rates for CT 36.49 are not provided.

**Table 3-17  
Population Estimates**

Location	2012	2022	PGR	AAGR
United States	309,138,711	331,097,593	7.1	0.7
Nevada	2,704,204	3,104,817	14.8	1.5
Clark County	1,954,773	2,265,926	15.9	1.6
CT 36.49	(a)	2,616	-	-
CT 60.01	4,213	9,057	115.0	11.5
CT 62.04	4,916	4,984	1.4	0.1
CT 72	3,690	4,776	29.4	2.9
CT 78 <sup>b</sup>	2,894	1,705	-41.1	-4.1

Source: USCB, 2012, 2022a

a population growth rates not provided for CT 36.49 due to tract subdivisions occurring after 2012 and before 2022.

b 2022 values were calculated using the combined 2022 populations of CTs 78.01 and 78.02 as a comparison to the 2012 population of former CT 78.

AAGR = annual average growth rate; CT = Census Tract; PGR = percent growth rate

As can be seen in the table, three CTs for which population growth rates were calculated, as well as in Clark County and Nevada, saw population growth between 2012 and 2022. The remaining CT, former CT 78 (which has since been subdivided into CTs 78.01 and 78.02) experienced population decline (**Figure 3-11**). The largest increase in population over the 10-year period can be seen in CT 60.01, where the population grew by approximately 115 percent at rate of approximately 11.5 percent per year (USCB 2012, 2022a).

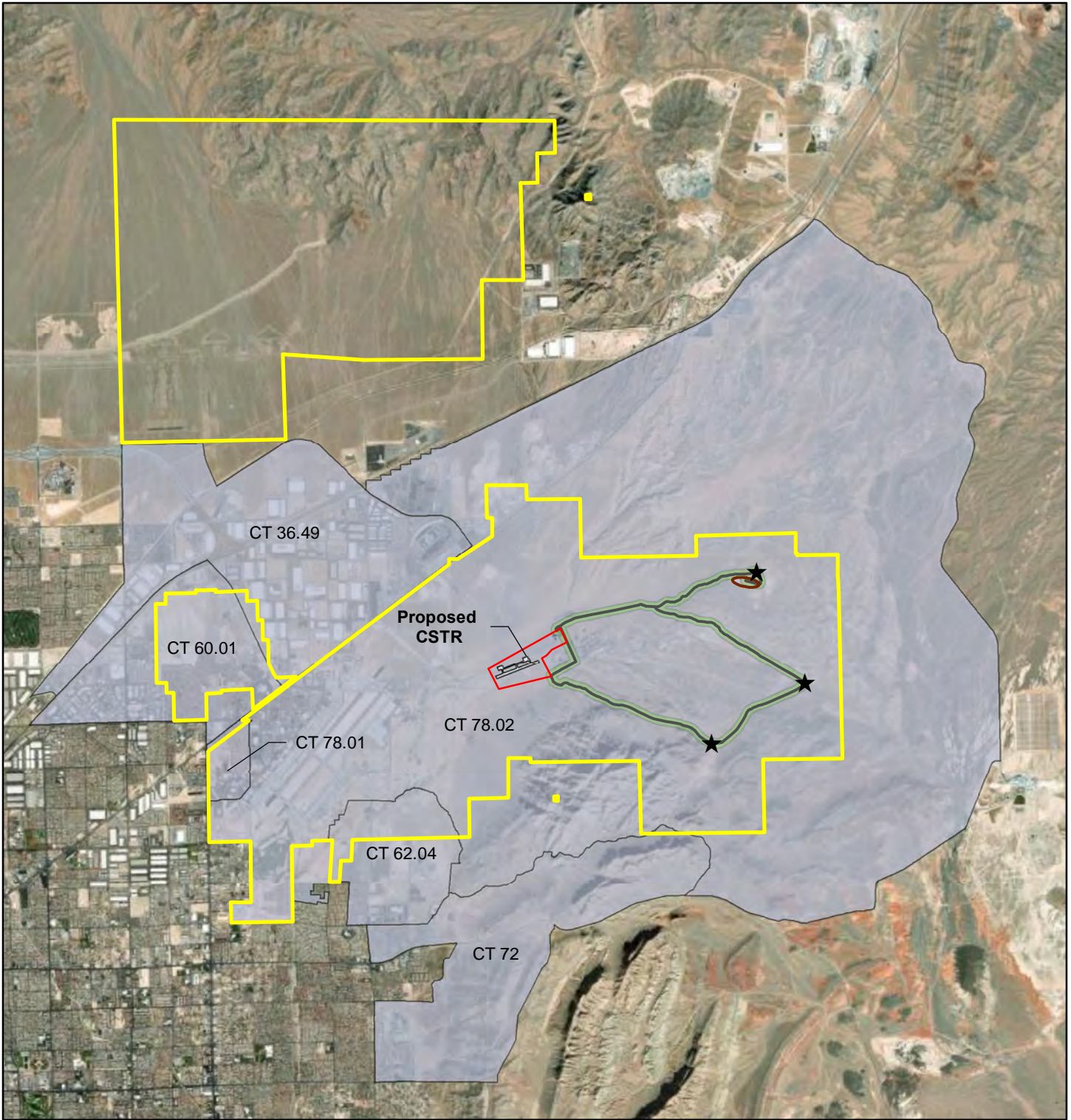
### 3.14.2.2 Employment

In Clark County, the top three industries by percentage of employment in 2022 were arts, entertainment and recreation and accommodation and food services; educational services and healthcare and social assistance; and professional, scientific, and management and administrative and waste management services. The top three industries by employment in 2022 Nevada were the same as those in Clark County. Approximately 99.2 percent of the labor force in Clark County consists of civilians, and approximately 0.8 percent consists of individuals in the Armed Forces. Approximately 11.2 percent of the employed civilian labor force in Clark County works for the government (USCB, 2022b).

Nellis AFB is responsible for approximately 36,500 jobs that directly and indirectly employ military and civilian personnel on and off the base (Nellis AFB, 2022a). In addition to providing employment that is directly tied to the DAF mission, Nellis AFB supports a variety of on-base businesses located near the housing areas on its western side that provide services to base residents.

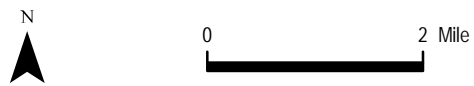
#### Unemployment Rate

The estimated unemployment rate in Clark County in 2023 was 5.4, approximately 0.3 percent higher than the state of Nevada's estimated unemployment rate of 5.1, and approximately 1.8 percent higher than the national 2023 unemployment rate of 3.6 (Bureau of Labor Statistics, 2023a, 2023b).

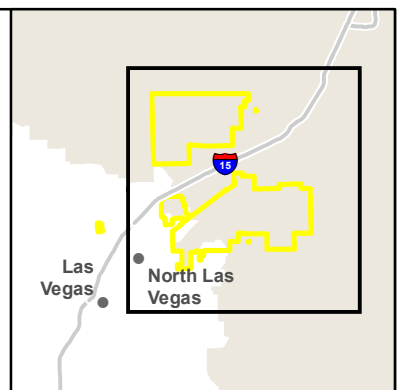


**FIGURE 3-11**  
Census Tracts

- ★ Connex Village
- Driving Course/Foot Patrol Roads
- Proposed Airfield Road
- Existing Ranges
- Census Tract
- Proposed Airfield
- 100-Yard Foot Patrol Buffer



Imagery: ESRI, 2021.  
Coordinate System: NAD 83 UTM Zone 11N



### 3.14.2.3 Housing

Housing characteristics for the ROI are presented in **Table 3-18**. CT 78.01 consists entirely of on-base housing; CT 60.01 consists partially of base housing. CT 78.02, which is within the boundaries of Nellis AFB, was not factored into the housing analysis because it does not contain any base housing areas.

**Table 3-18**  
**Housing Characteristics**

Location	Total Housing Units	Occupied Units (%)	Vacant Units (%)	Homeowner Vacancy Rate (%)	Rental Vacancy Rate (%)	Median Home Value (\$)
United States	140,943,613	89.2	10.8	1.1	5.5	281,900
Nevada	1,288,357	90.3	9.7	9.7	6.9	373,800
Clark County	923,275	90.2	9.8	1.3	7.5	368,800
CT 36.49	688	93.3	6.7	0	0	336,900
CT 60.01	2,877	87.7	12.3	6.8	6.8	206,400
CT 62.04	1,694	92.6	7.4	2.2	0	282,400
CT 72	1,955	88.8	11.2	0	3.4	256,200
CT 78.01	701	81.5	18.5	(a) <sup>a</sup>	6.6	(a)
CT 78.02 <sup>b</sup>	4	100	0	(a)	0	(a)

Source: USCB, 2022b

a indicates that an estimate could not be computed because there was an insufficient number of sample observations.

b CT 78.02, which falls completely within the boundaries of Nellis AFB, was not factored into the housing analysis because it does not contain any base housing areas.

CT 36.49 had the highest percentage of occupied units at 93.3 percent (a higher percentage than in Clark County or Nevada) and CT 78.01 had the lowest percentage of occupied units at 81.5 percent (a lower percentage than in Clark County or Nevada). CT 78.01 (exclusively base housing) had the highest percentage of vacant units at 18.5 percent (a higher percentage than in Clark County or in Nevada) and CT 36.49 had the lowest percentage of vacant units with 6.7 percent (a lower percentage than in Clark County or Nevada). The CT with the highest homeowner and rental vacancy rates was CT 60.01 (partially base housing), with a rate of 6.8 for both (lower than rental vacancy rate in Clark County and lower than both rates in Nevada) (USCB, 2022b).

The highest median home value was \$336,900 in CT 36.49, a value lower those of the county and state by more than \$30,000.

There are approximately 2,360 active-duty personnel and their families living on the base. The housing on Nellis AFB, both dormitories and privatized housing, adequately meets existing mission requirements and has opportunities for development and mission expansion (Nellis AFB, 2018). The remainder of active-duty personnel and their families live off base and utilize housing resources in the surrounding community.

### 3.14.2.4 Schools

Nellis AFB is within the Clark County School District (CCSD), the fifth largest in the US with an enrollment of more than 296,000 students (Clark County School District, 2024). The CCSD operates 233 elementary schools, 61 middle schools, 53 high schools, and 34 specialized magnet schools (public schools with specialized courses of study) and career and technical academies. In addition, there are a variety of charter and private school options (DoD, 2024a). Primary and secondary education opportunities on the base consist of the Coral Academy of Science, a pre-Kindergarten through 8th grade charter school that accepts students based on a lottery system (DoD, 2024a). The new Lomie G. Heard Elementary School, Carroll M. Johnston Middle School, and Mojave High School are the schools in the northwest Las Vegas Valley area that are zoned for or generally serve the Nellis AFB area (Nellis AFB, 2024c).

Several higher education facilities and programs can be found at Nellis AFB, including the College of Southern Nevada, Embry-Riddle Aeronautical University, and University of Oklahoma (DoD, 2024b). There are also numerous higher education facilities in the surrounding area, including Nevada State University, the University of Nevada Las Vegas and its Reno Extension, and the Northwest Career College.

### 3.14.3 Environmental Consequences

#### 3.14.3.1 Evaluation Criteria

Consequences to socioeconomic resources are assessed in terms of the potential impacts on the local economy from implementation of a proposed action. The level of impacts from expenditures associated with the Proposed Action was assessed in terms of direct impacts on the local economy and indirect impacts on other socioeconomic resources (e.g., housing, employment). Adverse impacts to socioeconomic resources would occur if the Proposed Action results in:

- adverse impacts to the local workforce or economy, including reductions in income or employment levels;
- adverse impacts to local supply of essential raw materials;
- adverse impacts to the availability of educational resources; or
- adverse impacts to the availability of livable housing.

The magnitude of potential impacts can vary greatly depending on the location of an action. For example, implementation of an action that creates employment positions might be unnoticed in an urban area but might have significant impacts in a rural region. In addition, if potential socioeconomic changes from a Proposed Action result in substantial shifts in population trends or in adverse effects on regional spending and earning patterns, such changes may be considered significant and adverse.

#### 3.14.3.2 Proposed Action

##### Population

Under the Proposed Action, 20 personnel would be permanently assigned to Nellis AFB. This would equate to less than a 1-percent increase in the total number of military personnel associated with the base (Nellis AFB, 2022a). Therefore, long-term, negligible, beneficial impacts to population growth in the ROI would be anticipated to occur with implementation of the Proposed Action.

##### Employment

Under the Proposed Action, the 820 RHS at Nellis AFB would be responsible for all construction activities associated with the project and there would be no need to source construction labor from outside the base. Groups of temporary duty personnel staying at Nellis AFB to participate in temporary training events hosted at the proposed CSTR would have the potential to spend money in the local community on their way to and from training events, thereby supporting local businesses and their employees. Accordingly, long-term, negligible, beneficial impacts to employment in the ROI would be anticipated to occur with implementation of the Proposed Action.

##### Housing

Under the Proposed Action, space would be created at the Contingency Beddown Area to lodge temporary duty assignment personnel staying at Nellis AFB for participation in training events at the proposed CSTR. The use of pre-existing base housing on Nellis AFB would not be required. Additionally, Nellis AFB has adequate housing resources to accommodate the potential increase in personnel associated with the Proposed Action. Therefore, no impacts to housing resources would be anticipated to occur with implementation of the Proposed Action.

##### Schools

While the CCSD has recently been dealing with overcrowding challenges, both the elementary and middle schools zoned for Nellis AFB are operating below their enrollment capacity as of October 2024 (CCSD, 2024; Lane, 2024). The high school zoned for Nellis AFB is currently operating above capacity; however, there are multiple high schools in the CCSD that students living on base could attend, as well as charter and private school options. Overall, the CCSD has the capacity to accommodate any school-aged dependents that might accompany the maximum 20 personnel that would be reassigned to Nellis AFB under the Proposed Action, although educational resources in CCSD would generally be under strain until solutions are put in place to manage over-enrollment and capacity concerns. Therefore, long-term, negligible, adverse impacts to educational resources in the ROI could occur with implementation of the Proposed Action.

### 3.14.3.3 No Action Alternative

Under the No Action Alternative, the proposed training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness throughput requirements. There would be no changes to population, housing, or educational resources in the ROI beyond baseline conditions. However, the No Action Alternative could have the potential to result in long-term, negligible, adverse impacts to employment because there would be no increase in temporary duty personnel spending money in the local community while in the area for training activities hosted at the proposed CSTR.

### 3.14.3.4 Cumulative Impacts

The Proposed Action would have long-term, negligible, beneficial impacts to population and employment, and long-term, negligible, adverse impacts to educational resources in the ROI. The projects identified in **Table 3-1** evaluate the construction, demolition, and renovation activities within the ROI. The Nellis Master Plan and installation development projects would result in negligible-to-minor impacts to socioeconomic resources. The TASS beddown has been completed and beddown of personnel added a total of 293 personnel to the population at Nellis AFB, plus their dependents. A total of 751 personnel and their dependents would be added under the Nellis Aggressor project once that beddown has been completed. The CCA EOU beddown would contribute an additional 40 personnel at Nellis AFB. Beneficial impacts occurring as a result of economic stimulation from construction, demolition, and renovation activities would have the ability to compound if these actions occurred concurrently. Development on the west side of the installation evaluated in the Nellis IDP EA would also require short-term commitment of construction resources within the local area.

When considered in conjunction with other past, present, and reasonably foreseeable actions at Nellis AFB, no significant cumulative impacts to socioeconomic resources would be anticipated to occur due to implementation of the Proposed Action.

## 3.15 PROTECTION OF CHILDREN

### 3.15.1 Definition of the Resource

Federal agencies are directed by EO to assess environmental health and safety risks to children. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, states that each federal agency “(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.”

For the purposes of this analysis, youth populations are children under the age of 18 years. The ROI for this resource area is Nellis AFB and its environs.

### 3.15.2 Existing Conditions

**Table 3-19** presents demographic characteristics for the population within the ROI, including percentages of children, and percent of those living below the poverty line.

CTs 36.49, 60.01, 62.04, and 72 reported higher percentages of children than Clark County, Nevada, and the US, with percentages ranging from 24.8 (2.1 percentage points higher than Clark County and 2.6 percentage points higher than Nevada) to 37.9 (15.2 percentage points higher than Clark County and 15.7 percentage points higher than Nevada). Nellis Family Housing is located in CT 60.01, which likely accounts for the higher percentage of children reported (USCB, 2022a).

**Table 3-19  
Demographic Characteristics**

Geographic Area	Total Population	Children (%) <sup>a</sup>	Percent Living Below Poverty Line
United States	331,097,593	22.1	12.5
Nevada	3,104,817	22.2	12.7
Clark County	2,265,926	22.7	13.4
CT 36.49	2,616	24.8	6.5
CT 60.01	9,057	37.9	27.3
CT 62.04	4,984	23.7	11.5
CT 72	4,776	27	30.6
CT 78.01	1,235	20.8	22.6
CT 78.02	470	0.0	0.0

Source: USCB 2024a, 2024b

a The USCB categorizes all people under the age of 18 as “youth”; this EA uses the term “children” to refer to the same group.

### 3.15.3 Environmental Consequences

Under DoD NEPA implementing procedures, an action must assess direct and indirect impacts of the proposed action and alternatives on the safety and health of DAF employees and others at a work site. Air Force Policy Directive 91-2, *Safety Programs*, is implemented by DAFI 91-202, *The DAF Mishap Prevention Program*, which manages risks to protect DAF personnel from occupational deaths, injuries, or illnesses and minimize loss of DAF resources. These standards apply to all DAF activities; adherence to the DAF’s Mishap Prevention Program ensures DAF workplaces meet federal safety and health requirements.

#### 3.15.3.1 Evaluation Criteria

The protection of children analysis applies to potential disproportionate and adverse effects on children. Adverse effects to children would occur if the Proposed Action results in:

- adverse effects to air quality or water quality;
- adverse effects to investment in infrastructure or critical services;
- adverse effects resulting from a proposed action’s effects on climate change; or
- adverse effects resulting from severance of existing communities from essential services or support.

Significant protection of children issues could occur if an adverse health, environmental, or economic consequence to the human population fell disproportionately upon children.

#### 3.15.3.2 Proposed Action

Under the Proposed Action, all construction activities would take place within the boundaries of Nellis AFB and would occur entirely within CT 78.02, which was not identified as containing children and does not contain any base housing areas. Construction activities would not occur in the vicinity of base housing areas where children or other community residents could be present. No disproportionate impacts to children would be anticipated to occur with implementation of the Proposed Action.

#### 3.15.3.3 No Action Alternative

Under the No Action Alternative, the proposed training area at Nellis AFB would not be constructed. The DAF would not meet the requirement to locate a CSTR within a 10-hour drive from all CONUS installations and would continue to lack the capacity to meet combat support readiness throughput requirements. There would be no changes to impacts on children in the ROI beyond baseline conditions.

#### **3.15.3.4 Cumulative Impacts**

The Proposed Action would not be anticipated to result in disproportionate adverse impacts to children. The projects identified in **Table 3-1** evaluate the construction, demolition, and renovation activities within Nellis AFB and would not have the potential to result in impacts to children. When considered in conjunction with other past, present, and reasonably foreseeable actions at Nellis AFB, no significant cumulative disproportionate impacts to children would be anticipated to occur under implementation of the Proposed Action.

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