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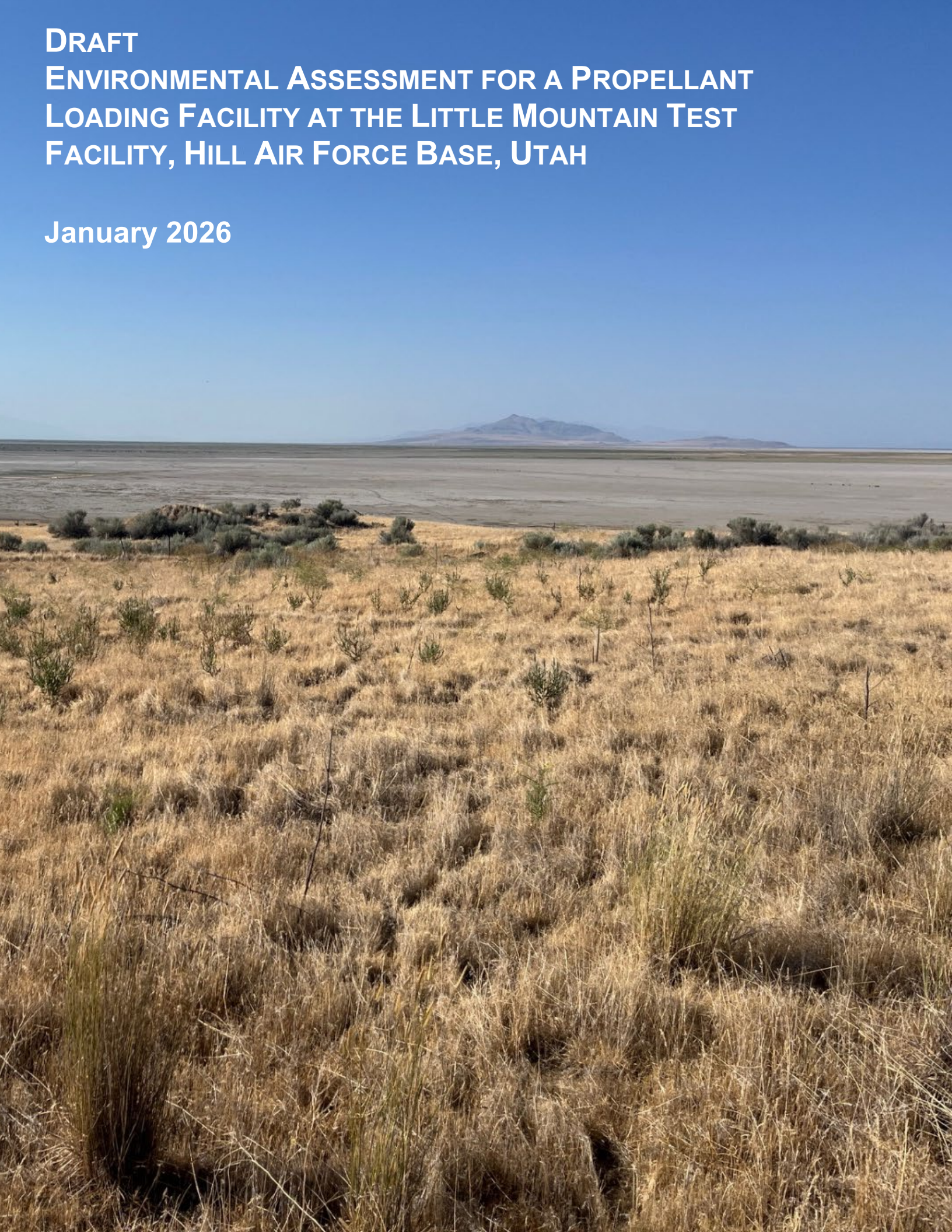
ENVIRONMENTAL ASSESSMENT FOR A PROPELLANT LOADING FACILITY AT THE LITTLE MOUNTAIN TEST FACILITY, HILL AIR FORCE BASE, UTAH

January 2026



PRIVACY ADVISORY

This Draft Environmental Assessment (EA) is provided for public comment in accordance with the National Environmental Policy Act.

Public commenting allows the Department of Air Force to make better, informed decisions. Letters or other written comments provided may be published in the EA. As required by law, substantive comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. 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 their specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

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List of Acronyms and Abbreviations

Acronym	Definition
AADT	Annual Average Daily Traffic
ABW	Air Base Wing
ACAM	Air Conformity Applicability Model
AFB	Air Force Base
AFI	Air Force Instruction
AFNWC	Air Force Nuclear Weapon Center
AQCR	Air Quality Control Region
AQIA	Air Quality Impact Assessment
AST	Aboveground Storage Tank
BaE	Barton-Rock outcrop complex, 5 to 30 percent slopes
BMP	Best Management Practice
BrG	Barton-Rock outcrop complex, 30 to 40% slopes
CAA	Clean Air Act
CEG/CEIE	Civil Engineer Group/Environmental Branch
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CO	Carbon Monoxide
DAF	Department of Air Force
DAFMAN	Department of Air Force Manual
DDESB	Department of Defense Explosives Safety Board
DoD	Department of Defense
DoDI	Department of Defense Instruction
EA	Environmental Assessment
EO	Executive Order
ERP	Environmental Restoration Program
ESA	Endangered Species Act
ESO	Explosives Safety Officer
FEMA	Federal Emergency Management Agency

Acronym	Definition
FONSI	Finding of No Significant Impact
GP	Gravel Pits
HAP	Hazardous Air Pollutant
HAZ MAT	Hazardous Material
HWMP	Hazardous Waste Management Plan
I-	Interstate-
ICBM	Intercontinental Ballistic Missile
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Consultation
kW	kilowatt
Lb	Lakeshore fine sandy loam, 0 to 1% slopes
LMTF	Little Mountain Test Facility
LOS	Level of Service
LQG	Large Quantity Generator
m^3	cubic meter
MON3	mixed oxides of nitrogen-3
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NO_2	Nitrogen Dioxide
NO_x	Nitrous Oxides
NOA	Notice of Availability
NTO	Nitrogen tetroxide
O_3	Ozone
OSHA	Occupational Safety and Health Administration
Pb	Lead
PBACM	Post Boost Attitude Control Modules
PCB	Polychlorinated Biphenyl

Acronym	Definition
PLF	Propellant Loading Facility
$PM_{2.5}$	Particulate Matter less than or equal to 2.5 micrometers
PM_{10}	Particulate Matter less than or equal to 10 micrometers
POL	petroleum, oils, lubricant
ppb	parts per billion
PU	Playas
QD	Quantity-Distance
RCRA	Resource Conservation and Recovery Act
SIP	State Implementation Plan
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Office
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
SOP	Standard Operating Procedures
SPCC	Spill Prevention, Control, and Countermeasure
SQG	Small Quantity Generator
SR-	State Route-
SWMU	Solid Waste Management Unit
SWPPP	Stormwater Pollution Prevention Plan
UDOT	Utah Department of Transportation
µg	microgram
USDA	United States Department of Agriculture
UST	Underground Storage Tank
UPDES	Utah Pollution Discharge Elimination System
U.S.	United States
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
V/C	Volume-to-Capacity
VOC	Volatile Organic Compound

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Chapter 1 Purpose of and Need for the Proposed Action

1.1 Introduction and Background

The Air Force Nuclear Weapon Center (AFNWC) and the 75th Air Base Wing (75 ABW) at Hill Air Force Base (AFB) prepared this Draft Environmental Assessment (EA) to evaluate the proposed construction and operation of a Propellant Loading Facility (PLF) at the Little Mountain Test Facility (LMTF). Procedurally, this EA was developed in compliance with the National Environmental Policy Act (NEPA), as amended, and the Department of Defense's (DoD's) NEPA implementing procedures.

The proposed PLF would support planned replacement of the current Minuteman III, which has been in service since the 1970s, with the modernized Sentinel Intercontinental Ballistic Missile (ICBM) weapons system (i.e., the Sentinel Program).

The LMTF is a state-of-the-art test facility associated with Hill AFB. It is an Air Force Materiel Command laboratory dedicated to simulation testing of nuclear hardness, survivability, reliability, and electromagnetic compatibility of defense systems. The AFNWC test laboratories at the LMTF simulate environments for nuclear radiation, air blast, shock and vibration, electromagnetic pulse, electromagnetic interference, and compatibility testing. It is owned by the Department of Air Force (DAF) and is operated and maintained by defense contractors.

1.2 Location

The 1,000-acre LMTF is located approximately 25 miles west of Ogden, Utah (Figure 1-1), near the Great Salt Lake. The LMTF is in a remote area adjacent to Little Mountain. The LMTF is surrounded by hills on the west, east, and south, and by a mudflat of the Great Salt Lake to the north, with the Great Salt Lake located to the south. The nearest community is West Warren, Utah, located approximately 5 miles to the east. The LMTF is surrounded by approximately 700 acres of DAF-owned land.

1.3 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to construct a PLF to support the production and deployment of the Sentinel Program. A PLF is required for the fueling and short-term storage of completed Post Boost Attitude Control Modules (PBACMs), which are responsible for positioning the reentry[1] vehicle during the portion of the missile's trajectory that occurs outside the Earth's atmosphere. The PBACM is propelled by a liquid propulsion system known as the post boost propulsion system.

The Proposed Action is needed to support the increasing testing needs of AFNWC, DoD, and the Department of Energy, particularly in regard to the Sentinel Program. The increased testing needs of these organizations require a dedicated PLF by June 2030. Currently, the PLF mission is being conducted in World War II era buildings located at Hill AFB that will not meet future Sentinel weapon safety standards. Additionally, the current facilities cannot support the anticipated PBACM throughput volumes for the Sentinel Program.

[1] "Reentry" in this context refers to the missile's reentry into the Earth's atmosphere.

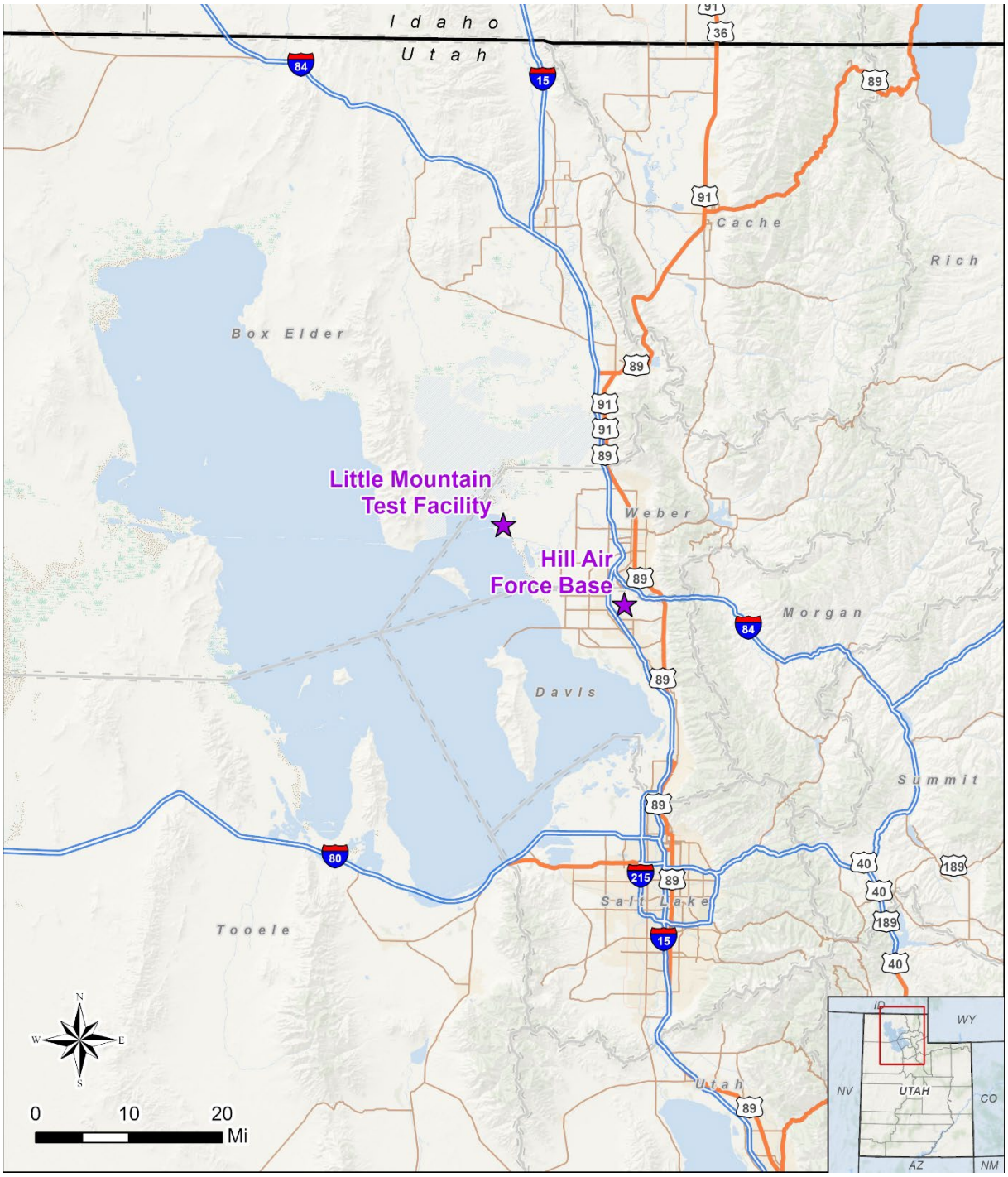

Figure 1-1. Location of the Little Mountain Test Facility and Hill Air Force Base

1.4 Scope of Environmental Analysis

The scope of analysis in this EA is defined by the potential range of environmental effects resulting from implementation of the Proposed Action and alternatives, including the No Action Alternative. The EA identifies, describes, and evaluates the affected environment and environmental consequences of the Proposed Action and identifies measures to

prevent or minimize environmental effects. Table 1-1 provides information on the resources analyzed in detail and the resources that were dismissed from detailed analysis due to the determination that there would be no effect or negligible effect to that resource.

Table 1-1. Resource Area Level of Analysis

Resource	Level of Analysis and Justification
Airspace	Dismissed from detailed analysis. There would be no changes or modifications to airspace, flight activities, or aircraft training activities.
Air Quality	Analyzed in detail (see Section 3.1). Air emissions would result from the use of construction equipment and from vehicle increases, and during facility operations due to proposed combustion equipment (e.g., generators) and additional personnel commuting daily to the facility.
Water Resources	Dismissed from detailed analysis. No surface waters or wetlands occur at or immediately adjacent to the proposed site at the LMTF (Proposed Alternative). The site is located within FEMA flood zone D, which identifies areas with possible but undetermined flood hazards, but is located approximately 900 feet from the nearest mapped floodplain, located directly south and associated with the Great Salt Lake. Impacts associated with stormwater are analyzed in Section 3.2. The potential for groundwater to be impacted by construction- or operations-related contaminants is analyzed in Section 3.5.
Soils, Topography, and Geological Resources	Soils and topography analyzed in detail (see Section 3.2). Ground disturbing activities would result in increased potential for soil erosion and contamination. Geological resources are dismissed from detailed analysis, as construction would not be expected to extend into underlying geological resources.
Cultural Resources	Dismissed from detailed analysis. Cultural resources surveys at the proposed site at the LMTF (Proposed Alternative) identified no eligible historic properties. Coordination documents with Utah SHPO (in compliance with Section 106 of the NHPA) are provided in Appendix C. Tribal consultation documentation is provided in Appendix B. Though no known historic properties have been identified within the project area, if any cultural resources are found during construction, including during all ground disturbing activities, the Hill AFB Unanticipated Discovery of Archaeological Deposits Standard Operating Procedure would be implemented and all protocols coordinated through the Hill AFB cultural resource manager office.
Biological Resources	Analyzed in detail (see Section 3.3). Destruction of vegetation and short-term displacement of wildlife would occur during construction.
Land Use	Dismissed from detailed analysis. Reclassification of existing land use would not be required.
Noise	Dismissed from detailed analysis. The nearest populated area/community is located approximately 5 miles east of the proposed PLF site (under the Proposed Alternative – see Section 2.4.2). Potential effects to biological resources from noise increases are discussed in Section 3.3.
Infrastructure	Analyzed in detail (see Section 3.4). Construction of the Proposed Action at the LMTF would increase traffic along Route 39. Route 39 may also be affected by the delivery of fuel and PBACMs during facility operations. Additionally, construction and operation of the proposed PLF may change requirements for existing electrical, natural gas, potable water, wastewater, communications, or solid waste management systems. Installation of new underground power and water lines would be required for construction of a PLF at the proposed location at the LMTF. It is anticipated that new utilities would connect to existing sources located adjacent to the site. Short-term utility interruptions could occur as electric, water, sewer, gas, and communication lines are connected to the PLF from existing sources on-site. The addition of approximately six personnel during PLF operations would be adequately supported by existing infrastructure.
Hazardous Materials and Wastes/Health and Safety	Analyzed in detail (see Section 3.5). Implementation of the Proposed Action would increase the quantity of hypergolic liquid propellants (e.g., hydrazine, NTO, MON3) that would be stored on-site. Worker safety is also analyzed in this section.

Resource	Level of Analysis and Justification
Socioeconomics	Dismissed from detailed analysis. During the approximate 4-month construction period, the local economy may experience beneficial effects. Once operational, the PLF would require approximately six personnel on-site. Any potential socioeconomic effect during construction and/or operation would be negligible.

FEMA – Federal Emergency Management Agency; LMTF – Little Mountain Test Facility; MON3 – mixed oxides of nitrogen-3; NHPA – National Historic Preservation Act; NTO – Nitrogen Tetroxide; PBACM – Post Boost Attitude Control Modules; PLF – Propellant Loading Facility; SHPO – State Historic Preservation Office

1.5 Intergovernmental Coordination, Public and Agency Participation

Per the requirements of the Intergovernmental Cooperation Act of 1968 (42 United States Code [USC] § 4231[a]) and Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, as amended by EO 12416, federal, state, and local agencies with jurisdictions that could be affected by the Proposed Action were notified during the development of this EA. Appendix A provides a list of stakeholders consulted during this analysis and copies of example or relevant correspondence.

1.5.1 Government-to-Government Consultations

Consistent with the National Historic Preservation Act's (NHPA's) implementing regulations (36 Code of Federal Regulations [CFR] Part 800); DoD Instruction (DoDI) 4710.02, *DoD Interactions with Federally-Recognized Tribes*; DAF Instruction DAFI 90-2002, *Air Force Interaction with Federally Recognized Tribes*; and DAF Manual 32-7003, *Environmental Conservation*, AFNWC and 75 ABW are consulting with federally recognized tribes who have a documented interest in DAF lands and activities, regarding the Proposed Action's potential to affect lands and activities with cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA or the interagency coordination process, and it requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The Installation Tribal Liaison Officer for Hill AFB for tribal consultations is the Chief, Environmental Branch. Appendix B identifies the government-to-government consultation conducted during this analysis and provides copies of or examples of relevant correspondence.

1.5.2 Other Agency Consultations

Compliance with Section 7 of the Endangered Species Act (ESA) and Section 106 of the NHPA is conducted through coordination and consultation with the United States Fish and Wildlife Service (USFWS) and the Utah State Historic Preservation Office, respectively. Consultation letters and responses are included in Appendix C.

1.5.3 Public Participation

A Notice of Availability (NOA) of the Draft EA and proposed Finding of No Significant Impact (FONSI) was published in the Standard Examiner. The NOA announced the availability of the Draft EA for public review and comment during a 30-day public and agency review period beginning from the date of publication of the NOA and ending on February 10, 2026. Copies of the Draft EA and FONSI were made available online at https://www.hill.af.mil/Home/Environmental and at the Weber County Library Main Branch, 2464 Jefferson Avenue, Ogden, Utah 84401. Those unable to access these documents online were asked to call Public Affairs at (801) 777-5201 to arrange

alternative access. A NOA of the Final EA and signed FONSI will also be published in the Standard Examiner and online.

Chapter 2 Proposed Action and Alternatives

2.1 Proposed Action

The Proposed Action would construct a PLF that would be responsible for loading hypergolic liquid propellants (e.g., hydrazine, Nitrogen Tetroxide [NTO], mixed oxides of nitrogen-3 [MON3]) into the PBACMs during the production and deployment phases of the Sentinel Program. Additional functions that would be performed at the PLF include service valve cap installation, inspections, mass properties determination, temporary storage of fueled PBACMs (1 to 3 days), and packaging for shipment. It is anticipated that construction of the proposed PLF would take approximately 4 months to complete, utilizing approximately 50 to 100 construction workers.

The proposed facility would total approximately 30,000 square feet and would consist of an administrative wing (approximately 8,000 square feet) attached to a high bay wing (approximately 22,000 square feet). The administrative wing would consist of personnel workspaces and support areas, including office space, locker/restrooms, and storage space. The high bay wing would include a laboratory area for the testing of hypergolic fuels, hypergolic liquid propellants storage and testing, and a conference room. The proposed laboratory area would require a fueling cell, ventilation systems, associated screen and control rooms, and a receiving area equipped with a loading dock to accommodate forklifts and delivery trucks. Overhead bridge cranes would be installed throughout the high bay wing to facilitate shipping and receiving. Two emergency generators would be located on-site. Construction would include the addition of parking space and an access road off the existing main vehicular drive to support full-time workers as well as deliveries and shipments during facility operations. Once the facility is operational, it is anticipated that six personnel would be required on-site.

It is anticipated the architectural design character and use of materials would be modern, but fitting with the existing character of buildings at the LMTF, and compliant with the Design Standards for Hill AFB. A safety buffer zone would be required for the facility, which would be fenced and gated for security. The Draft EA is based on 20 percent design; the Final EA will be revised if required, as design progresses, if design changes would be expected to change the analysis provided in this EA. Figure 2-1 presents a representative layout for the proposed PLF.

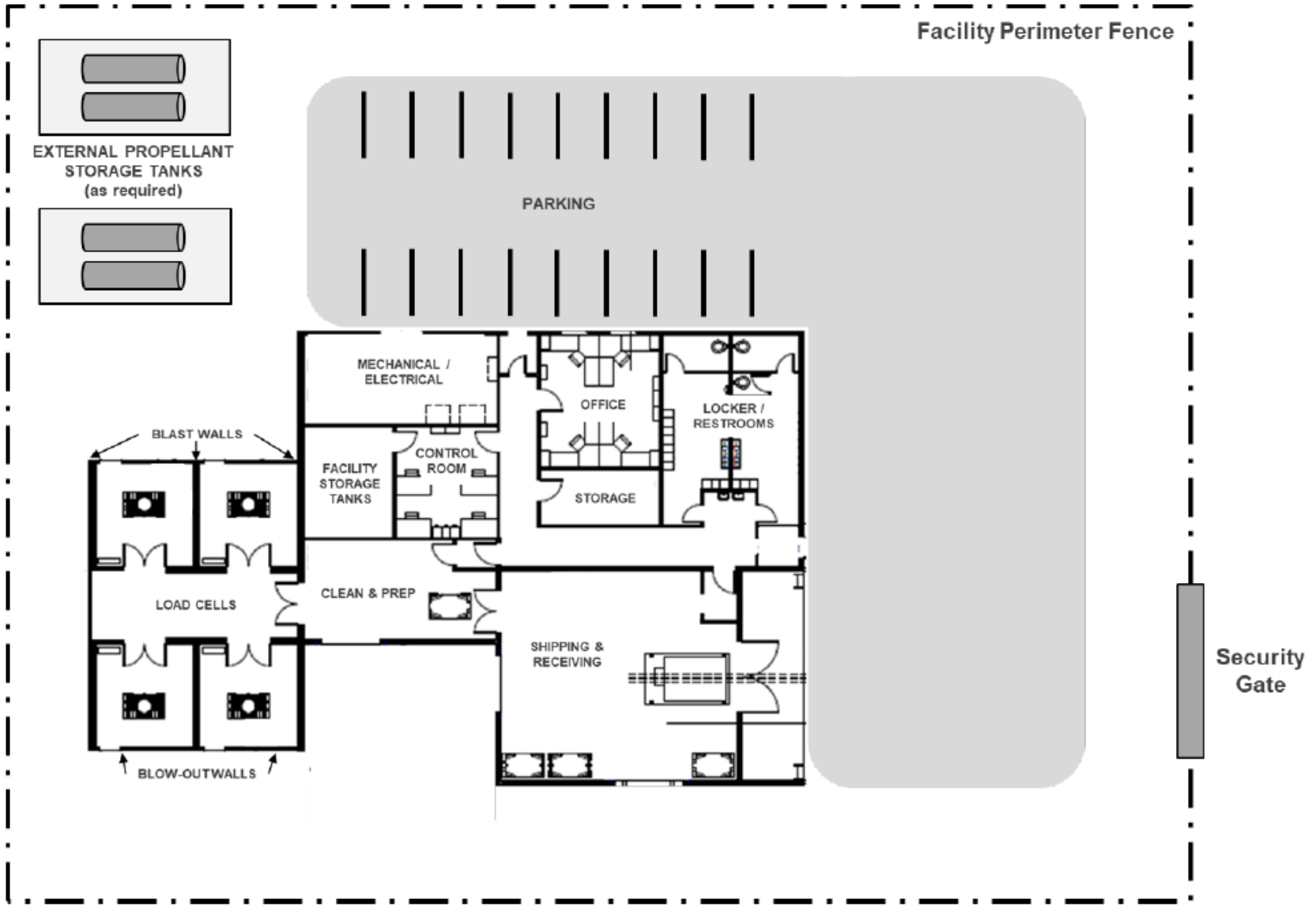

Figure 2-1. PLF Representative Layout

2.2 Selection Standards and Criteria

NEPA regulations mandate the consideration of reasonable alternatives for the Proposed Action. Reasonable alternatives are those that would meet the purpose of and need for the Proposed Action and are under the jurisdiction of the agency undertaking the action. The following selection standards were applied to all Proposed Action alternatives to determine whether they would be carried forward for detailed analysis in this EA.

A. Mission Support Siting – alternatives must be located so as to ensure adjacency of mission functions and operations.

B. Compatibility with Existing Land Use Plans and Infrastructure – alternatives must be compatible with, and use to the greatest extent practicable, existing infrastructure, such as roadways; parking; electrical, water, and sewer utilities; and communications.

C. Schedule – alternatives must provide adequate facility space as soon as feasible to meet mission needs. The PLF must be available in a timely manner to support the mission requirements of the Sentinel Program.

D. Capacity – alternatives must consider space utilization to meet the existing and future needs at LMTF and Hill AFB. Alternatives must efficiently support specific mission functions as well as potential long-term maintenance and repair costs to manage outdated or underutilized facilities.

2.3 Alternatives Considered but Eliminated from Further Analysis

2.3.1 Renovation of an Existing Facility at the LMTF

Under this alternative, DAF would renovate an existing facility at the LMTF to support the propellent loading operational requirements of the Sentinel Program. An existing facility would be updated, and additional square footage would be added to include bays and workstations. The renovated facility would be required to meet all current safety standards as well as explosive safety standards. This alternative was dismissed from detailed analysis in the EA under selection standards B and D. It was determined that there is no available, existing infrastructure at the LMTF that could be modified such that it could have capacity to accommodate the requirements for loading hypergolic liquid propellants into PBACMs at the expected throughput volumes for the Sentinel Program.

2.3.2 New PLF at Hill AFB

Under this Alternative, DAF would construct a new PLF at Hill AFB. This alternative was dismissed from detailed analysis in the EA under selection standards A, B, C, and D. As construction of additional infrastructure to support the Sentinel Program (as well as past and ongoing simulation testing of nuclear hardness, survivability, reliability, and electromagnetic compatibility of defense systems) is being completed at the LMTF, a new PLF at Hill AFB (approximately 30 miles away by car) would not ensure adjacency of mission functions and operations. Related to compatibility with existing land use plans/infrastructure and site capacity, there is not currently the square footage available at Hill AFB that is required for the PLF in addition to the safety buffer zone that is required around the facility. Construction of a PLF (and associated safety buffer zone) in this location would require the demolition of approximately two existing facilities that no longer

meet mission requirements, and it was determined that there are no two adjacent buildings that qualify for demolition within the timeline identified for the Sentinel Program.

2.3.3 Renovation of an Existing Facility at Hill AFB

Under this Alternative, DAF would renovate an existing facility at Hill AFB to support the propellent loading operational requirements of the Sentinel Program. This alternative was dismissed from detailed analysis in the EA under selection standards A, B, and D. As stated, a PLF at Hill AFB would not ensure adjacency of mission functions and operations. Additionally, no available, existing facilities were identified at Hill AFB that would meet the size requirements of the proposed PLF (and associated safety buffer zone) or that could accommodate the requirements for loading hypergolic liquid propellants into PBACMs at the expected throughput volumes for the Sentinel Program.

2.4 Alternatives Carried Forward for Analysis

2.4.1 No Action Alternative

Under the No Action Alternative, the DAF would not construct a PLF to support the Sentinel Program. DAF and contractor personnel would continue to utilize existing facilities at Hill AFB, which were designed for the Minuteman III program, do not meet Sentinel weapon safety standards, and are not anticipated to be capable of supporting the anticipated PBACM throughput volumes for the Sentinel Program.

The No Action Alternative would not meet the project purpose and need; however, analysis of the No Action Alternative provides a benchmark, enabling decision makers to compare the magnitude of the potential environmental effects of the Proposed Action. Therefore, the No Action Alternative is carried forward for detailed analysis in this EA.

2.4.2 New PLF at LMTF (Proposed Alternative)

Under the Proposed Alternative, the DAF would construct the PLF described in Section 2.1 at a location just inside the existing LMTF fence line, south of the main vehicular drive. Figure 2-2 presents the land area on which the PLF would be constructed, although the anticipated construction footprint and associated ground disturbance would comprise a smaller area within the identified maximum limits. As stated, the PLF would total approximately 30,000 square feet and would consist of an administrative wing (approximately 8,000 square feet) attached to a high bay wing (approximately 22,000 square feet). Figure 2-1 in Section 2.1 presents a representative layout for the proposed facility (based on 20 percent design).

In this location, additional ground disturbance would be required during construction for the installation of new underground power and water utilities, which would connect to existing sources located adjacent (to the west) of the proposed PLF site (visible on the aerial imagery displayed in Figure 2-2). Although the facility would be sited within the existing, secured fence line of the LMTF, the PLF would require its own perimeter fence and security gate.

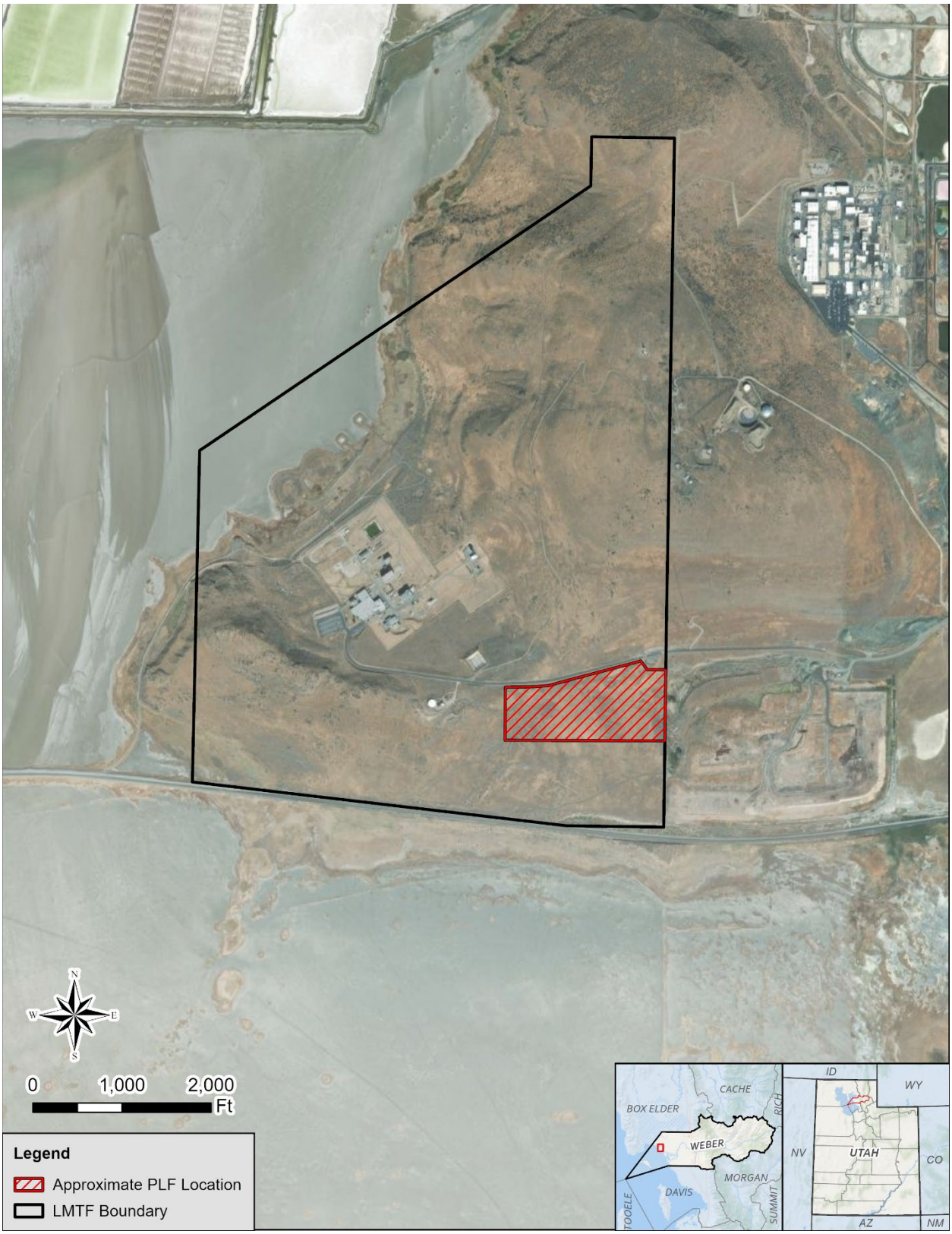

Figure 2-2. Location of Proposed PLF at the LMTF

2.5 Summary of Alternatives and Resources

The potential effects associated with the Proposed Action (Proposed Alternative) and the No Action Alternative are summarized in Table 2-1. The summary is based on information discussed in detail in Chapter 3.

Table 2-1. Summary of Potential Environmental Effects

Resource	New PLF at LMTF (Proposed Alternative)	No Action Alternative
Air Quality	Short-term, minor, adverse effects due to an increase in criteria pollutant emissions during construction. Long-term, minor, adverse effects due to proposed new combustion equipment (e.g., generators) and additional personnel commuting daily to the facility.	No change to existing air quality would occur.
Soils and Topography	Short- and long-term, minor, adverse effects due to soil disturbance during construction, and the placement of fill to alter the site's topography. BMPs would be implemented to minimize soil erosion during construction. The Hill AFB Integrated Stormwater Management Plan would be followed to manage stormwater increases during construction and also during operations, due to an increase in impervious surfaces.	No disturbance to existing soils or topography would occur.
Biological Resources	Short- and long-term, negligible, adverse effects due to permanent vegetation removal and temporary displacement of wildlife during construction. Species inventories at the LMTF have not identified federally protected species or critical habitat, although one federally proposed threatened species, one federally proposed endangered species, and one listed threatened species may occur at the LMTF. A total of 27 "species of concern" have potential to occur at Hill AFB and associated properties (including LMTF).	As construction would not occur in this location, no effects to biological resources would be expected.
Infrastructure	Short- and long-term, negligible, adverse effects on electrical infrastructure. Intermittent disruptions could occur at the LMTF during construction of utility line connections for the PLF. Due to the proposed energy microgrid project anticipated to be completed at the LMTF prior to construction of the Proposed Action, the energy needs of the PLF (during construction and operation) would be anticipated to be within the capacity of existing utility infrastructure at the LMTF. Short- and long-term, minor, adverse effects to traffic volumes would occur during construction and operation.	No changes to utility usage or baseline traffic conditions in and around the LMTF would be expected.
Hazardous Materials and Wastes/Health and Safety	Short-term, negligible, adverse impacts related to HAZ MAT and hazardous waste, which would be managed in accordance with all applicable federal, state, and local regulations, as well as Hill AFB's HWMP and HILLAFI 32-7086 (*Hazardous Materials Management*). Short-term, negligible, adverse effects to health and safety possible during construction, due to risks inherent to construction work.	No changes to existing HAZ MAT/hazardous waste management or changes to existing health and safety conditions at the LMTF would occur.

AFB – Air Force Base; AFI – Air Force Instruction; BMP – Best Management Practice; HAZ MAT – Hazardous Material; HWMP – Hazardous Waste Management Plan; LMTF – Little Mountain Test Facility; PLF – Propellant Loading Facility

Chapter 3 Affected Environment and Environmental Consequences

This chapter describes the environment potentially affected by the Proposed Action and presents an analysis of potential environmental consequences of the Proposed Action and No Action Alternative. NEPA requires that the analysis address those areas and the components of the environment with the potential to be affected; locations and resources with no or minimal potential to be affected need not be analyzed in detail (see Table 1-1 for resource area level of analysis). The existing conditions of each relevant environmental resource are described to give agency decision makers a meaningful point from which to compare potential effects.

3.1 Air Quality

3.1.1 Regulatory Setting

This section describes baseline air quality conditions at the LMTF and assesses the likelihood of air quality to affect or be affected by implementation of the Proposed Action. National Ambient Air Quality Standards (NAAQS) are provided for six criteria pollutants: Carbon Monoxide (CO); Lead (Pb); Nitrogen Dioxide (NO_2); Ozone (O_3); Particulate Matter, divided into aerodynamic size less than or equal to 2.5 micrometers ($PM_{2.5}$), and aerodynamic size less than or equal to 10 micrometers (PM_{10}); and Sulfur Dioxide (SO_2) (USEPA 2025a). O_3 is not emitted directly into the air but is created by chemical reactions between NO_2 and volatile organic compounds (VOCs) (USEPA 2025b). VOCs are compounds with high vapor pressure and low water solubility that are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. NAAQS are split into two types: primary and secondary. Primary air quality standards provide public health protection, including protection of "sensitive populations" such as the elderly. Secondary standards provide public welfare protection in consideration of air quality effects such as decreased visibility and damage to animals and crops. NAAQS are used as the basis for determining whether a region is in compliance with Clean Air Act (CAA) requirements. If the air quality in a geographic area meets the NAAQS, it is considered to be an attainment area. Areas that do not meet either a primary or secondary NAAQS are considered to be in nonattainment. Areas that previously did not meet the NAAQS but now do are considered maintenance areas. Maintenance areas are required to submit a plan to the United States Environmental Protection Agency (USEPA) detailing how the area will continue to meet the standards. Table 3.1-1 lists the NAAQS for each criteria pollutant.

Table 3.1-1. Criteria Air Pollutants

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
CO	Primary	8 hours	9 ppm	Not to be exceeded more than once per year
		1 hour	35 ppm	
Pb	Primary and Secondary	Rolling 3-month average	0.15 µg/m^3	Not to be exceeded
NO_2	Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentration, averaged over 3 years

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
	Primary and Secondary	1 year	53 ppb	Annual Mean
O_3	Primary and Secondary	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
$PM_{2.5}$	Primary	1 year	9.0 µg/m^3	Annual mean, averaged over 3 years
	Secondary	1 year	15.0 µg/m^3	Annual mean, averaged over 3 years
	Primary and Secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
PM_{10}	Primary and Secondary	24 hours	150 µg/m^3	Not to be exceeded once per year on average over 3 years
SO_2	Primary	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Source: USEPA 2025a
µg – microgram; CO – Carbon Monoxide; m^3 – cubic meter; NO_2 – Nitrogen Dioxide; O_3 – Ozone; Pb – Lead; $PM_{2.5}$ – Particulate Matter of diameter 2.5 microns or less; PM_{10} – Particulate Matter of diameter 10 microns or less; ppb – parts per billion; SO_2 – Sulfur Dioxide

In addition to the criteria pollutants discussed above, Hazardous Air Pollutants (HAPs) also are regulated under the CAA. The USEPA has identified 188 HAPs that are known or suspected to cause health effects in small concentrations. HAPs are emitted by a wide range of anthropogenic and naturally occurring sources, including combustion mobile and stationary sources. Unlike the NAAQS for criteria pollutants, federal ambient air quality standards do not exist for non-criteria pollutants. Therefore, HAPs are regulated through specific air emission permit provisions for stationary sources and HAP emission limits for mobiles sources.

The General Conformity Rule was promulgated to ensure that proposed actions by federal agencies would not interfere with a state's plans to attain and maintain the NAAQS. Under the rule, federal agencies must work with state, tribal, and local governments in a nonattainment or maintenance area to ensure that proposed federal actions conform to the air quality plans established in the applicable State Implementation Plan (SIP).

Air quality is regulated at the federal, state, and local levels through programs and permits. Title V is a federal program designed to standardize air quality permits and the permitting process for major sources of emissions. Title V Operating Permits include applicable pollution control requirements from federal or state regulations.

3.1.2 Affected Environment

3.1.2.1 Ambient Air Quality

The LMTF is located in Weber County, which falls within the Wasatch Front Intrastate Air Quality Control Region (AQCR). An AQCR is a geographic area designated by the USEPA for the purpose of attainment of the NAAQS. Weber County is in maintenance for

the PM_{10} and CO standards. The Wasatch Front Intrastate AQCR is in nonattainment for $PM_{2.5}$ and 8-hour O_3 (USEPA 2025c). For the O_3 nonattainment designation, portions of the Wasatch Front in Utah are divided into two areas: the Northern Wasatch Front and the Southern Wasatch Front. The LMTF is included in the Northern Wasatch Front. For O_3 nonattainment, the Northern Wasatch Front was originally designated as a marginal nonattainment area (the least stringent nonattainment designation for this standard); however, the area failed to attain the O_3 standard by the required attainment date and was subsequently redesignated to moderate nonattainment. As monitoring data during this time indicated that the area would not be able to attain the standard by the required moderate attainment date, the area was anticipated to be redesignated from moderate to serious nonattainment with an effective date of January 8, 2025. However, the Final Rule is being reconsidered by the USEPA after petition for review by the State of Utah and the Utah Petroleum Association (90 Federal Register 46128). If the Final Rule holds, the Northern Wasatch Front will be redesignated to serious nonattainment, which would require another SIP. The State of Utah is developing a serious nonattainment SIP in anticipation of a potential redesignation (UDEQ 2025).

The LMTF is also located within the Salt Lake City Area, which is designated as a serious nonattainment area for $PM_{2.5}$. In 2024, the USEPA lowered the annual $PM_{2.5}$ standard from 12 $\mu g/m^3$ to 9 $\mu g/m^3$. As of March 12 2025, this standard is under consideration for revision (USEPA 2025d). If the standard remains, Utah will receive a designation from the USEPA compliant with the lowered standard.

Due to their status as a major source of air pollution, Hill AFB maintains a Title V Operating Permit (Permit No. 1100007004) that covers regulated stationary air emissions sources at the LMTF. Regulated sources at the LMTF primarily include operations that support the facility's various testing, research, and development activities, such as boilers, heaters, generators, fuel storage tanks, surface coating, solvent cleaning, chemical stripping, and abrasive cleaning.

3.1.3 Environmental Consequences

3.1.3.1 Analysis Approach

This EA uses the Air Conformity Applicability Model (ACAM) Version 5.0.24a to analyze the potential air quality effects associated with the Proposed Action, in accordance with DAF Manual (DAFMAN) 32-7002 (*Environmental Compliance and Pollution Prevention*), the Air Quality Impact Assessment (AQIA), and the General Conformity Rule (40 CFR 93 Subpart B). The General Conformity Rule applies to the Proposed Action because the Wasatch Front Intrastate AQCR is classified as a nonattainment area for both $PM_{2.5}$ and O_3. Therefore, the Proposed Action is subject to an AQIA Level II, Quantitative Assessment. Please refer to Appendix D for the ACAM Record of Conformity Analysis and Detail ACAM Report.

Current DAF guidance provides methodology for performing an Air Quality AQIA Level II, Quantitative Assessment, which is a formal assessment that can determine if an action poses a significant impact on air quality (Solutio Environmental 2025a). An air quality impact is considered insignificant if the action does not cause or contribute to exceedance of one or more of the NAAQS. The DAF defines "insignificance indicators" for each criteria pollutant according to current air quality conditions. For nonattainment or maintenance

areas, the General Conformity Rule formally defines *de minimis* (insignificant) levels that must be used as insignificance indicators. *De minimis* emission levels are criteria pollutant (or its precursors) annual emission levels that are too low to cause or contribute to an exceedance of one or more of the NAAQS. Any action resulting in annual net change emissions below the *de minimis* levels is considered to be insignificant to public health and the environment locally, regionally, and cumulatively (Solutio Environmental 2025a). This analysis uses the most stringent insignificance indicators for regulatory areas within Weber County, as defined by ACAM.

Criteria pollutant NO_2 is used as the NAAQS for the larger emissions group of Nitrous Oxides (NO_x) (USEPA 2025e). ACAM calculates emissions for NO_x, which are used in place of NO_2 for discussion of quantitative impacts. PM_{10} and $PM_{2.5}$ estimates presented assume uncontrolled emissions of fugitive dust. In reality, PM emissions would likely be lower, as fugitive dust would be minimized through control measures outlined in the Hill AFB Fugitive Dust Control Plan. Based on the mission requirements stated in Section 1.3, air quality emissions calculations for construction assume that construction of the PLF would conclude by June 2030. Steady-state, or operational, emissions were assumed to begin in 2031, as emissions calculated for 2030 include construction and operational activities.

3.1.3.2 New PLF at LMTF (Proposed Alternative)

Net-change estimates of air quality emissions from construction activities are presented in Table 3.1-2. Increases in air quality emissions would result from a number of sources during construction, including construction equipment, paving, and hauling of fill material. Air Quality impacts associated with construction of the Proposed Action would be short-term and localized. Estimated air quality emissions were compared against applicable *de minimis* indicators (introduced in Section 3.1.3.1). No exceedances of *de minimis* indicators were identified; therefore, construction of the Proposed Action would have an insignificant impact on air quality and no further quantitative assessment is required. At these insignificant levels of emissions, construction of the Proposed Action would have no impact on the region's ability to comply with the NAAQS for regulated pollutants and would not hamper efforts to maintain compliance with all NAAQS under current requirements. These findings are further documented in Appendix D.

Table 3.1-2. 2030 Construction Air Quality Emissions

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
VOC	0.517	70	No
NOx	2.520	70	No
CO	2.325	--	No
SOx	0.009	70	No
PM 10	0.170	100	No
PM 2.5	0.080	70	No
Pb	0.000	--	No

Source: Solutio Environmental 2025b

CO – Carbon Monoxide; NO_x – Nitrous Oxides; Pb – Lead; $PM_{2.5}$ – Particulate Matter of diameter 2.5 microns or less; PM_{10} – Particulate Matter of diameter 10 microns or less; SO_x – Sulfur Oxides; VOC – Volatile Organic Compound

During operation of the proposed PLF, there would be long-term, minor, adverse impacts on local air quality due to personnel commuting, emergency generator usage, and heating. Propellant effluent vapor scrubbers would be installed and operated, minimizing air pollutant emissions associated with storage of hypergolic liquid propellants. Burning of hypergolic propellant is not proposed. New emergency generators and heating implements would require an amendment to the Hill AFB Title V Operating Permit as well as review from the Utah Department of Environmental Quality to ensure federal and state emissions requirements would be met. Applicable federal and state regulations include but may not be limited to:

- 40 CFR Part 60 Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR Part 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
- 40 CFR Part 63 Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters
- Utah Administration Code, Rule R307-230 NO_x Emission Limits for Natural Gas-Fired Water Heaters
- Utah Administration Code, Rule R307-315 NO_x and CO Emission Controls for Natural Gas-Fired Boilers 2.0-5.0 MMBtu
- Utah Administration Code, Rule R307-316 NO_x and CO Emission Controls for Natural Gas-Fired Boilers Greater Than 5.0 MMBtu
- Utah Administration Code, Rule R307-327 Ozone Nonattainment and Maintenance Areas: Petroleum Liquid Storage

No exceedances of *de minimis* indicators were identified; therefore, impacts to air quality during operation of the Proposed Action would be considered insignificant. This finding is further documented in Appendix D. Table 3.1-3 presents air quality emissions in tons per year.

Table 3.1-3. 2030 Operation Air Quality Emissions

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
VOC	0.034	70	No
NOx	0.134	70	No
CO	0.370	--	No
SOx	0.006	70	No
PM 10	0.015	100	No
PM 2.5	0.013	70	No
Pb	0.000	--	No

Source: Solutio Environmental 2025b

CO – Carbon Monoxide; NO_x – Nitrous Oxides; Pb – Lead; $PM_{2.5}$ – Particulate Matter of diameter 2.5 microns or less; PM_{10} – Particulate Matter of diameter 10 microns or less; SO_x – Sulfur Oxides; VOC – Volatile Organic Compound

3.1.3.3 No Action Alternative

Under the No Action Alternative, DAF and contractor personnel would continue to utilize existing facilities at Hill AFB and no construction would occur. Therefore, there would be no impact to air quality.

3.2 Soils and Topography

3.2.1 Regulatory Setting

The term "soil" refers to unconsolidated materials overlying bedrock or other parent material. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the capacity and the suitability of the ground for certain applications or uses.

3.2.2 Affected Environment

The LMTF is part of the Great Basin physiographic province (USAF 2023). The highest elevation point on the property is the top of Little Mountain, at approximately 4,676 feet. Little Mountain comprises the northeastern corner of the property, as well as the majority of its easternmost boundary. The main access road into the LMTF is located at the base of Little Mountain, with an elevation between 4,300 and 4,400 feet. Mud flats (part of the floodplain of the Great Salt Lake) border the southern and western boundaries of the property. The lowest point of elevation at the LMTF is approximately 4,220 feet. Figure 3.2-1 displays the topography of the proposed PLF location, which ranges in elevation from approximately 4,340 at its highest point to 4,240 feet, sloping down from the LMTF's main access road, which is located north of the proposed site (USGS 2025).

Five soil map units mapped by the United States Department of Agriculture (USDA) occur within the boundaries of the LMTF (see Table 3.2-1 and Figure 3.2-2, below). The area of the proposed PLF is primarily underlain by Barton-Rock outcrop complex, 5 to 30 percent slopes (BaE), which is composed of Barton, gravelly loam, and similar soils (50 percent); Barton, stony loam, and similar soils (40 percent); and 10 percent rock outcrop. (USDA NRCS 2024). USDA describes the "Barton" series as very deep, well drained soils that are derived from metamorphic rocks and are typically found underlying hills (USDA 2006). None of the soil types mapped at the LMTF are classified as prime farmland. Of the five soil types, two are classified as hydric (Lb and PU). Both are located along the edges of the property, not in the vicinity of proposed construction.

Table 3.2-1. Soil Types at LMTF

Soil Map Unit	Drainage Class	Runoff Class	Erosion[1]	Percent within LMTF
BaE – Barton-Rock outcrop complex, 5 to 30% slopes	Well drained	Medium	Slight	22.2
BrG – Barton-Rock outcrop complex, 30 to 40% slopes	Well drained	High	Slight	62.0
GP – Gravel pits	Not provided	Not provided	Not rated	0.2
Lb – Lakeshore fine sandy loam, 0 to 1% slopes	Poorly drained	Negligible	Slight	2.7
PU - Playas	Very poorly drained	Negligible	Not rated	12.9

Source: USDA NRCS 2024

[1] Erosion Hazard (Off-Road, Off-Trail): this rating indicates the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. "Slight" indicates that erosion is unlikely under ordinary climatic conditions.

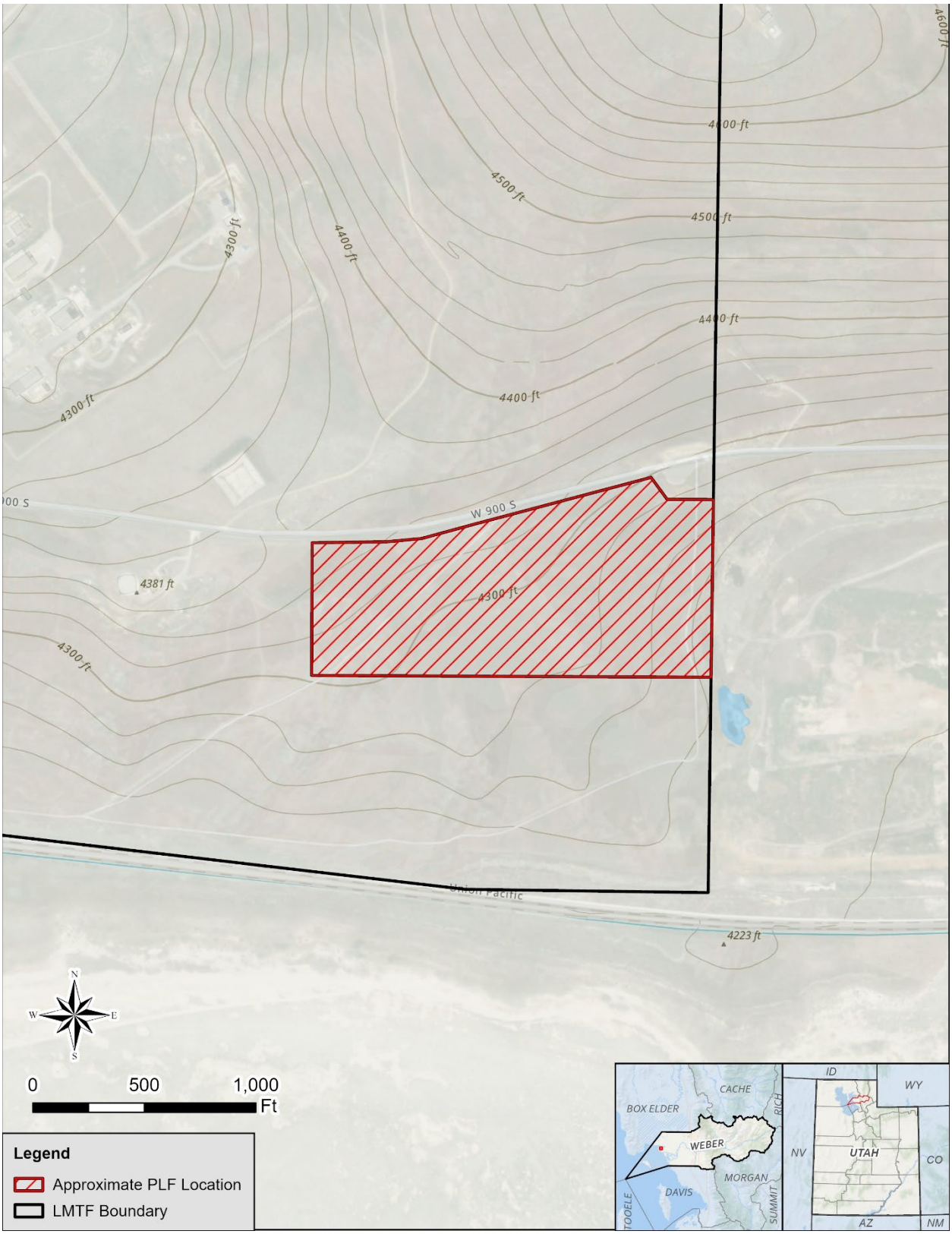

Figure 3.2-1. Topography of Proposed PLF Site

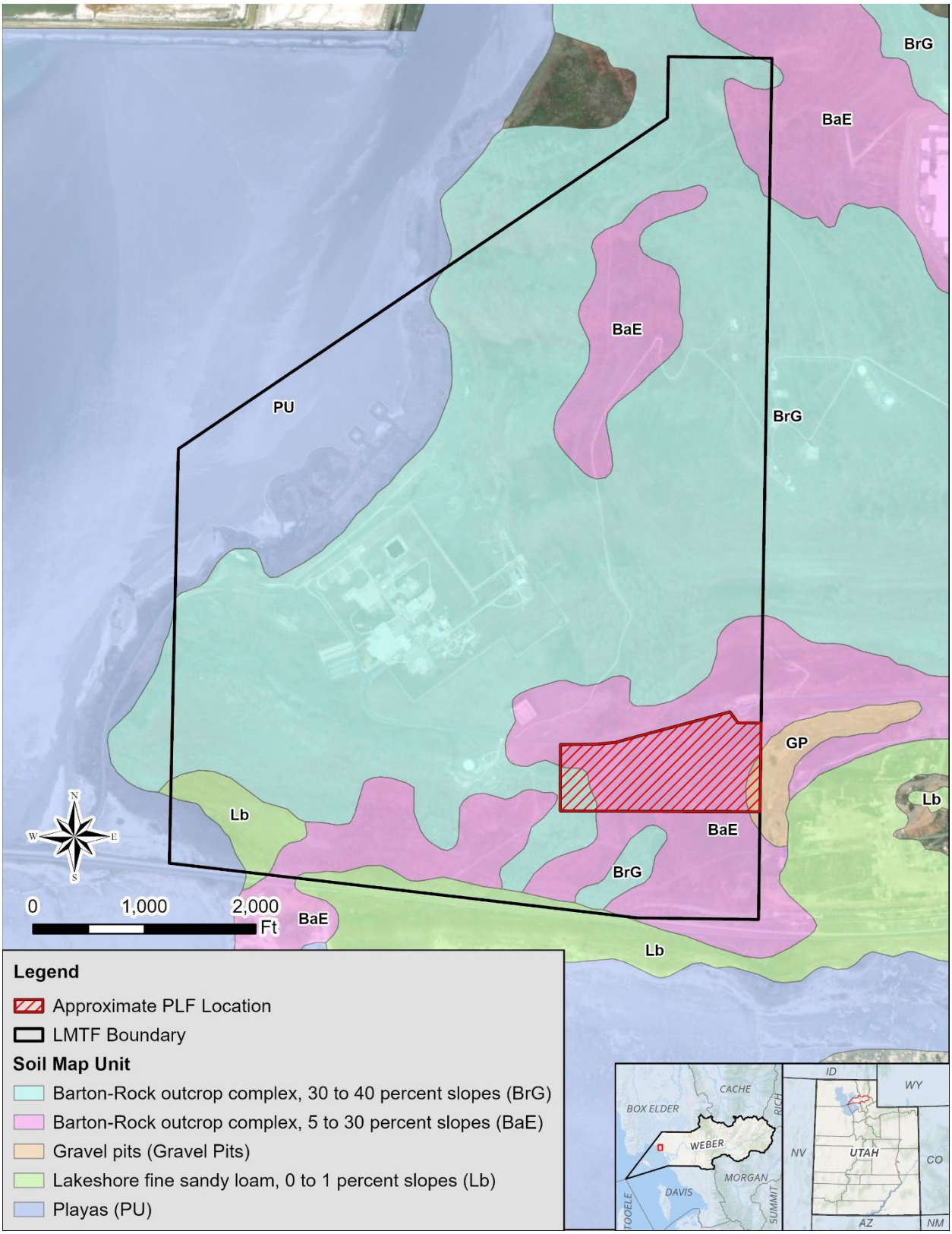

Figure 3.2-2. Soil Types at the LMTF

3.2.3 Environmental Consequences

3.2.3.1 Analysis Approach

Factors considered in determining whether implementing an alternative may have a significant adverse impact on soils included the extent or degree to which implementation of an alternative would result in the following:

- The loss of soil used for agriculture or habitat or loss of mineral resources
- Severe erosion or sedimentation

3.2.3.2 New PLF at LMTF (Proposed Alternative)

The Proposed Action would result in short- and long-term, minor, adverse impacts on soils and topography. Construction of a PLF at the proposed site at the LMTF would require the placement of fill (approximately 1 million cubic yards, to be hauled in from off-site) to raise the elevation of the entire facility footprint to approximately match that of the main access road into the LMTF. As the proposed site is located on a slight to moderate slope (sloping down from the main access road), the existing topography of the site would be permanently altered. The proposed PLF location displayed on Figure 3.2-1 is a conservative estimate; the actual footprint of the facility would be smaller, and topography would not be altered across the entire approximate location displayed on the figure.

Land disturbing activities would include the use of heavy equipment (which may compact, loosen, and/or destroy the structure and function of soils), vegetation removal, grading, filling, and the placement of new structures. Due to the need to increase the elevation of much of the proposed facility footprint, excavation would be limited, and soils at the site would primarily be subject to grading and placement of fill/structures. Short-term increases in erosion would be expected during construction, which would be managed by appropriate, industry-standard erosion and sediment controls such as perimeter controls (e.g., silt fence and perimeter soil berms); erosion control blankets, straw bales, and/or other erosion-control devices; and slope brakers or swales to manage stormwater originating onsite. Soil types occurring within the proposed location of the PLF at the LMTF are considered to have only a slight erosion hazard (with the exception of GP, which is not rated and occurs only at the easternmost edge of the proposed PLF site), indicating that little or no erosion is likely. Additionally, soils within the proposed construction area are well drained, although increased use of heavy equipment and ground disturbing activities may cause compaction and minimize soils' natural ability to drain stormwater (USDA NRCS 2024).

The State of Utah requires that a Utah Pollution Discharge Elimination System (UPDES) construction stormwater permit be acquired for soil disturbance of 1 or more acres. The Construction General Permit (CGP) issued under the UPDES program would require the development of a project Stormwater Pollution Prevention Plan (SWPPP), which would dictate the use of Best Management Practices (BMPs) such as the erosion and sediment controls described above. The use of BMPs and compliance with the CGP would ensure that exposed and/or stockpiled soils would be contained and appropriately maintained such that the potential effects of erosion during construction are avoided or minimized. Additionally, Hill AFB has an Integrated Stormwater Management Plan that provides tools for protecting nearby surface water quality through stormwater control measures.

Post-construction, a permanent stormwater management system would be implemented for the PLF site to properly direct and contain stormwater runoff within the existing stormwater management system at the LMTF. The facility's stormwater management system would be designed to accommodate increases in impervious surfaces resulting from facility construction, which would be expected to increase stormwater runoff potential. Design of the stormwater management system would adhere to the Hill AFB Integrated Stormwater Management Plan.

3.2.3.3 No Action Alternative

Under the No Action Alternative, the DAF would not construct a PLF to support the Sentinel Program, and there would be no changes to existing topography and soil conditions at the LMTF.

3.3 Biological Resources

3.3.1 Regulatory Setting

Biological resources include vegetation, wildlife (terrestrial and aquatic species, including protected species), and their respective habitat.

The ESA, as amended, establishes federal protections for fish, wildlife, and plants that are listed as threatened or endangered, and their respective habitats. Federal species of concern or candidate species are not protected under the ESA but are given special consideration. The USFWS and the National Marine Fisheries Service (NMFS) jointly administer the ESA[2]. Table 3.3-1 lists the primary statutes, regulations, EOs, and other guidance related to biological resources.

Table 3.3-1. Summary of Biological Resource Regulation Requirements

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
ESA (16 U.S.C. 1531 et seq)	Consult with USFWS and, if necessary, obtain and comply with Biological Opinions/incidental take permits and comply with existing threatened and endangered species permits and commitments.	Conserve ecosystems that support threatened and endangered species. Section 7 requires federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species or modify their critical habitat.	USFWS/NMFS[1]
Sikes Act (16 USC 670 et seq)	Cooperation between the Department of Interior and DoD with state agencies to plan, develop and maintain fish and wildlife resources on U.S. military installations.	Develop an INRMP that is reviewed/approved by USFWS and the Utah Division of Wildlife Resources.	DoD

[2] The USFWS has jurisdiction over federally listed terrestrial and freshwater species and the NMFS has jurisdiction over federally listed marine and anadromous species.

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
Migratory Bird Treaty Act (16 USC 703-712)	Consultation with USFWS, as necessary.	Prohibit intentional destruction of the eggs or nest of migratory and resident birds without a permit. Beach nesting locations must be protected and avoided during beach restoration activities.	USFWS
Bald and Golden Eagle Act (16 USC 668-668c)	Coordination with USFWS and if necessary, obtain individual or programmatic permits.	Prohibit, without a permit issued by USFWS, the taking of bald eagles or golden eagles.	USFWS
EO 13112, *Invasive Species*	Remove and control invasive species.	Prevent the introduction of invasive species and provide for their control.	DoD
EO 13751, *Safeguarding the Nation from the Impacts of Invasive Species*	Prevention and control invasive species.	Amends EO 13112 to strengthen coordinated, cos-efficient, federal prevention and control efforts.	N/A
EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*	Incorporate migratory bird protection measures into federal agency activities.	Protect migratory birds in accordance with the Migratory Bird Treaty Act, Bald and Golden Eagle Act, the Fish and Wildlife Coordination Act, ESA, and NEPA.	DoD
DAFMAN 32-7003, *Environmental Conservation*	Long-term management of natural and cultural resources on the installation.	Implement the INRMP. Protect listed species, biodiversity, migratory birds, wetlands, and floodplains.	DoD

[1] As no marine or anadromous species are present at the LMTF, coordination would occur with USFWS only.
DoD – Department of Defense; EO – Executive Order; ESA – Endangered Species Act; INRMP – Integrated Natural Resources Management Plan; NEPA – National Environmental Policy Act; NMFS – National Marine Fisheries Service; U.S. – United States; USC - United States Code; USFWS – United States Fish and Wildlife Service

3.3.2 Affected Environment

Vegetation. The LMTF is in the Central Basin and Range level III ecoregion (USEPA 2013a), which is characterized by fault-block range and intervening, drier basins. In this ecoregion, lower elevation basins, slopes, and alluvial fans are either shrub- and grass-covered, shrub-covered, or barren (USEPA 2013b). A large portion of land area at the LMTF contains salt or mud flats, including hard and soft playas. At higher elevations, such as in the area of the proposed PLF site, vegetation includes a mixture of shrubs (e.g., shadscale – *Atriplex confertifolia*) and various grasses (primarily Salina wildrye – *Elymus salinus*). Most of the historic vegetation communities at the LMTF have been lost to wildland fire, and cheatgrass (*Bromus tectorum*) covers much of the property, preventing native vegetation from reclaiming the area. Some stands of sagebrush (*Artemisia spp.*) are present, with rabbitbrush and invasive forbs persisting throughout. Common invasive plant species that are routinely managed at Hill AFB and its associated properties (including the LMTF) include Dyer's woad (*Isatis tinctoria*), cheatgrass, and tamarisk (*Tamarisk chinensis*) (USAF 2023).

Wildlife. Several species of birds occur seasonally or are transient at the LMTF. A search of the Cornell Lab of Ornithology's ebird application identified 61 bird species that have been observed in this area since 2018, with 18 of those species observed in 2025 (prior to October 20, 2025, when the application was searched) (Cornell University 2025). Other common wildlife species include small rodents such as squirrels, gophers, and mice; various bat species, deer and antelope; coyotes and foxes; and herps such as snakes and lizards (USAF 2023).

Protected Species. A review of the USFWS Information for Planning and Consultation (IPaC) web application indicates that within the LMTF boundaries, one federal threatened species and two proposed (for protection under the ESA) species may occur. No critical habitat was identified (USFWS 2025a). A more refined search was conducted within a 0.5-mile buffer off the approximate boundaries of the proposed PLF site (approximate boundaries displayed on Figure 2-2), which resulted in only the two species proposed for listing under the ESA (USFWS 2025b). Species that are proposed for listing would not receive protections under the ESA until a listing is complete. Table 3.3-2 provides more detailed information on species identified by IPaC to be potentially occurring within the boundaries of the LMTF.

Table 3.3-2. Federally-listed Species within LMTF Boundaries

Species	Federal Status	IPaC Location	Habitat	Likelihood of Occurring at Proposed PLF Site
Monarch butterfly (*Danaus plexippus*)	Proposed Threatened	Within the LMTF boundaries and specifically within the boundaries of the proposed PLF site (including 0.5-mile buffer).	In terrestrial areas, sand/dune, mixed woodland and forest, shrubland/chaparral, savanna, grassland/ herbaceous, cropland/ hedgerow, suburban / orchard, and old field.	Unlikely. The proposed site is dominated by nonnative grasses and lacks milkweed, the host plant for the species.
Suckley's cuckoo bumble bee (*Bombus suckleyi*)	Proposed Endangered	Within the LMTF boundaries and specifically within the boundaries of the proposed PLF site (including 0.5-mile buffer).	Conifer forest, urban areas, shrubland/ chaparral, grassland/ herbaceous, and suburban/orchard.	Possible. While much of the vegetation at the site is invasive, suitable habitat may be present in some areas.
Yellow-billed cuckoo (*Coccyzus americanus*)	Threatened	Within the LMTF boundaries but not within the area of the proposed PLF (including 0.5-mile buffer).	In terrestrial areas, mixed woodland and forest, shrubland/chaparral, and suburban/orchard. Appropriate understory species include cottonwood, willow, alder, walnut, boxelder, sycamore, ash, mesquite, tamarisk, and Russian olive. Suitable understory vegetation does not include grasses or forbs, although herbaceous vegetation is often present alongside shrubby understory.	Unlikely. The proposed site is dominated by nonnative grasses and lacks suitable riparian habitat or understory vegetation species to support the yellow-billed cuckoo. Additionally, IPaC results do not identify this species as occurring in the area of the proposed PLF site.

Source: NatureServe 2025; USFWS n.d., 2025a, 2025b
IPaC – Information for Planning and Consultation; LMTF – Little Mountain Test Facility; PLF – Propellant Loading Facility

As stated in Table 3.3-1, migratory birds are protected under the Migratory Bird Treaty Act and EO 13186. Migratory bird species can be found at Hill AFB and its associated

installations, including the LMTF. The Natural Resources Program at Hill AFB facilitates bird surveys during spring and fall migrations, as well as summer and winter months, and conducts assessments of proposed construction sites to determine potential impact to habitat (USAF 2023).

Species of Concern. In conjunction with the Utah Division of Wildlife Resources and the USFWS, Hill AFB has compiled a list of 27 species of concern (see Table 3.3-3) that may be present at Hill AFB and/or its associated properties (including the LMTF). Per DAFMAN 32-7003, the U.S. Air Force provides protections to state-listed threatened, endangered, or other rare species, when practical.

1 **Table 3.3-3. Species of Concern for Hill AFB and Associated Properties**

Species[1]	State Status[2]	Habitat	Likelihood of occurring at Proposed PLF Site
Fish			
Least Chub (*Iotichthys phlegethontis*)	S2	Freshwater – shallow waters such as slow rivers, creeks, springs, ponds, and marshes.	None. Suitable habitat is not present.
Mammals			
Dark Kangaroo Mouse (*Microdipodops megacephalus*)	S2	Sand/dune, desert, shrubland/chaparral, playa/salt flat.	Unlikely. Majority of suitable habitat types are not present.
Kit Fox (*Vulpes macrotis*)	S3	Primarily open desert, shrubby, or shrub-grass habitat. Found in shadscale, greasewood, and sagebrush.	Possible. While much of the vegetation at the site is invasive, suitable habitat may be present in some areas.
Pygmy Rabbit (*Brachylagus idahoensis*)	S3	Generally, occurs in dense stands of big sagebrush growing in deep, loose soils. Highly dependent on sagebrush for food and shelter.	Unlikely. While some areas of sagebrush occur nearby, the majority of the site consists of cheatgrass and other invasive grasses, and nearby sagebrush stands are not particularly tall and/or dense. Transient individuals may occur.
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	S3	In Utah, roosts are associated with sagebrush steppe, juniper woodlands, and mountain brush vegetation at lower elevations. Maternity and hibernation typically occurs in caves and mine tunnels.	Unlikely. Preferred and roost habitats are not present. Transient individuals may occur.
Birds			
American White Pelican (*Pelecanus erythrorhynchos*)	S3	Rivers, lakes, estuaries, bays, open marshes, and sometimes inshore marine habitats. Roost/rest on islands and peninsulas.	None. Suitable habitat is not present.
Bald Eagle (*Haliaeetus leucocephalus*)	S2B, S4N	In Utah, winters along rivers and streams, lakes, reservoirs, ponds, and sewage lagoons and associated riparian woodlands. Also found in croplands and orchards.	None. Suitable habitat is not present.
Brewer's Sparrow (*Spizella breweri*)	S4B	Desert scrub, sagebrush, creosote bush, and other areas of low, arid vegetation. Nests primarily in dense patches of sagebrush.	Unlikely. While some areas of sagebrush occur nearby, the majority of the site consists of cheatgrass and other invasive grasses, and nearby sagebrush stands are not particularly dense. Transient individuals may occur.
Burrowing Owl (*Athene cunicularia hypugaea*)	S2	Desert, savanna, grassland/herbaceous.	Possible. While much of the vegetation at the site is invasive, suitable habitat may be present in some areas.
Eared Grebe (*Podiceps nigricollis*)	S4B, S3N	Marshes, ponds and lakes, as well as salt lakes, bays, estuaries, and sea coasts during winter and migration. Nests in areas with seasonal to permanent water.	None. Suitable habitat is not present.

Species[1]	State Status[2]	Habitat	Likelihood of occurring at Proposed PLF Site
Ferruginous Hawk (*Buteo regalis*)	S2	Open country, primarily plains and badlands; sagebrush, saltbush-greasewood shrubland, periphery of pinyon-juniper, and other woodland and desert habitats. Nests in tall trees or willows along streams or on steep slopes, in junipers, on cliff ledges, etc.	Unlikely. Preferred and nesting habitats are not present. Transient individuals may occur.
Golden Eagle (*Aquila chrysaetos*)	S3	Open and semi-open country such as prairies, sagebrush, arctic and alpine tundra, savannah or sparse woodland, and barren areas, especially in hilly or mountainous regions. Nests most commonly on rock ledges of cliffs.	Unlikely. Preferred and nesting habitats are not present. Transient individuals may occur.
Grasshopper Sparrow (*Ammodramus savannarum*)	S2S3B	In Utah, arid grasslands at lower elevations.	Possible. While much of the vegetation at the site is invasive, suitable habitat may be present in some areas.
Greater Sage-grouse (*Centrocercus urophasianus*)	S3	Foothills, plains, and mountain slopes where sagebrush is present. Nests in thick cover in sagebrush habitat.	Unlikely. While some areas of sagebrush occur nearby, there are few areas that would provide thick cover for nesting. Transient individuals may occur.
Green-tailed Towhee (*Pipilo chlorurus*)	S4B	Lowland habitats. Breeds in thickets, chaparral, shrublands, riparian scrub, and especially sagebrush. Primarily found on mountain slopes, plateaus, and higher valleys associated with dense shrubs.	Unlikely. While sagebrush and other shrubs are present nearby, shrub habitat in the area is not particularly dense. Transient individuals may occur.
Lewis's Woodpecker (*Melanerpes lewis*)	S2	Woodlands, primarily. Important habitat features include an open tree canopy, a brushy understory with ground cover, and dead trees or downed woody debris.	None. Suitable habitat is not present.
Loggerhead Shrike (*Lanius ludovicianus*)	S4B, S3S4N	Open country with scattered trees and shrubs, savanna, desert scrub, and occasionally open woodland. Nests in shrubs or small trees.	Unlikely. Preferred and nesting habitats are not present. Transient individuals may occur.
Long-billed Curlew (*Numenius americanus*)	S3	Nests in a variety of habitats including short-grass prairie, steppe, shrub-desert rangeland, pasture, and agriculture areas. During migration, habitat includes dry, short-grass prairie, alkali lakes, playa lakes, wet coastal pasture, tidal mudflats, salt marsh, and agricultural fields.	Unlikely. Preferred and nesting habitats are not present. Transient individuals may occur.
Marbled Godwit (*Limosa fedoa*)	Not yet assessed	Marshes and flooded plains; mudflats, beaches, and open shallow water along shorelines when not breeding and also during migration. Nests on the ground in grassy prairies, pastures, and hayfields, often near lakes and ponds.	None. Suitable habitat is not present.
Peregrine Falcon (*Falco peregrinus*)	S3B	In Utah, prefers habitat near marshlands. During migration, can be found in various water-associated habitats, croplands, orchards, cold desert shrub, and sagebrush-rabbitbrush habitat at lower elevations. Winters in desert riparian woodlands, marshes, and wet hummocks. Breeds in cliffs, bluffs, caves, and rock pockets, often near water.	None. Suitable habitat is not present.

Species[1]	State Status[2]	Habitat	Likelihood of occurring at Proposed PLF Site
Pinyon Jay (*Gymnorhinus cyanocephalus*)	S3	Pinon-juniper woodland and less frequently pine. During the non-breeding season, may also occur in scrub oak and sagebrush. Nests in shrubs or trees.	None. Suitable habitat is not present.
Sage Sparrow (*Amphispiza belli*)	No status	Desert, shrubland/chaparral. In Utah, associated with low and tall sagebrush/bunchgrass, juniper/sagebrush, mountain mahogany/shrub, and aspen/sagebrush/ bunchgrass communities for breeding and foraging.	Unlikely. While sagebrush and other shrubs are present nearby, shrub habitat in the area is not particularly dense. Transient individuals may occur.
Sage Thrasher (*Oreoscoptes montanus*)	S4B	Breeds in sagebrush plains, primarily in arid and semi-arid areas. Prefers tall shrub habitat for breeding and foraging. Winters in arid and semi-arid scrub, brush and thickets.	Unlikely. While sagebrush and other shrubs are present nearby, shrub habitat in the area is not particularly tall and/or dense. Transient individuals may occur.
Short-eared Owl (*Asio flammeus*)	S4	In Utah, nests in marshes and wet hummocks, non-woody croplands, and arid grasslands. Breeds and winters among cold desert shrub and sagebrush-rabbitbrush.	None. Suitable habitat is not present.
Snowy Plover (*Charadrius alexandrines*)	S2	Beaches, dry mud or salt flats, and sandy shores of rivers, lakes, and ponds.	None. Suitable habitat is not present.
Virginia's Warbler (*Vermivora virginiae*)	S4S5B	Breeds in arid woodlands, oak thickets, pinyon-juniper, coniferous scrub, and chaparral. Often found along brushy, steep mountain slopes within or near dry coniferous woodlands, but is also found along mountain streams in sagebrush, cottonwood, and willow habitat. Nests on the ground among dead leaves or in small depressions under cover of bush, tufts of grass, etc. During winter and migration, is found in open woodlands, second growth, thickets, and arid scrub.	Unlikely. While shrubs and brush occur nearby, it is limited. Preferred habitat is not present. Transient individuals may occur.
Willow flycatcher (*Empidonax traillii*)	S4B	Primarily breeds in bushy areas of willow and similar shrubs. Found in thickets, open second growth with brush, swamps, wetlands, stream sides, and open woodland. The presence of water and willow, alder, or other deciduous riparian shrubs are essential habitat elements.	None. Suitable habitat is not present.

Source: NatureServe 2025; Utah DWR 2025; Utah Wildlife Action Plan Core Team 2025

[1] Bolded species are included in the 2025 list of Utah Species of Greatest Conservation Need.

[2] Ranks from 5 (secure) to 1 (critically imperiled) are based on a species' distribution, population abundance and trends, and threats. S1 – critically imperiled; S2 – imperiled; S3 – vulnerable; S4 – apparently secure; S5 – secure. "B" indicates that the associated conservation status refers to the breeding population of the species while "N" indicates that the associated conservation status refers to the nonbreeding population of that species (Utah Wildlife Action Plan Core Team 2025).

3.3.3 Environmental Consequences

3.3.3.1 Analysis Approach

Factors considered in determining whether implementing an alternative may have a significant adverse impact on biological resources included the extent or degree to which implementation of an alternative would result in the following:

- Adverse effects to species or habitats of concern over relatively large areas
- Reductions in population size or distribution of a species of concern
- Potential to jeopardize the continued existence of a federally listed threatened or endangered species or the destruction or adverse modification of federally designated critical habitat, as determined by USFWS
- Substantial diminishment of a regionally or locally important plant or animal species population
- Substantial infusion of exotic plant or animal species

As a requirement under the ESA, federal agencies must provide documentation that ensures that agency actions do not adversely affect the existence of any threatened or endangered species. The ESA requires that all federal agencies avoid "taking" federally protected species (which includes jeopardizing those species' habitat). Section 7 of the ESA establishes a consultation process with USFWS. Informal consultation with USFWS (initiated on November 24, 2025) is anticipated to result in concurrence that the Proposed Action would not adversely affect the federally listed species included in Table 3.3-2. The coordination letters sent to USFWS may be found in Appendix C.

3.3.3.2 New PLF at LMTF (Proposed Alternative)

Vegetation. Construction of the proposed PLF at the LMTF would result in short- and long-term, negligible, adverse impacts on vegetation due to the removal of on-site vegetation. Grassland (primarily composed of nonnative grasses) within the operational footprint of the proposed facility (including associated access road and parking areas) would be permanently removed. Areas of temporary vegetation clearing for the purpose of site preparation, construction laydown, installation of erosion and sediment controls, etc., would be replanted following construction. During operation of the facility, no additional impacts on vegetation would be anticipated.

Wildlife. Construction of the proposed PLF would result in short- and long-term, negligible, adverse impacts on wildlife. Vegetation removal would reduce available habitat at the LMTF, although as noted above, most of the historic vegetation communities at the LMTF have been destroyed by wildland fire and therefore, limited quality habitat remains in this area. During construction, wildlife would be displaced and may be disturbed by increases in noise, human presence, and traffic, but would be expected to move to similar habitat adjacent to the site or nearby. Wildlife that occurs at the LMTF is expected to be accustomed to human activity, as other construction and testing activities occur in adjacent areas. Displaced wildlife would likely seek refuge in quieter, nearby areas. During operation of the facility, no additional impacts on wildlife would be anticipated, with the exception of occasional noise disturbances and the increased presence of human

activity at the LMTF, although the facility is expected to be operated by only six additional personnel. Minimal traffic increases associated with transportation of the PBACMs to and from the facility may increase the risk of fatal wildlife accidents with vehicles.

Protected Species and Species of Concern. Table 3.3-4 assesses the potential for impacts to federally listed species as well as state species of concern. Note, species identified in Section 3.3.2 as being unlikely to occur at the proposed PLF site are not analyzed further. While it is possible that transient individuals of those species unlikely to be found at the proposed site may briefly pass through the area (particularly birds species, bat species, and the monarch butterfly), impacts to such individuals would not be expected, as the Proposed Action would not impact habitat associated with these species and the individuals would be expected to continue past the area if disturbed by construction noise and activity. As stated, no critical habitat for federally protected species was identified at the LMTF.

Table 3.3-4. Federal and State Special Status Species Impacts

Species	Federal Status	State Status	Potential Impacts
Suckley's cuckoo bumble bee (*Bombus suckleyi*)	Proposed Endangered	S1	It is likely that individuals occurring within the LMTF boundaries would avoid the site of the proposed PLF while construction is occurring and possibly during facility operations, due to increased noise and human activity. While there is potential for mortality due to collision with construction equipment, this is considered unlikely due to the limited extent of suitable habitat at the site, and the likelihood that individuals would avoid the area during construction. The Proposed Action would not be expected to affect the Suckley's cuckoo bumble bee.
Kit Fox (*Vulpes macrotis*)	N/A	S3, included in 2025 list of Utah SGCN	It is likely that individuals occurring within the LMTF boundaries would avoid the site of the proposed PLF while construction is occurring and possibly during facility operations, due to increased noise and human activity. While there is potential for mortality due to temporary increases in traffic along the main access road into the LMTF, as this road is currently the main vehicular route through the LMTF, this risk is already present. The Proposed Action may affect but is not likely to adversely affect the kit fox.
Burrowing Owl (*Athene cunicularia hypugaea*)	N/A	S2, included in 2025 list of Utah SGCN	It is likely that individuals occurring within the LMTF boundaries would avoid the site of the proposed PLF while construction is occurring and possibly during facility operations, due to increased noise and human activity. While there is potential for mortality due to collision with construction equipment or disturbance to burrows, this is considered unlikely due to the limited extent of suitable habitat at the site, and the likelihood that individuals would avoid the area during construction. The Proposed Action may affect but is not likely to adversely affect the burrowing owl.
Grasshopper Sparrow (*Ammodramus savannarum*)	N/A	S2S3B	It is likely that individuals occurring within the LMTF boundaries would avoid the site of the proposed PLF while construction is occurring and possibly during facility operations, due to increased noise and human activity. While there is potential for mortality due to collision with construction equipment, this is considered unlikely due to the limited extent of suitable habitat at the site, and the likelihood that individuals

Species	Federal Status	State Status	Potential Impacts
			would avoid the area during construction. The Proposed Action may affect but is not likely to adversely affect the grasshopper sparrow.

Source: USFWS 2025b; Utah Wildlife Action Plan Core Team 2025
SGCN = Species of Greatest Conservation Need

Protocols and methodologies outlined in the Hill AFB and associated properties (including the LMTF) Integrated Natural Resources Plan (INRMP) would be implemented to avoid and minimize impacts to biological resources to the extent practicable. The INRMP stipulates that to the greatest extent practicable, project activities that could result in migratory bird take should be completed outside the maximum migratory bird nesting season (early January through late August) or if that is not practicable, surveys should be conducted prior to the activity to determine if migratory birds are actively nesting in the project area. Before new construction projects begin, the Hill AFB Natural Resources Manager completes an assessment of the proposed construction site to determine potential impacts to migratory bird habitat. Projects that pose a negative impact to nesting habitats or life requirements of migratory birds may be cancelled, modified, or postponed to minimize species loss (USAF 2023).

3.3.3.3 No Action Alternative

Under the No Action Alternative, the DAF would not construct a PLF to support the Sentinel Program; therefore, no impacts to biological resources would occur.

3.4 Infrastructure

3.4.1 Regulatory Setting

The LMTF operates within a comprehensive regulatory framework governing public electrical utility service and federal facility requirements. As a DoD installation, construction projects at the LMTF must comply with federal military standards, state electrical codes, and utility regulations. The electrical utility serving the proposed PLF location is regulated by the Utah Public Service Commission.

The Utah Department of Transportation (UDOT) is responsible for planning, operating, and maintaining state-owned roadways. The LMTF is located in an unincorporated part of Weber County, which maintains jurisdiction over county and local roads surrounding the LMTF.

3.4.2 Affected Environment

Electricity. The LMTF operates within Utah's electrical grid, which is served by Rocky Mountain Power, a subsidiary of PacifiCorp. As part of an installation-wide effort to increase energy resiliency, an energy microgrid[3] project is anticipated to increase the energy capacity at the LMTF prior to implementation of the Proposed Action (USACE 2025). Upgrades to the electrical infrastructure are anticipated to include the installation of a 750-kilowatt (kW) natural gas generator and a 500-kW solar photovoltaic substation with battery storage (DAF 2025).

[3] A microgrid is a localized, self-contained energy generation system that might include energy storage solutions and operates independently of the larger energy grid to provide electricity to one facility or a small regional area.

Transportation. Interstate 84 (I-84) and Interstate 15 (I-15) are the two primary highways connecting the LMTF and nearby communities to the greater regional transportation network. Local access to the LMTF is provided via 900 South, a two-lane paved roadway with a posted speed limit of 45 miles per hour near the installation. Portions of this roadway have been, and continue to be, widened to include a center turn lane, shoulders, and upgraded storm drainage (Standard Examiner 2025; Weber County 2025). The LMTF is situated at the western terminus of 900 South, approximately 12 miles west of I-15. As 900 South extends eastward from the LMTF, it transitions into 1100 South Street, 1150 South Street, and then into State Route 39 (SR-39), which connects directly to the I-15 ramps. Figure 3.4-1 presents the transportation network surrounding the LMTF.

There is one operational entry control facility at LMTF, which is located at the end of 900 South. Typical peak traffic times at the LMTF main gates occur at 7 a.m. and 4 p.m. Currently there are no traffic issues at the entry control facility.

Daily traffic volumes along 900 South near the LMTF remain relatively low, reflecting the predominantly rural and open landscape surrounding the installation. Most of the traffic in the vicinity of the LMTF is generated by nearby industrial operations, including the Westinghouse Western Zirconium facility and the Weber County Class VI Construction and Demolition Landfill. According to UDOT, the 2023 Annual Average Daily Traffic (AADT) counts along 900 South ranged from 300 vehicles per day (primarily associated with the LMTF and county landfill) to 6,800 vehicles per day (between the Westinghouse facility and 5900 West) (UDOT 2025a). This represents an approximately 3-percent increase in traffic since 2021. Although the area surrounding the LMTF has historically been largely undeveloped, growth from the more populated communities in western Weber County (such as Ogden) has gradually expanded westward and, therefore, has also increased traffic demand on public roadways near the LMTF (Layton City 2021).

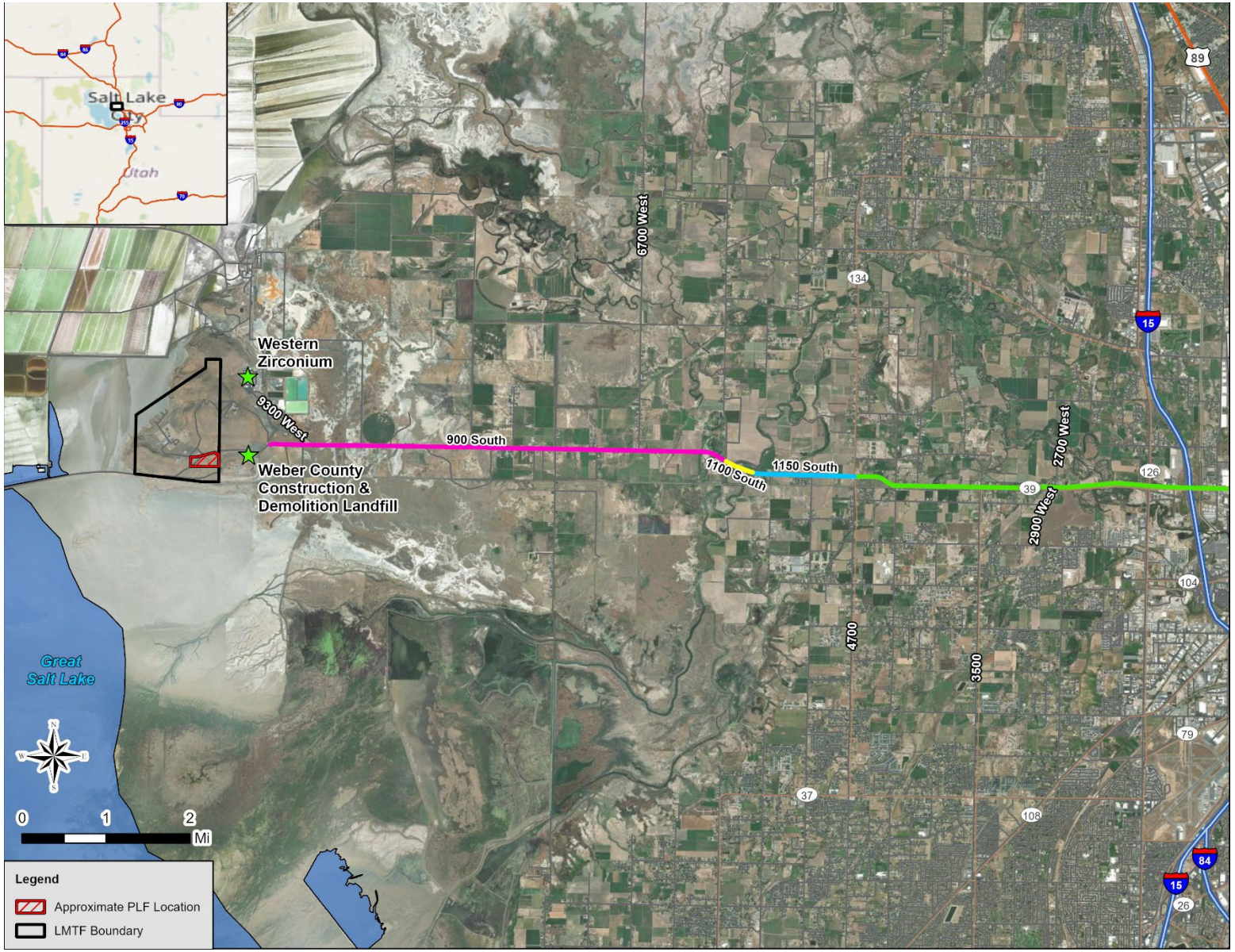

Figure 3.4-1. Regional Transportation Network near the LMTF

Roadway performance can generally be evaluated using two measures: the Level of Service (LOS) and the Volume-to-Capacity (V/C) ratio. The LOS is a qualitative measure expressed as a letter "grade" ranging from A (free-flowing traffic with little delay; road has excess capacity) to F (extremely congested traffic with excessive delays; road exceeds capacity). The V/C ratio is a quantitative measure comparing actual traffic volumes to the road's design capacity and can be calculated using AADT data and roadway characteristics. Table 3.4-1 summarizes the typical V/C thresholds used to define the LOS ratings for a road.

Table 3.4-1. Level of Service and Correlated Roadway Volume-to-Capacity Ratios

Level of Service (LOS)	Traffic Condition	Volume-to-Capacity (V/C)
A	Free flow	< 0.60
B	Light congestion	0.61 – 0.70
C	Stable flow with lower speeds	0.71 – 0.80
D	High density with stable flow	0.81 – 0.90
E	Severe congestion	0.91 – 1.00
F	Total breakdown	> 1.0

Source: Afrin and Yodo 2020
LOS – Level of Service; V/C – Volume-to-Capacity

Although neither the State of Utah nor Weber County have formal LOS or V/C standards, a review of UDOT environmental documents indicate that the state considers an LOS D as the minimum acceptable standard for roadways (UDOT 2022) and V/C ratios above 0.9 as indicative of unacceptable operating conditions (UDOT 2017).

Based on the 2023 AADT data, LOS and V/C values were estimated for key roadways between the LMTF and I-15 and are presented in Table 3.4-2. As shown in the table, the roadways are operating at an LOS C or better, generally indicating excess roadway capacity and minimal congestion issues.

Table 3.4-2. Traffic Characteristics and Volumes of Key Roadways

Roadway	# Thru Lanes	Classification[1]	Hourly Capacity[2]	2023 AADT[3]	Existing Peak Hourly Volume[4]	V/C[5]	LOS[6]
900 South (between LMTF and Westinghouse facility)	2	Local	940	300	54	0.06	A
900 South (between Westinghouse facility and 6700 West)	2	Major Collector	1,040	6,800	612	0.59	A
900 South / 1100 South / 1150 South (between 6700 West and SR-134/4700 West)	2 or 3	Major Collector	1,040	7,200	648	0.62	B
SR-39 (between SR-134/4700 West and 3500 West)	2	Other Principal Arterial	1,100	6,200	558	0.51	A
SR-39 (between 3500 West and 2700 West/2900 West)	2	Other Principal Arterial	1,100	7,900	711	0.65	B
SR-39 (between 2700 West/2900 West and SR-126)	2 or 5	Other Principal Arterial	1,100	8,600	774	0.70	B
SR-39 (between SR-126 and I-15)	5	Other Principal Arterial	2,200	19,000	1,710	0.78	C

AADT – annual average daily traffic; I-15 – Interstate 15; LMTF – Little Mountain Test Facility; LOS – Level of Service; SR-39 – State Route 39; SR-134 – State Route 134; V/C – Volume-to-Capacity

[1] Source: UDOT 2025b

[2] Source: FHWA 2018; FDOT 2023. Hourly Capacity is the number of vehicles in one direction per hour.

[3] Source: UDOT 2025a

[4] Existing Peak Hourly Volume = AADT x K x D (FHWA 2018). "K" represents the proportion of AADT occurring in the peak hour and is assumed to be 0.2 for 900 South (between LMTF and Westinghouse facility) and 0.15 for the remaining roadways [TxDOT 2024]). "D" represents the proportion of AADT in the major direction and is assumed to be 0.9 for 900 South (between LMTF and Westinghouse facility) and 0.6 for the remaining roadways (TxDOT 2024).

[5] V/C (Volume-to-Capacity ratio) = Existing Peak Hourly Volume / Hourly Capacity

[6] LOS rating description provided in Table 3.4-1.

3.4.3 Environmental Consequences

3.4.3.1 Analysis Approach

Factors considered in determining whether implementing an alternative may have a significant adverse impact on infrastructure included the extent or degree to which implementation of an alternative would result in the following:

- An increase in energy demand that could substantially decrease the capacity of the existing electrical utility infrastructure to meet existing or future demand
- An increase in daily vehicular traffic on public roadways that could lead to substantial delays and degradation of roadway LOS

3.4.3.2 New PLF at LMTF (Proposed Alternative)

Electricity. The proposed PLF would connect to existing onsite electrical lines and would contribute to increased energy demand at the LMTF. While intermittent disruptions to the electrical system could occur during utility line connections, such interruptions would be temporary. Because the proposed energy microgrid project at the LMTF (referenced above) would be completed before construction of the proposed PLF would begin, the new facility's power needs during and after construction are expected to be well within the energy capacity of the LMTF at that time. Overall energy demand at the LMTF would increase slightly but would be offset by the microgrid project, resulting in long-term, negligible, adverse impacts on the electrical infrastructure.

Transportation. Construction of the proposed PLF would generate additional traffic on nearby public roadways from construction trucks and commuting workers. During the initial phase of construction (first month), approximately 40 to 50 trucks a day would deliver fill material required to raise the grade of the proposed PLF site to the approximate elevation of the adjacent roadway. After this initial phase, up to 25 trucks per day would be required for the remainder of construction to transport equipment, supplies, and waste. A maximum of 100 construction workers would be employed.

Because construction worker commutes would generate the largest number of daily vehicle trips, traffic impacts were analyzed during a peak commute hour. It was assumed that up to 10 truck single-trips could occur during the peak hour (based on 50 trucks distributed over a 10-hour workday, or approximately 5 truck roundtrips per hour). Combined with 100 vehicle trips from construction workers, the total peak hour traffic volume is estimated at 110 single-trips.

To access the project site, all construction traffic would enter through the LMTF entry control facility. Standard construction schedule at the installation is from 7 a.m. to 5 p.m. Because the existing peak traffic times at the LMTF entry control facility occur at 7 a.m. and 4 p.m., short-term increases in traffic delays could occur at the entry point, especially during the peak morning commute period.

It is assumed that all construction traffic would travel on 900 South and, to a lesser extent, on 1100 South, 1150 South Street, and SR-39. The peak hour volumes for these roadways were estimated by adding the projected construction trips to the existing peak hour volume. The resulting V/C and LOS values during construction are summarized in Table 3.4-3. As shown in the table, proposed construction traffic would temporarily

degrade roadway LOS and could cause increases in traffic delays during peak commute periods. 900 South directly serving the LMTF would experience a three-fold increase in traffic volumes during the peak hour; however, the road would be operating at an LOS A, which is well within capacity. The remaining key roadways are also estimated to operate within capacity as the LOS are estimated to be D or better. Construction traffic would potentially increase traffic safety risks, primarily due to the use of heavy trucks; however, truck volumes would decrease substantially after the first month thereby reducing traffic risks. In addition, a roadway widening project occurring along 9300 South is expected to be completed prior to construction of the proposed PLF, which would improve traffic flow near the LMTF during construction and operation of the Proposed Action. As such, overall adverse transportation impacts during construction would be short-term and minor.

Following construction, proposed traffic volumes resulting from operation of the PLF would be substantially lower than those estimated for construction. During operations, a maximum number of three trucks would be required on a daily basis. Six onsite personnel (for operations of the PLF post-construction) would also contribute to the daily traffic, representing an approximate 10 percent increase over the existing peak hourly volume on 900 South directly leading up to the entry control facility and about a 1 percent increase on the other key roadways. As a result, long-term adverse impacts on transportation resources are expected to be minor.

3.4.3.3 No Action Alternative

Under the No Action Alternative, the DAF would not construct a PLF to support the Sentinel Program. As a result, there would be no increases in energy demand or vehicles on public roadways. Therefore, no impacts on infrastructure would occur.

Table 3.4-3. Construction Volume-to-Capacity Ratios and Levels of Service on Key Roadways

Roadway	Hourly Capacity[1]	Existing Peak Hourly Volume[1]	Construction Peak Hourly Volume[2] [% increase]	Construction V/C[3]	Existing / Construction LOS[4]
900 South (between LMTF and Westinghouse facility)	940	54	164 [204%]	0.17	A / A
900 South (between Westinghouse facility and 6700 West)	1,040	612	722 [18%]	0.69	A / B
900 South / 1100 South / 1150 South (between 6700 West and SR-134/4700 West)	1,040	648	758 [17%]	0.73	B / C
SR-39 (between SR-134/4700 West and 3500 West)	1,100	558	648 [16%]	0.59	A / A
SR-39 (between 3500 West and 2700 West/2900 West)	1,100	711	801 [13%]	0.73	B / C
SR-39 (between 2700 West/2900 West and SR-126)	1,100	774	864 [12%]	0.79	B / C
SR-39 (between SR-126 and I-15)	2,200	1,710	1,800 [5%]	0.82	C / D

I-15 = Interstate 15; LMTF = Little Mountain Test Facility; LOS = Level of Service; SR-39 = State Route 39; SR-134 = State Route 134; V/C = Volume-to-Capacity

[1] Existing Peak Hourly Volume = AADT x K x D (FHWA 2018). "K" represents the proportion of AADT occurring in the peak hour and is assumed to be 0.2 for 900 South (between LMTF and Westinghouse facility) and 0.15 for the remaining roadways (TxDOT 2024). "D" represents the proportion of AADT in the major direction and is assumed to be 0.9 for 900 South (between LMTF and Westinghouse facility) and 0.6 for the remaining roadways (TxDOT 2024). Additionally, it is assumed that 100 percent of the proposed construction traffic during the peak hour (110 vehicle trips/hour) would travel on 900 South, while 80 percent (90 vehicle trips/hour) would travel on the remaining key roadways.

[2] Assumed all construction traffic would travel on 900 South, therefore added 10 truck trips and 100 worker trips to Existing Peak Hourly Volume. Assumed 80 percent of workers could travel on SR-39, therefore added 10 truck trips and 80 worker trips to Existing Peak Hourly Volume.

[3] V/C (Volume-to-Capacity ratio) = Existing Peak Hourly Volume / Hourly Capacity

[4] LOS rating description provided in Table 3.4-1.

3.5 Hazardous Materials and Waste/Health and Safety

3.5.1 Regulatory Setting

3.5.1.1 Hazardous Materials and Waste

Hazardous Material (HAZ MAT), waste, or substances are generally associated with industrial activities. The technical meanings of these terms are defined below:

- **HAZ MAT:** a substance or material that the Secretary of Transportation has determined can pose an unreasonable risk to health, safety, and property when transported in commerce, as defined in 49 CFR 171.8; the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601 et seq), as amended; the Resource Conservation and Recovery Act (RCRA) (42 USC 6901 et seq); and DAFMAN 32-7002.
- **Hazardous Waste:** any solid, liquid, contained gaseous, or semisolid waste or any combination of wastes that either exhibit one or more hazardous characteristics (e.g., ignitable, corrosive, reactive, or toxic) or are listed in 40 CFR Part 261. These are also known as "characteristic wastes." USEPA has deemed certain solid wastes hazardous. These substances may be referred to as "listed wastes" and are regulated by the RCRA.
- **Hazardous Substance:** includes hazardous waste, per and polyfluoroalkyl substances, HAPs, hazardous substances as defined under the Clean Water Act and Toxic Substance Control Act (15 USC 2601 et seq), and elements, compounds, mixtures, solutions, or substances listed in 40 CFR Part 302 that pose substantial harm to human health or environmental resources.
- **Solid Waste Management Unit:** any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.
- **Area of Concern**: an area with known or suspected contamination.

3.5.1.2 Solid Waste

Solid wastes are those substances defined in 40 CFR 261.2. Subtitle D of the RCRA and its amendments set national standards for the management of solid waste, including collection and storage and its subsequent burning, use as a fuel, or landfilling. DAFMAN 32-7002 provides guidance for installations to develop solid waste management plans that ensure regulatory compliance.

3.5.1.3 HAZ MAT and Hazardous Waste Regulations

Specific HAZ MAT and hazardous waste laws and requirements related to the Proposed Action are summarized in Table 3.5-1.

1 **Table 3.5-1. Summary of HAZ MAT and Waste Regulations Requirements**

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
CERCLA (42 USC 9601 et seq), as amended	The law authorizes actions that reduce or eliminate dangers associated with releases or threats of releases of hazardous substances at sites listed on USEPA's National Priorities List.	Provides a federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment.	USEPA
RCRA (42 USC 6901 et seq)	SWMUs are listed on the RCRA Corrective Action permit and activities follow the RCRA corrective process	Control hazardous waste from generation to disposal. RCRA also sets forth a framework for the management of non-hazardous solid wastes.	USEPA
Toxic Substances Control Act (15 USC 2601 et seq)	Regulates toxic substances such as asbestos-containing materials, lead-based paint, radon, and PCBs.	As no demolition activities are proposed, asbestos-containing materials and lead-based paint are not of concern. Additionally, the Hill AFB HWMP indicates that there are no known PCB materials at the LMTF. While there is moderate potential for radon, the PLF would be designed and constructed to eliminate the risk of radon as a health hazard.	USEPA
Pollution Prevention Act (42 USC 13101 et seq)	Develop pollution prevention initiatives and plans.	Prevent or reduce the amount of pollution through cost-effective change in production, operation, and raw material used by industry and governmental agencies.	USEPA
DAFMAN 32-7002, *Environmental Compliance and Pollution Prevention, Chapter 7 Asbestos*	All construction contracts are required to comply with HAZ MAT procedures and ensure that all recyclable material (e.g., concrete) is recycled and recycled quantities are reported by weight to the LMTF Installation Management.	Establish procedures and standards that govern management of HAZ MAT throughout the DAF.	DoD
HILLAFI 32-7086, *Hazardous Materials Management*, Hill AFB Supplement	Adherence to all conditions of HILLAFI 32-7086 for installation-specific processes and protocols related to HAZ MAT.	Outlines additional roles and responsibilities, procedures and processes, operational controls, definitions, practices, and considerations that are required for effective and efficient management of HAZ MAT at Hill AFB.	DoD
Defense Explosives Safety Regulation 6055.09	Establishes explosives-safety submissions, approvals, and siting actions for new/modified explosives facilities (Explosive Safety site plans, QD waivers, safety assessments).	Requires QD siting, hazard classification/segregation, protective construction, electrical/ignition-source controls, written SOPs, trained personnel, fire/Emergency Response systems, spill controls, inspections/recordkeeping, and formal ESO/DDESB approvals.	DoD
Clean Air Act (42 USC 7401 et seq.)	Air emissions permit or exemption	Controls emissions of hazardous air pollutants, solvents, and combustion by-products from propellant operations	USEPA/ State Agency

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
Clean Water Act (33 USC 1251 et seq.)	NPDES permit, SPCC plan if applicable	Regulates wastewater discharge and stormwater management; requires controls for propellant or chemical spills to prevent water contamination	USEPA/ State Agency
Emergency Planning and Community Right-to-Know Act (42 USC 11001 et seq.)	Tier II, Toxic Release Inventory, and emergency release reporting	Requires reporting of hazardous chemicals and emergency releases of energetic or toxic materials	USEPA / State/local emergency planning committees

AFI – Air Force Instruction; CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act; DAF – Department of Air Force; DAFMAN – Department of the Air Force Manual; CFR – Code of Federal Regulations; DoD – Department of Defense; DDESB = Department of Defense Explosives Safety Board; ESO = Explosives Safety Officer; HAZ MAT – Hazardous Material; HWMP – Hazardous Waste Management Plan; LMTF – Little Mountain Test Facility; NPDES – National Pollutant Discharge Elimination System; PCB – polychlorinated biphenyls; RCRA – Resource Conservation and Recovery Act; QD = Quantity-Distance; SOP = Standard Operating Procedures; SPCC – Spill Prevention, Control, and Countermeasure; SWMU – Solid Waste Management Unit; USC – United States Code; USEPA – United States Environmental Protection Agency

3.5.2 Affected Environment

HAZ MAT and Hazardous Wastes. HAZ MAT and hazardous wastes are managed at the LMTF through the 75th Civil Engineer Group/Environmental Branch (75 CEG/CEIE), and are tracked by the defense contractors that maintain the LMTF. The 75 CEG/CEIE supports and monitors operating permits, HAZ MAT procurement and storage, hazardous waste storage, and spill prevention and response. The 75 CEG/CEIE is a member of the Environmental Safety and Occupational Health Council, which is a network of safety, environmental, and logistics experts who work with HAZ MAT Managers, Unit Environmental Coordinators, and other HAZ MAT users to ensure safe and compliant management throughout Hill AFB and its associated properties (Hill AFB 2025).

Hill AFB maintains an installation-specific supplement to Air Force Instruction (AFI) 32-7086, *Hazardous Materials Management*, which outlines additional roles and responsibilities, procedures and processes, operational controls, definitions, practices, and considerations that are required for effective and efficient management of HAZ MAT at Hill AFB and associated properties. Requirements and protocols outlined in the Hill AFB supplement would apply to HAZ MAT management at the LMTF.

The Hill AFB Hazardous Waste Management Plan (HWMP) (maintained by the 75 CEG/CEIE) establishes procedures to comply with applicable federal, state, and local standards for solid waste and hazardous waste management, and outlines procedures for transport, storage, and disposal of hazardous wastes at Hill AFB and its associated properties (including the LMTF). The plan establishes roles and responsibilities with respect to waste stream inventory, waste analysis plan, hazardous waste management procedures, training, emergency response, and pollution prevention (Hill AFB 2025). The 75 CEG/CEIE Hazardous Waste Program Manager ensures that appropriate procedures are properly communicated and followed. The Enterprise Environmental, Safety, and Occupational Health Management Information System is a database that tracks acquisition and inventory control of HAZ MAT, including propellants.

The LMTF is classified as a Small Quantity Generator (SQG), which is defined as a facility that generates between 100 and 1,000 kilograms of hazardous waste per month. The

LMTF has no additional storage or treatment permits (Hill AFB 2025). The LMTF operates an initial accumulation site and a hazardous waste accumulation site, where up to 55 gallons of total regulated hazardous wastes or up to 1 quart of acutely hazardous wastes are accumulated for up to 90 days. Hazardous wastes are then transported to an off-base approved hazardous waste landfill or incinerator by an approved hazardous waste hauler (USAF 2025). An inventory of Aboveground Storage Tanks (ASTs) and Underground Storage Tanks (USTs) is maintained by Hill AFB for the LMTF and includes the location, contents, capacity, containment measures, status, and installation dates. The LMTF has fuel storage tanks, oil-filled equipment, HAZ MAT and hazardous waste storage areas. There are six ASTs at the LMTF that contain petroleum, oils, and lubricants (POLs). There is one UST for water-based deluge or spills at the LMTF (USAF 2025).

Environmental Restoration Program. The Environmental Restoration Program (ERP) is the DAF's comprehensive effort to identify, investigate, and remediate contamination resulting from past activities at an installation. ERP sites range from past waste disposal, fuel storage, or maintenance operations that resulted in contamination of the soil or groundwater. These sites are managed under the CERCLA and under state environmental regulations, in coordination with the USEPA and the Utah Department of Environmental Quality. Remedial actions are overseen by the Air Force Civil Engineer Center (DAF 2023).

There are no ERP sites overlapping or directly adjacent to the proposed location of the PLF. Site WR111, located south of the proposed PLF location (at the southeastern corner of the LMTF), is a Magnesium-Thorium Scrap Material Disposal Area. This site has also been remediated and is closed according to the Site Closeout Letter submitted on January 21, 2020 (EA Engineering, Science, and Technology 2020). Site WP008, located directly west of the proposed PLF location (in the vicinity of existing utilities to which the PLF would connect), is identified as a sludge drying field, and is considered to be an active hazardous waste area (Michel 2024). Figure 3.5-1 displays the locations of Sites WR111 and WP008 in relation to the approximate location of the proposed PLF.

Human Health and Safety. Daily operations at the LMTF are conducted in compliance with DAF safety regulations, technical guidance, and Occupational Safety and Health Administration (OSHA) standards. Construction and maintenance activities associated with LMTF operations present inherent health and safety risks, including potential exposure to chemical hazards (e.g., asbestos, lead, fuels, lubricants, and other HAZ MAT) and physical hazards (e.g., elevated noise, fall risks, electrical shock, and collisions with equipment). Contractors and personnel performing these activities on DAF installations are required to comply with OSHA regulations and applicable DAF safety requirements to prevent accidents and occupational exposures. Industrial hygiene programs are implemented to monitor potential exposure to HAZ MAT, ensure the proper use of personal protective equipment, and maintain Safety Data Sheets for all hazardous substances in use. Federal civilian and military personnel who access construction or testing areas must adhere to OSHA and DAF occupational safety requirements and follow established industrial hygiene protocols.

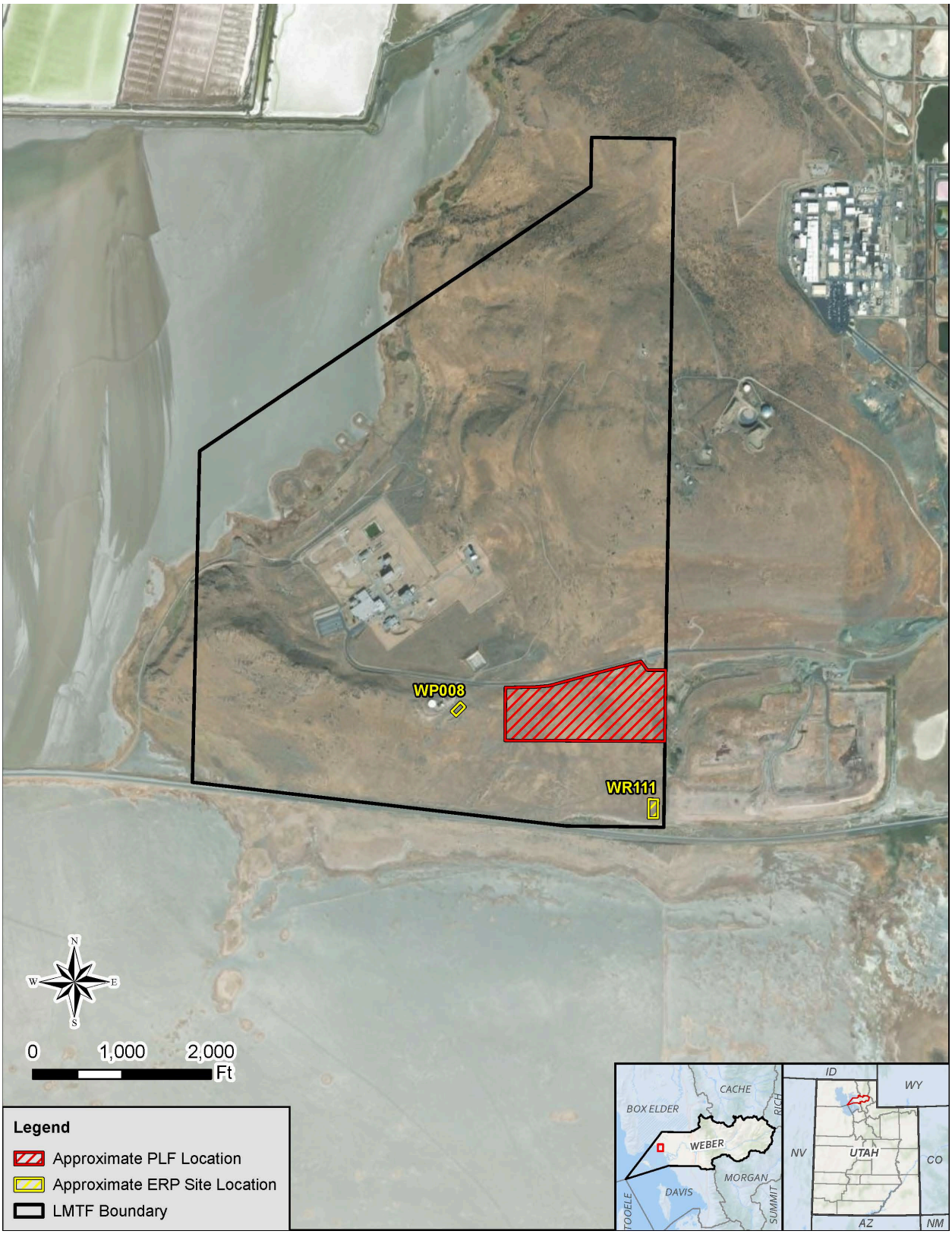

Figure 3.5-1. Environmental Restoration Project Site Map

3.5.3 Environmental Consequences

3.5.3.1 Analysis Approach

Impacts on HAZ MAT management would be considered adverse if the Proposed Action resulted in noncompliance with applicable federal and state regulations or increased the amounts of hazardous waste generated or HAZ MAT procured beyond current waste management procedures and capacities at the Installation. Impacts on the ERP would be considered adverse if the federal action disturbed (or created) contaminated sites, resulting in negative effects on human health or the environment.

Impacts to human health or safety would be considered significant if federal civilian, military, or contractor personnel did not comply with established DAF and OSHA safety guidelines.

3.5.3.2 New PLF at LMTF (Proposed Alternative)

HAZ MAT and Hazardous Wastes. Construction of the proposed PLF would result in short-term, negligible, adverse impacts related to HAZ MAT and hazardous waste. Increases in the use of HAZ MAT, such as POLs for construction vehicles and equipment, would be expected at the LMTF. Solid wastes generated during construction, including concrete, metals, and other building materials, would be managed as nonhazardous debris and recycled when practical. All HAZ MAT used during construction would be properly tracked, stored and maintained and any hazardous waste produced would be handled and disposed of in compliance with all applicable federal, state, and local regulations. Adherence to the installation's HWMP and HILLAFI 32-7086 (*Hazardous Materials Management*) would ensure safe and compliant management of HAZ MAT and hazardous wastes.

Operation of the proposed PLF at the LMTF would require the modification of the Hill AFB HWMP to cover proper waste disposal and waste streams for hypergolic liquid propellants. During normal operations, HAZ MAT would be managed within a secure facility designed with multiple safety measures. These include electrical systems built to prevent sparks or explosions, equipment to contain and clean up spills, air treatment systems to remove vapors, backup containment areas, and emergency wash stations in storage and transfer zones. The PLF would also feature reinforced areas to safely manage pressure or blast forces, a high-capacity water spray system for fire suppression, additional vapor treatment systems, built-in spill containment for propellant handling, and temperature control systems to reduce the risk or impact of an accidental release. The PLF's spill containment system would be expected to prevent HAZ MAT from reaching nearby soils or surface waters. The PLF would be maintained in compliance with Defense Explosives Safety Regulation 6055.09, which establishes DoD's explosives safety standards for the storage, handling, transportation, and siting of explosives and energetic materials, and Air Force Explosives Safety Standards (DESR 6055.09/DAFMAN 91-201). All hazardous wastes would be managed in accordance with RCRA Subtitle C requirements and disposed of at permitted off-site treatment or disposal facilities. There would be new RCRA waste manifesting requirements for liquids containing hydrazine compared to current facilities.

The proposed PLF would handle, store, and transfer toxic hypergolic propellants (e.g., hydrazine, NTO, MON3), as well as high-pressure helium and nitrogen pressurants. These materials are classified as hazardous under the RCRA and pose potential risks due to their toxicity, corrosivity, and reactivity. The proposed PLF would store a minimum operational quantity of 2,526 pounds of hydrazine and 4,005 pounds of NTO, with a maximum storage of approximately 4,103 pounds of hydrazine and 6,256 pounds of NTO.

Dependent on the quantity of hazardous waste generated at the proposed PLF, the LMTF may be required to upgrade its waste generator status as a SQG to that of a Large Quantity Generator (LQG). Conversion of the LMTF's hazardous waste management status from an SQG to a LQG under RCRA would not be expected to result in substantial environmental impacts. The change in generator status would be an administrative and procedural modification triggered if there were an increase of hazardous waste generation volumes greater than 1,000 kilograms per month, greater than 1 kilogram of acutely hazardous waste, or greater than 100 kilogram of residues or contaminated materials from the cleanup of acutely hazardous waste. If it is anticipated that hazardous wastes generated at the LMTF would become greater than these limitations following implementation of the Proposed Action, the 75 CEG/CEIE would submit an updated Notification of RCRA Subtitle C Activities (EPA Form 8700-12) to the Utah Department of Environmental Quality Division of Waste Management and Radiation Control. As an LQG, the LMTF would be subject to more stringent federal and state requirements for waste storage, labeling, employee training, recordkeeping, and emergency preparedness, all of which are designed to enhance environmental protection and minimize potential releases of hazardous waste. With compliance to applicable RCRA Subtitle C standards (40 CFR 262), DAF hazardous waste management protocols, and state and federal environmental regulations, any incremental risks associated with increased waste quantities would remain well controlled.

With adherence to proper design controls, applicable regulations, Hill AFB protocols/plans, and mitigation measures such as the design features described above, the proposed PLF's HAZ MAT and hazardous waste operations are not expected to cause significant adverse environmental consequences. Potential impacts would be limited to localized, short-term effects in the unlikely event of a spill or release, which would be mitigated through established emergency response and containment systems.

Environmental Restoration Program. There would be no impacts to ERP site WR111 as the ERP site is closed and does not overlap the proposed PLF project. Impacts to ERP site WP008 would not be expected due to the site's distance from proposed ground disturbance associated with construction of the PLF; however, it is possible that its location would need to be considered when new utility connections are being made (due to the site's proximity to the existing source to which new utilities would be connected).

Human Health and Safety. Implementation of the Proposed Action would not be expected to result in significant adverse effects to human health or safety. There may be short-term, negligible, adverse impacts resulting from construction of the proposed PLF, due to the inherent risks of construction work. Construction and operation of the proposed PLF would be conducted in accordance with applicable DAF safety regulations, OSHA standards, and Defense Explosives Safety Regulation 6055.09 requirements. Personnel

would be trained and certified in HAZ MAT handling, personal protective equipment use, and emergency response protocols.

3.5.3.3 No Action Alternative

Under the No Action Alternative, the DAF would not construct a PLF to support the Sentinel Program. As a result, there would be no new use, storage, or generation of HAZ MAT or hazardous waste and changes would not be made to current the current HWMP or HILLAFI 32-7086.

Chapter 4 Summary of Environmental Management and Mitigations

Table 4-1 summarizes proposed measures to minimize or mitigate adverse impacts associated with implementation of the Proposed Action. In addition to the below measures, the project would be required to comply with all necessary permits discussed in Chapter 3, including the UPDES CGP and the Hill AFB Title V Operating Permit (Permit no. 1100007004), and would be required to comply with the INRMP, Integrated Stormwater Management Plan, HILLAFI 32-7086,and the HWMP that have been developed for Hill AFB and its associated properties (including the LMTF).

Table 4-1. Environmental Management and Mitigations

Resource Area	Proposed Impact Minimization/Mitigation Measures
Air Quality	• Fugitive dust control measures outlined in the Hill AFB Fugitive Dust Control Plan would be followed. • Coordinate proposed boilers and generators with the AFNWC/NI and 75 CEG/CEIE environmental points of contact to ensure proper operating permits are obtained. • Propellant effluent vapor scrubbers would be installed to reduce fugitive air emissions associated with storage of hypergolic liquid propellants. • The permittee shall conduct tune-ups as specified in the monitoring outlined in Title V Operating Permit Conditions on NESHAP New/Reconstructed Boilers and Process Heaters for each new boiler or heating unit. • The permittee shall conduct required recordkeeping as outlined in Title V Operating Permit conditions for the emergency generators.
Soils and Topography	• BMPs would be implemented to minimize erosion and control stormwater, such as perimeter controls; erosion control blankets, straw bales, and/or other erosion-control devises; and slope brakers or swales. Per CGP requirements, a SWPPP would be developed that would dictate project-specific BMPs. • Post-construction, a permanent stormwater management system would be implemented for the facility that would function within the existing stormwater management system at the LMTF. • Construction protocols and design of the permanent stormwater management system for the facility would adhere to the Hill AFB Integrated Stormwater Management Plan.
Biological Resources	• Temporarily impacted areas would be replanted with native seed mix post-construction. • Protocols and methodologies outlined in the INRMP would be implemented. • Per the INRMP, to the greatest extent practicable, project activities that could result in migratory bird take should be completed outside the maximum migratory bird nesting season (early January through late August). If that is not practicable, surveys should be conducted prior to the activity to determine if migratory birds are actively nesting at the site.
Hazardous Materials and Waste/Health and Safety	• All HAZ MAT would be managed within secure, controlled areas equipped with spill containment, air treatment systems to remove vapor, and explosion-proof systems to prevent accidental releases. • The facility would include blast-resistant structures, pressure relief systems, and a high-flow water deluge system to minimize risks from fire or explosion. • Personnel would use protective equipment and have access to emergency wash stations, ventilation, and vapor treatment systems. • All waste and effluent would be properly contained and disposed of in compliance with regulations.

Resource Area	Proposed Impact Minimization/Mitigation Measures
	• Only trained personnel would handle propellants under strict security, monitoring, and regulatory procedures to ensure ongoing safety and environmental compliance.

AFB – Air Force Base; AFNWC - Air Force Nuclear Weapon Center; BMP – Best Management Practice; CGP – Construction General Permit; HAZ MAT – Hazardous Material; INRMP – Integrated Natural Resources Management Plan; LMTF – Little Mountain Test Facility; NESHAP – National Emission Standards for Hazardous Air Pollutants; SWPPP – Stormwater Pollution Prevention Plan

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Appendix A. Interagency and Intergovernmental Coordination, Public Notices, and Public Comments

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Tribes

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Confederated Salish & Kootenai Tribes
Crow Tribe of Montana
Duckwater Shoshone Tribe
Eastern Shoshone Tribe
Ely Shoshone Tribe
Hopi Tribe
Little Shell Tribe of Chippewa Indians of Montana
Navajo Nation
Northern Arapaho Tribe
Northwestern Band of the Shoshone Nation
Paiute Tribe of Utah
Pueblo of Zuni
San Juan Southern Paiute Tribe
Shoshone-Bannock Tribes of the Fort Hall Reservation
Shoshone-Paiute Tribe of the Duck Valley Reservation
Skull Valley Band of Goshute Indians
Te-Moak Tribe of Western Shoshone
Ute Indian Tribe
Ute Mountain Ute Tribe
Wells Band of Western Shoshone

Example Scoping Letter

DEPARTMENT OF THE AIR FORCE
75TH CIVIL ENGINEER GROUP (AFMC)
HILL AIR FORCE BASE UTAH

November 14, 2025

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Environmental Branch Chief
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Michelle McConkie
Director, State of Utah School of Institutional Trust Lands Administration
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Salt Lake City, UT 84102

SUBJECT: Proposed Propellant Loading Facility at the Little Mountain Test Facility, Hill Air Force Base, Utah

Dear Ms. McConkie

Hill Air Force Base (AFB) is proposing to construct a Propellant Loading Facility (PLF) at the Little Mountain Test Facility (LMTF) in Weber County, Utah (Figure 1), to support the planned replacement of the current Minuteman III with the modernized Sentinel Intercontinental Ballistic Missile weapons system (i.e., the Sentinel Program). In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and the Department of Defense's NEPA implementing procedures, Hill AFB is preparing a Draft Environmental Assessment and proposed Finding of No Significant Impact to assess potential environmental impacts of the proposed construction and operation of a PLF at the LMTF.

The Proposed Action would construct a PLF that would be responsible for loading hypergolic liquid propellants (e.g., hydrazine, NTO, MON3) into the Post Boost Attitude Control Modules during the production and deployment phases of the Sentinel Program. The proposed facility would total approximately 30,000 square feet and would consist of an administrative wing (approximately 8,000 square feet) attached to a high bay wing (approximately 22,000 square feet). The high bay wing would include a laboratory area, which would require a fueling cell, ventilation systems, associated screen and control rooms, and a receiving area equipped with a loading dock to accommodate forklifts and delivery trucks. Overhead bridge cranes would be installed throughout the high bay wing to facilitate shipping and receiving.

It is anticipated that construction of the proposed PLF would take approximately 4 months to complete, utilizing approximately 50 to 100 construction workers. Construction would include the addition of parking space and an access road off the existing main vehicular drive to support full-time workers as well as deliveries and shipments during facility operations. Once the facility is operational, it is anticipated that six personnel would be required on-site. The location of the proposed PLF at the LMTF is illustrated in Figure 2.

Please forward your written comments or requests for additional information to Steve Vlaming, 75 CEG/CEIEA, NEPA Project Manager, 7290 Weiner St (Bldg 383), Rm 103, Hill AFB, UT 84056-5003. Mr. Vlaming can also be reached at 801-777-2783 or by email at stephen.vlaming.1@us.af.mil. We request your comments within 30 days of receipt of this letter to ensure we can address them during the environmental analysis. Thank you for your assistance.

Sincerely,

BURTON.AMANDA.CHRISTINE.1270023068 Digitally signed by BURTON.AMANDA.CHRISTINE.1270023068 Date: 2025.11.14 12:40:30 -07'00'

AMANDA C BURTON, NH-III, DAF
Chief, Environmental Branch

Attachments:
Figure 1. Little Mountain Test Facility Regional Map
Figure 2. Proposed Propellant Loading Facility at the Little Mountain Test Facility

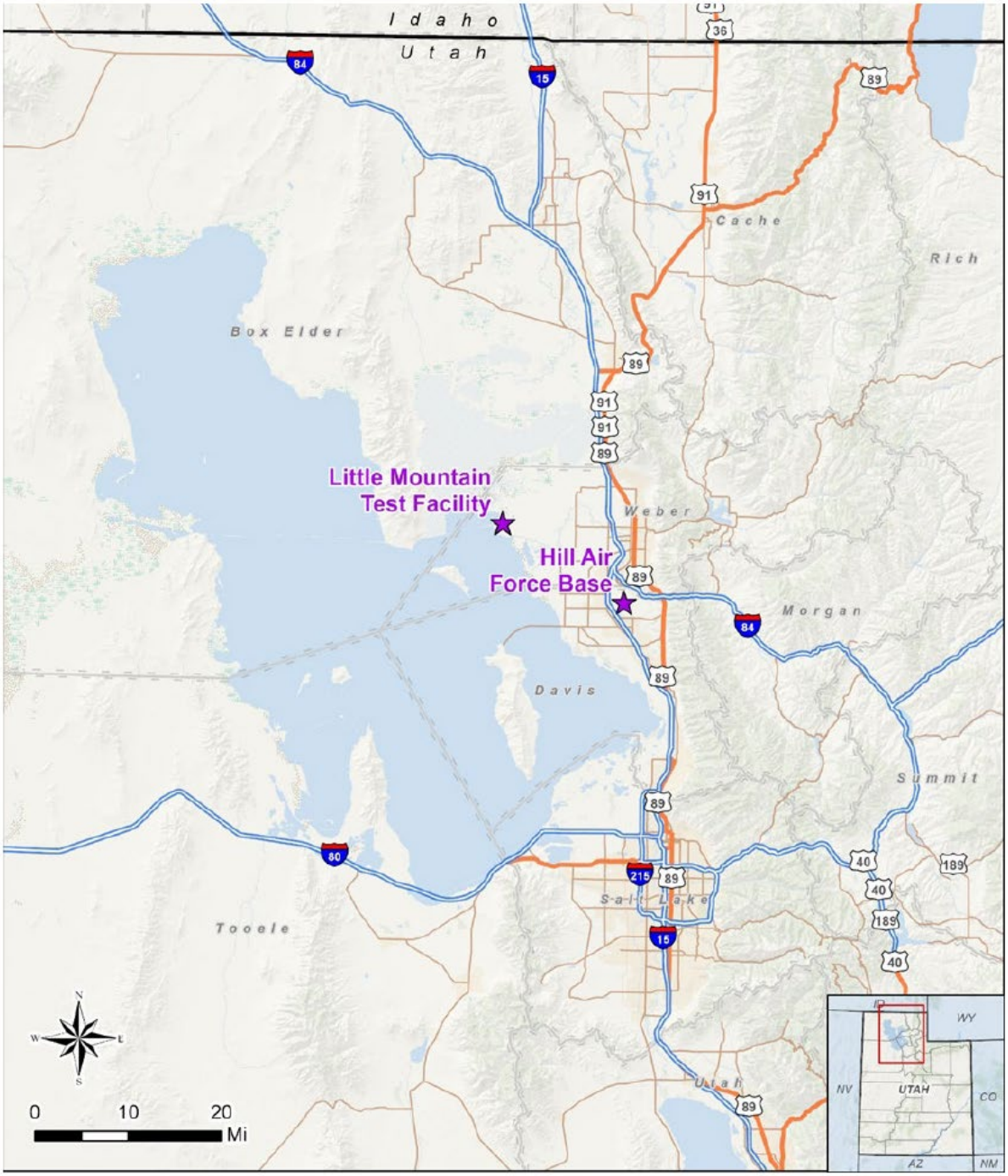

Figure 1. Little Mountain Test Facility Regional Map

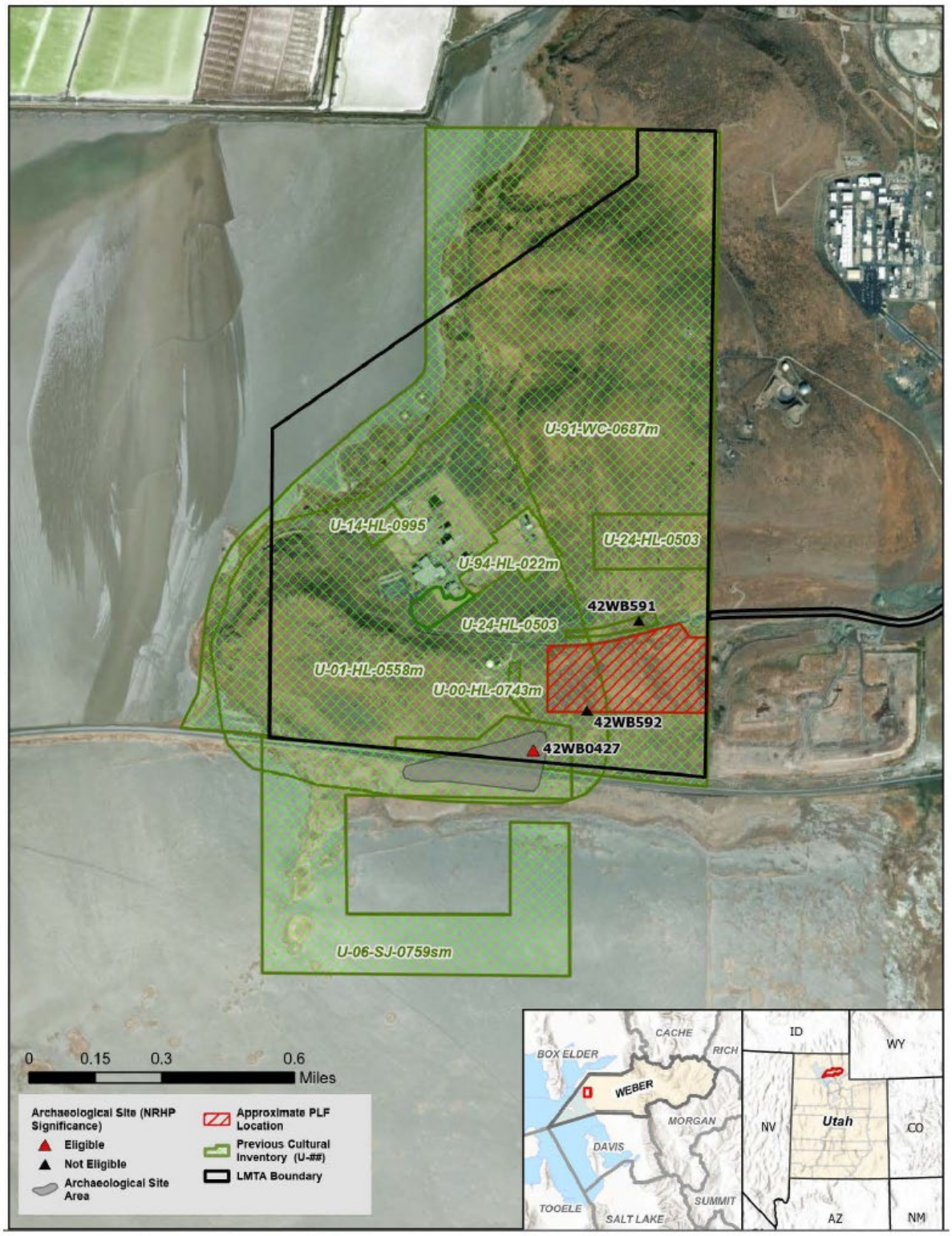

Figure 2. Proposed Propellant Loading Facility at the Little Mountain Test Facility

Public Notices

Appendix B: Government-to-Government Consultation Letters

Example Tribal Scoping Letter

From: KITTERMAN, ANYA D CIV USAF AFMC 75 CEG/CEIEC
To: andyw.wellsbandcouncil@gmail.com; alicia.wellsbandcouncil@gmail.com
Subject: Little Mountain Propellant Facility APE & EA - Invitation to Consult
Date: Thursday, November 13, 2025 1:44:00 PM
Attachments: Hill AFB Tribal Consultation Letters APE Wells Band.pdf

To Whom it May Concern:

We are undertaking all of our tribal consultation digitally at this time. I have included a letter which details an upcoming project at our Little Mountain Facility in Weber County, UT. An Environmental Assessment (EA) is being developed but we are reaching out with initial details and the proposed Area of Potential Effect (APE). We would like to invite you to consult on this project and the EA. Please forward all comments, questions or concerns for the project to myself or our ITLO Ms. Amanda Burton at amanda.burton.7@us.af.mil.

Thank you!

Anya Kitterman
Archaeologist/Architectural Historian
7290 Weiner St, Bldg 383
Hill AFB, UT 84056
anya.kitterman@us.af.mil
Office: (801) 586-2464
Cell: (707) 362-6892

DEPARTMENT OF THE AIR FORCE
75TH CIVIL ENGINEER GROUP (AFMC)
HILL AIR FORCE BASE UTAH

12 November 2025

Amanda Burton
Installation Tribal Liaison Officer
Chief, Environmental Branch
7290 Weiner Street, Building 383
Hill AFB UT 84056-5003

Keenan Groesbeck
Chairman
Northern Arapaho Business Council
PO Box 396
Fort Washakie, WY, 82514

SUBJECT: Proposed Propellant Loading Facility at the Little Mountain Test Facility, Hill Air Force Base, Utah

Dear Chairman Groesbeck

In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and the Department of Defense's NEPA implementing procedures, Hill Air Force Base (AFB) is preparing an Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI), to assess the potential environmental impacts of constructing a Propellant Loading Facility (PLF) at the Little Mountain Test Facility (LMTF) in Weber County, Utah (Figure 1). The proposed PLF would support the planned replacement of the current Minuteman III with the modernized Sentinel Intercontinental Ballistic Missile weapons system (i.e., the Sentinel Program).

The Proposed Action would construct a PLF (Figure 2) that would be responsible for loading hypergolic liquid propellants (e.g., hydrazine, NTO, MON3) into the Post Boost Attitude Control Modules during the production and deployment phases of the Sentinel Program. The proposed facility would total approximately 30,000 square feet and would consist of an administrative wing (approximately 8,000 square feet) attached to a high bay wing (approximately 22,000 square feet). The high bay wing would include a laboratory area, which would require a fueling cell, ventilation systems, associated screen and control rooms, and a receiving area equipped with a loading dock to accommodate forklifts and delivery trucks. Overhead bridge cranes would be installed throughout the high bay wing to facilitate shipping and receiving.

The EA will assess potential environmental consequences associated with the Proposed Action and the No Action Alternative. Pursuant to Section 106 of the National Historic Preservation Act, implementing 36 Code of Federal Regulations Part 800, and Department of Defense Instruction 4710.02 Section 3, *DoD Interactions with Federally Recognized Tribes*, we

request government-to-government consultation on this Proposed Action. Specifically pursuant to 36 Code of Federal Regulations § 800.4(a)(4), we invite you to provide information on any properties of historic, religious, or cultural significance that may be affected by the implementation of the proposed undertaking. The area has been previously surveyed with no historic properties identified (see Figure 2), but we want to ensure any additional concerns are incorporated and addressed.

Regardless of whether you choose to consult on this project, Hill AFB will comply with the Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act by informing you of any inadvertent discovery of archaeological or human remains. Being defined as a federal undertaking, we are seeking input and inviting participation from other consulting parties, such as the Utah State Historic Preservation Office.

Please forward your interest in consulting, written comments, or requests for additional information to Amanda Burton, Installation Tribal Liaison Officer/Environmental Branch (amanda.burton.7@us.af.mil or 801-775-3647) or Anya Kitterman, Hill AFB Cultural Resource Manager (anya.kitterman@us.af.mil or 801-586-2464). You may also send it to Ms. Burton or Ms. Kitterman at 7290 Weiner St (Bldg 383), Hill AFB, UT 84056-5003. We request your comments within 30 days of receipt of this letter. This will ensure Hill AFB has sufficient time to fully consider your inputs when preparing the Draft EA and proposed FONSI. We look forward to receiving any input you may having regarding this endeavor. Thank you for your assistance with this request.

Sincerely,

Amanda Burton

AMANDA C BURTON, NH-III, DAF
Installation Tribal Liaison Officer
Chief, Environmental Branch

Attachments:
Figure 1. Little Mountain Test Facility Regional Map
Figure 2. Proposed Propellant Loading Facility at the Little Mountain Test Facility

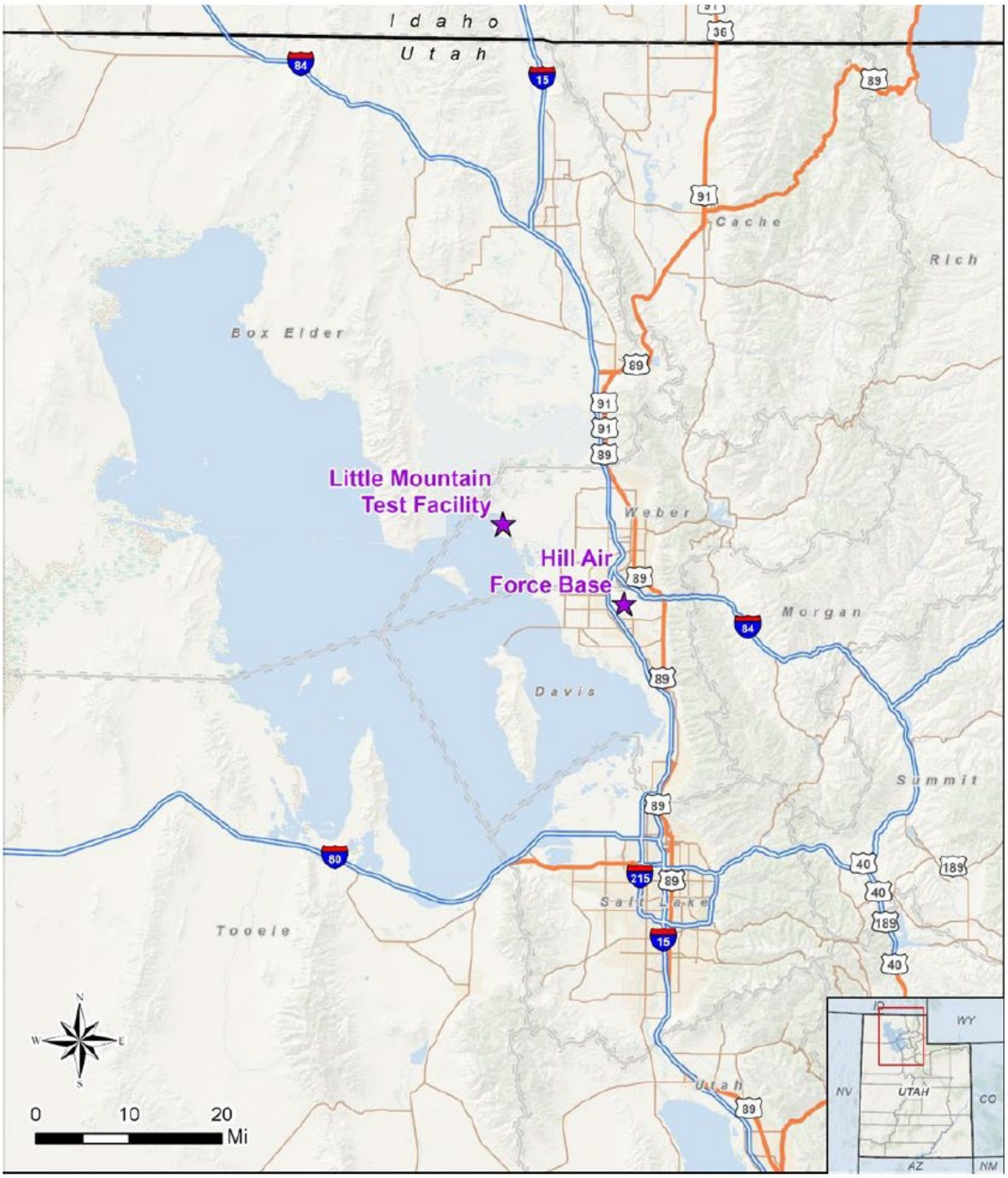

Figure 1. Little Mountain Test Facility Regional Map

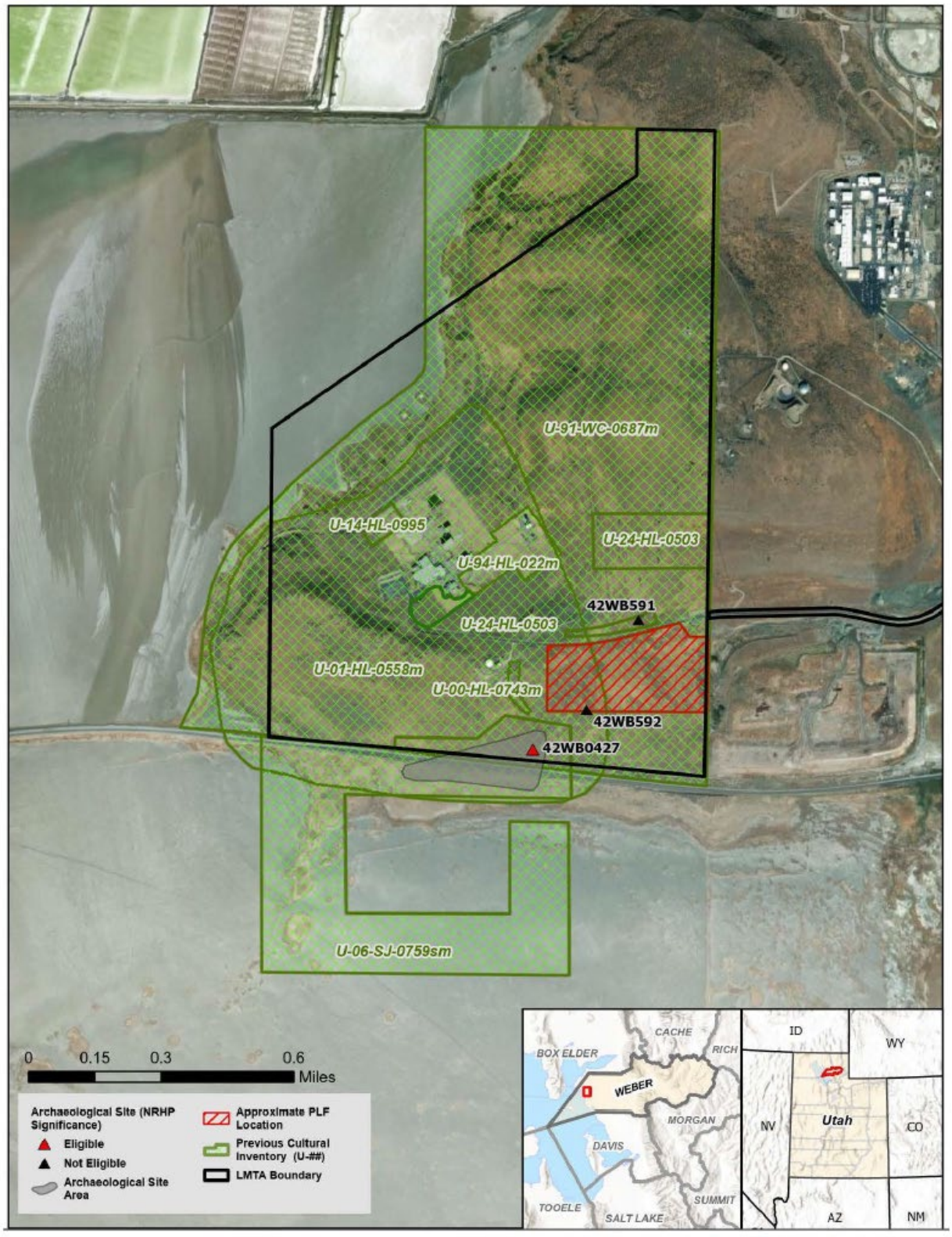

Figure 2. Proposed Propellant Loading Facility at the Little Mountain Test Facility

Appendix C. Agency Consultation Letters

DEPARTMENT OF THE AIR FORCE
75TH CIVIL ENGINEER GROUP (AFMC)
HILL AIR FORCE BASE UTAH

12 November 2025

Amanda Burton
Chief, Environmental Branch
7290 Weiner St, Building 383
Hill Air Force Base UT 84056-5003

Chris Merritt, Ph.D.
Utah State Historic Preservation Officer
3760 S. Highland Drive
Millcreek UT 84106-3270

SUBJECT: Proposed Propellant Loading Facility at the Little Mountain Test Facility, Hill Air Force Base, Utah

Dear Dr. Merritt

Hill Air Force Base (AFB) is proposing to construct a Propellant Loading Facility (PLF) at the Little Mountain Test Facility (LMTF) in Weber County, Utah (Figure 1), to support the planned replacement of the current Minuteman III with the modernized Sentinel Intercontinental Ballistic Missile weapons system (i.e., the Sentinel Program). In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and the Department of Defense's NEPA implementing procedures, Hill AFB is preparing a Draft Environmental Assessment and proposed Finding of No Significant Impact to assess potential environmental impacts of the proposed construction and operation of a PLF at the LMTF.

The Proposed Action would construct a PLF that would be responsible for loading hypergolic liquid propellants (e.g., hydrazine, NTO, MON3) into the Post Boost Attitude Control Modules during the production and deployment phases of the Sentinel Program. The proposed facility would total approximately 30,000 square feet and would consist of an administrative wing (approximately 8,000 square feet) attached to a high bay wing (approximately 22,000 square feet). The high bay wing would include a laboratory area, which would require a fueling cell, ventilation systems, associated screen and control rooms, and a receiving area equipped with a loading dock to accommodate forklifts and delivery trucks. Overhead bridge cranes would be installed throughout the high bay wing to facilitate shipping and receiving.

It is anticipated that construction of the proposed PLF would take approximately four months to complete, utilizing approximately 50 to 100 construction workers. Construction would include the addition of parking space and an access road off the existing main vehicular drive to support full-time workers as well as deliveries and shipments during facility operations. Once the facility is operational, it is anticipated that six personnel would be required on-site. The location of the proposed PLF at the LMTF is illustrated in Figure 2.

In compliance with Section 106 of the National Historic Preservation Act, we respectfully request your review of the attached materials and comments on the proposed APE. Note that this APE was included in the LMTF Radiation Facility/EPU 16 Facility project submittal from January 2025 as a "potential future project area" (Project Number U24HL0503). No historic properties were found to be present at this site (see Figure 2). Please direct all correspondence to Anya Kitterman, Hill AFB Cultural Resource Manager, at anya.kitterman@us.af.mil or 801-586-2464 or my mail at 7290 Weiner St (Bldg 383), Rm 107, Hill AFB, UT 84056-5003. Thank you in advance for your assistance.

Sincerely,

BURTON.AMANDA.CHRISTINE.1270023068

Digitally signed by BURTON.AMANDA.CHRISTINE.1270023068
Date: 2025.11.12 13:31:53 -07'00'

AMANDA C BURTON, NH-III, DAF
Chief, Environmental Branch

Attachments:
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Figure 2. Proposed Propellant Loading Facility at the Little Mountain Test Facility

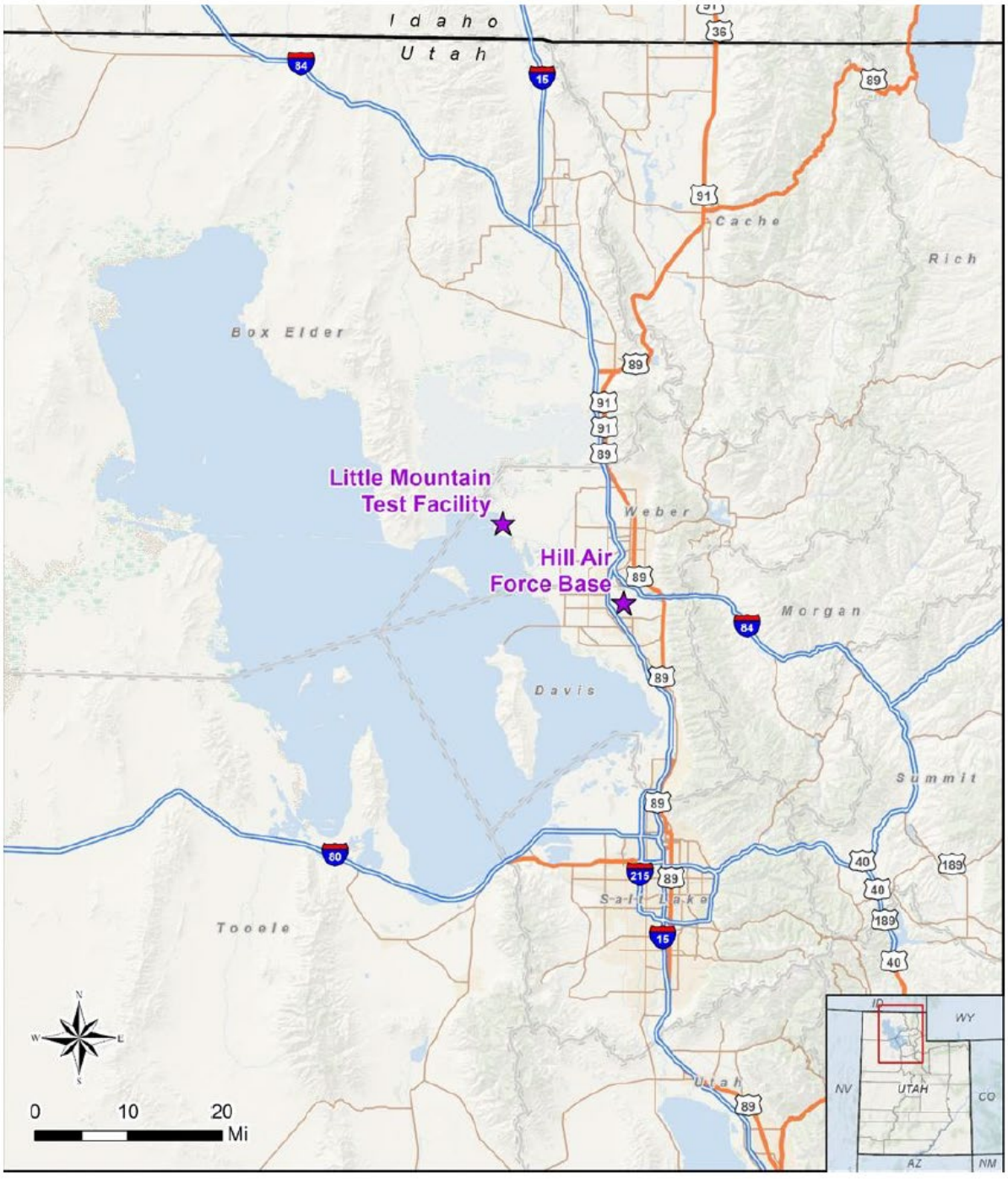

Figure 1. Little Mountain Test Facility Regional Map

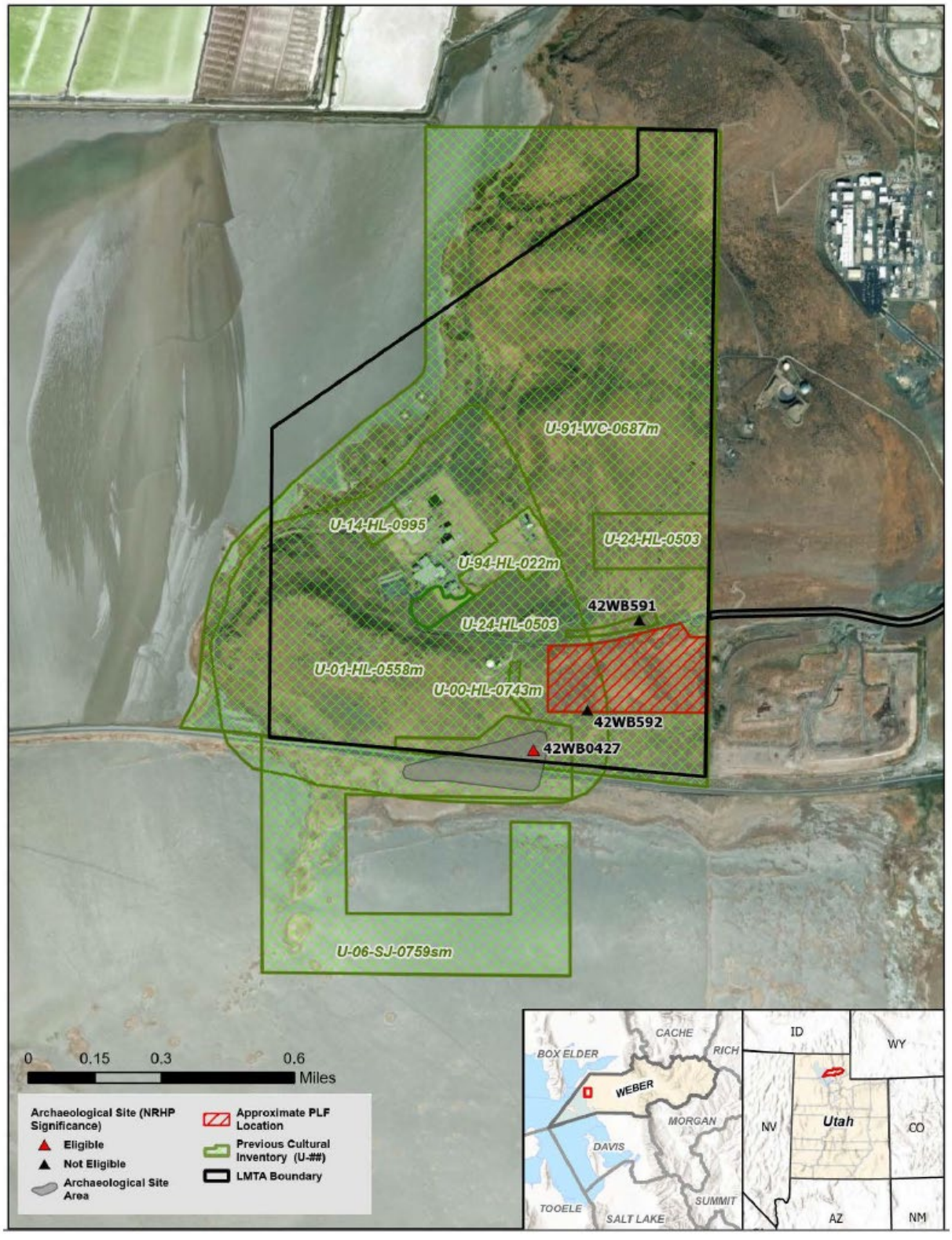

Figure 2. Proposed Propellant Loading Facility at the Little Mountain Test Facility

DEPARTMENT OF THE AIR FORCE
75TH CIVIL ENGINEER GROUP (AFMC)
HILL AIR FORCE BASE UTAH

November 13, 2025

Amanda Burton
Chief, Environmental Branch
7290 Weiner St, Building 383
Hill AFB UT 84056-5003

George Weekley
Field Office Supervisor
US Fish and Wildlife Service
2369 Orton Circle, Suite 50
West Valley City UT 84119-7603

SUBJECT: Proposed Propellant Loading Facility at the Little Mountain Test Facility, Hill Air Force Base, Utah

Dear Mr. Weekley

The Department of the Air Force (DAF) requests informal Section 7 consultation under the Endangered Species Act (ESA) for the proposed Propellant Loading Facility (PLF) at the Little Mountain Test Facility (LMTF), Weber County, Utah (Figure 1). The construction of the PLF would support the planned replacement of the current Minuteman III with the modernized Sentinel Intercontinental Ballistic Missile weapons system (i.e., the Sentinel Program). The proposed PLF would be responsible for loading hypergolic liquid propellants (e.g., hydrazine, NTO, MON3) into the Post Boost Attitude Control Modules during the production and deployment phases of the Sentinel Program. The proposed facility would total approximately 30,000 square feet and would consist of an administrative wing (approximately 8,000 square feet) attached to a high bay wing (approximately 22,000 square feet). The high bay wing would include a laboratory area, which would require a fueling cell, ventilation systems, associated screen and control rooms, and a receiving area equipped with a loading dock to accommodate forklifts and delivery trucks. Overhead bridge cranes would be installed throughout the high bay wing to facilitate shipping and receiving.

It is anticipated that construction of the proposed PLF would take approximately 4 months to complete, utilizing approximately 50 to 100 construction workers. Construction would include the addition of parking space and an access road off the existing main vehicular drive to support full-time workers as well as deliveries and shipments during facility operations. Once the facility is operational, it is anticipated that six personnel would be required on-site.

The location of the proposed PLF at the LMTF is illustrated in Figure 2.

The Hill AFB Integrated Natural Resources Management Plan and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) web application were reviewed for the most up-to-date information concerning federally listed threatened and endangered species at the LMTF. The Integrated Natural Resources Management Plan indicates that there is no suitable habitat to support listed species and that no designated critical habitat is present. The USFWS IPaC database search identified one federally-protected species and two proposed (for protection under the ESA) species that could occur at the LMTF: yellow-billed cuckoo (threatened), monarch butterfly (proposed threatened), and Suckley's cuckoo bumblebee (proposed endangered)

While it is possible that yellow-billed cuckoo individuals may occur within the LMTF boundaries, IPaC results do not identify this species as occurring in the area of the proposed PLF site. Therefore, the project is not likely to affect the yellow-billed cuckoo.

The proposed site is dominated by nonnative grasses and lacks habitat to support nectaring monarch butterflies. Milkweed species, the host plant for monarch butterflies, is unlikely to occur in this area. Therefore, monarch butterflies are not expected to be present at the proposed PLF site. Construction and operation of the proposed PLF would not disturb habitat that supports monarch butterflies and would be unlikely to directly affect any monarch butterflies.

Suitable habitat for Suckley's cuckoo bumble bee may be present. While there is potential for mortality due to collision with construction equipment, this is considered unlikely due to the limited extent of suitable habitat at the site, and the likelihood that individuals would avoid the area during construction. The Proposed Action may affect but is not likely to adversely affect the Suckley's cuckoo bumble bee.

The Proposed Action is not likely to adversely affect any federally-listed species, and the DAF has therefore determined that the construction and operation of the PLF at the LMTF would not jeopardize the continued existence of the monarch butterfly, yellow-billed cuckoo, or Suckley's cuckoo bumble bee. I am requesting your written concurrence with DAF's determinations for these species. Please provide concurrence or comments and additional information concerning the Proposed Action within 30 days of the date of this letter to Steve Vlaming, 75 CEG/CEIEA, NEPA Project Manager, 7290 Weiner St (Bldg 383), Rm103, Hill AFB, UT 840565003. Mr. Vlaming can also be reached at 801-777-2783 or by email at stephen.vlaming.1@us.af.mil. Thank you in advance for your assistance.

Sincerely,

BURTON.AMANDA.CHRISTINE.1270023068
Digitally signed by BURTON.AMANDA.CHRISTINE.1270023068
Date: 2025.11.14 10:24:17 -07'00'

AMANDA C BURTON, NH-III, DAF
Chief, Environmental Branch

Attachments:
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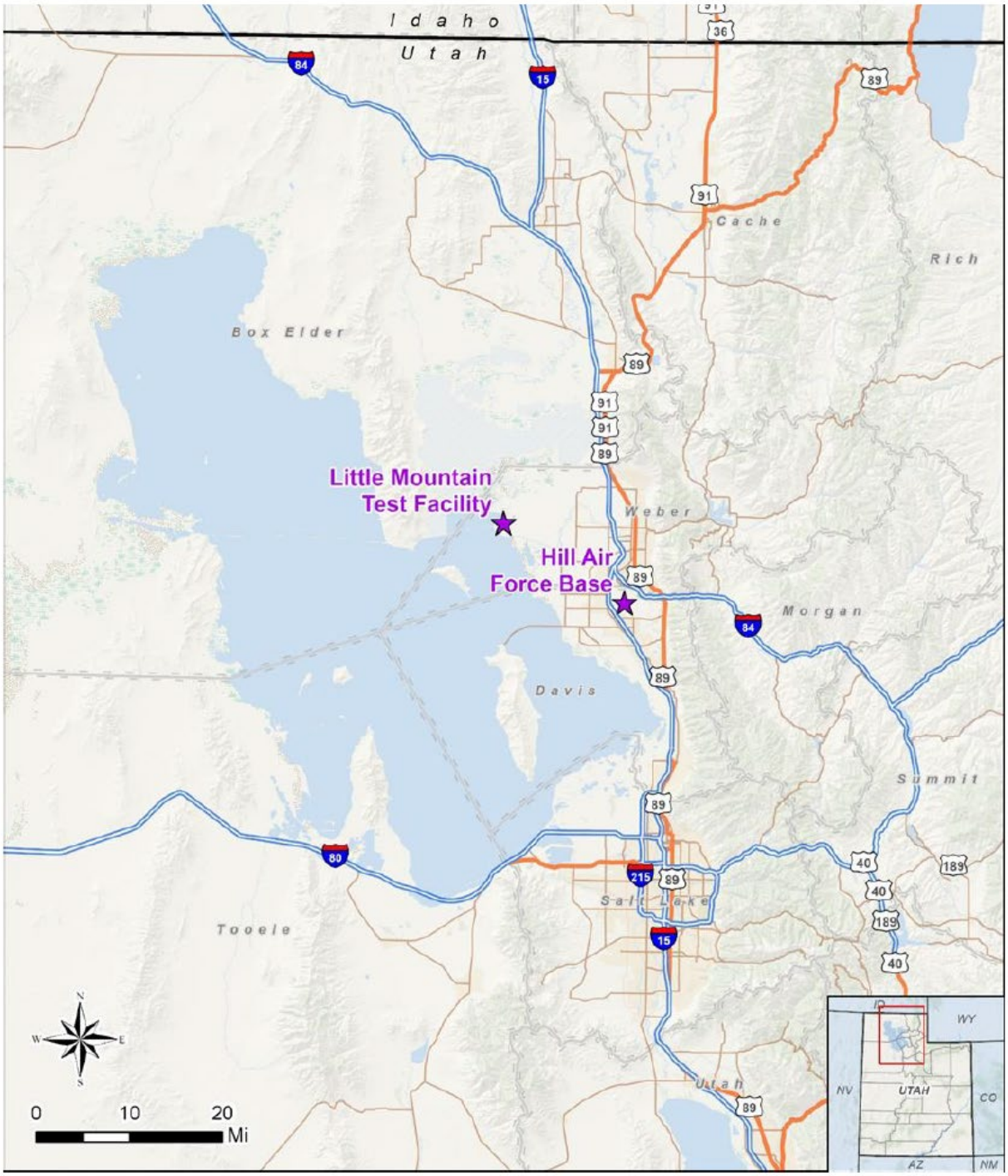

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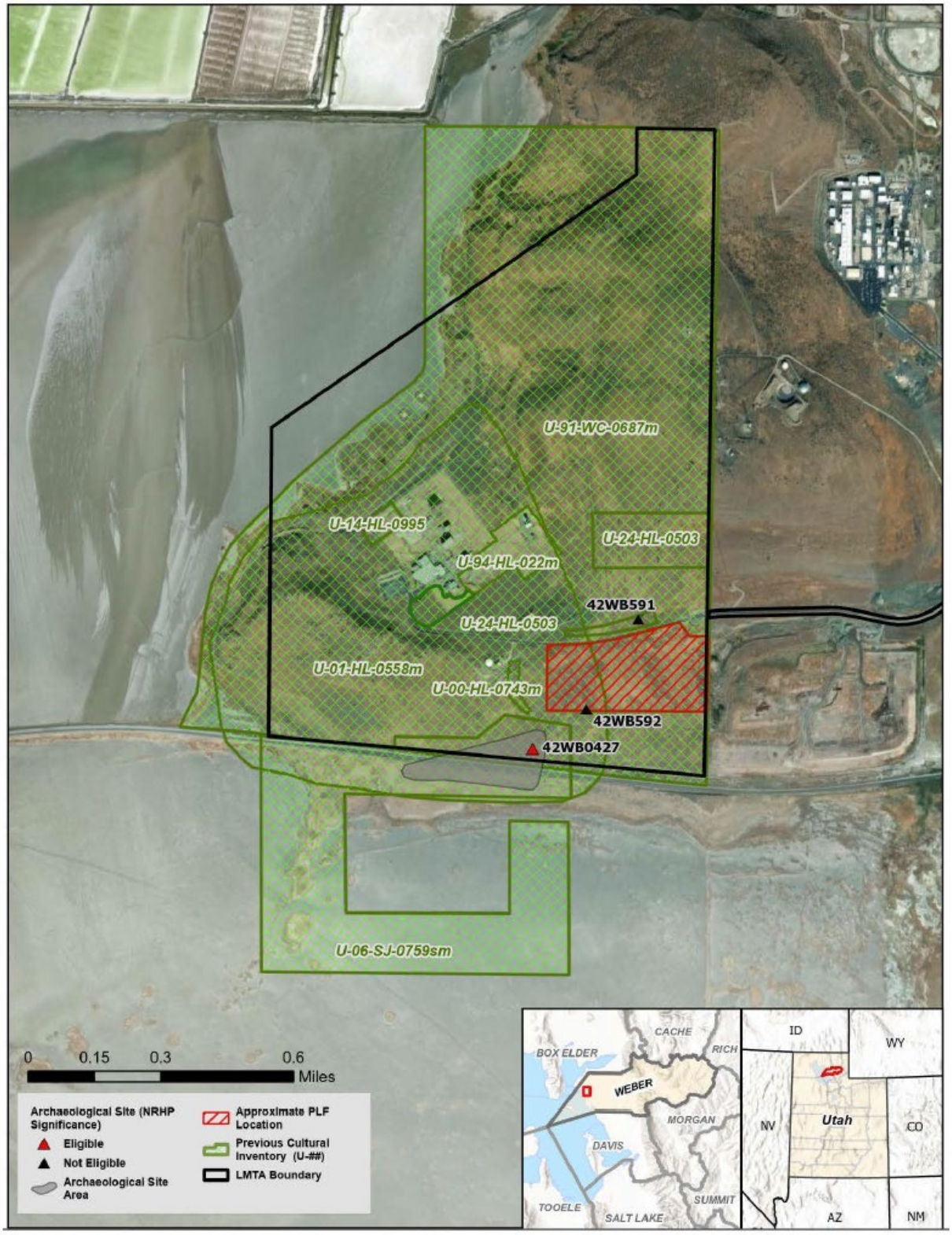

Figure 2. Proposed Propellant Loading Facility at the Little Mountain Test Facility

Appendix D. ACAM Record of Conformity Analysis

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: HILL AFB
State: Utah
County(s): Weber
Regulatory Area(s): Salt Lake City, UT; Northern Wasatch Front, UT; Ogden, UT; NOT IN A REGULATORY AREA

- Action Title: Hill AFB LMTF

- Project Number/s (if applicable):

- Projected Action Start Date: 1 / 2030

- Action Purpose and Need:

- Action Description:
LMTF

- Point of Contact
Name: Katelyn Kopp
Title: Contractor
Organization: PHE Inc.
Email: katelyn.kopp@phe.com
Phone Number: 301.907.9078

Report generated with ACAM version: 5.0.24a

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	LMTF Propellant Loading Facility
3.	Personnel	Personnel Commuting
4.	Heating	Heating
5.	Emergency Generator	Emergency Generator

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Weber
Regulatory Area(s): Salt Lake City, UT; NOT IN A REGULATORY AREA; Ogden, UT; Northern Wasatch Front, UT

- Activity Title: LMTF Propellant Loading Facility

- Activity Description:

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Under Alternative 1, the DAF would construct a 30,000-square-foot PLF as described by the Proposed Action. The main entrance to the PLF would be on the south side of the new building. The PLF would be constructed using base standards and applicable materials. Exterior would be built to allow for vehicle parking and egress from the area.

- Activity Start Date
Start Month: 1
Start Month: 2030

- Activity End Date
Indefinite: False
End Month: 4
End Month: 2030

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.494007
SO_x	0.005366
NO_x	2.430888
CO	2.078257

Pollutant	Total Emissions (TONs)
PM 10	0.160627
PM 2.5	0.071479
Pb	0.000000
NH_3	0.078076

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Total Emissions (TONs)
CH_4	0.040825
N_2O	0.190080

Pollutant	Total Emissions (TONs)
CO_2	1429.891582
CO_2e	1481.404790

2.1 Trenching/Excavating Phase

2.1.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2030

- Phase Duration
Number of Month: 0
Number of Days: 7

2.1.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 0
Amount of Material to be Hauled On-Site (yd^3): 1000000
Amount of Material to be Hauled Off-Site (yd^3): 0

- Trenching Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8

Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.32773	0.00543	3.29655	4.18960	0.06618	0.06088
Other General Industrial Equipmen Composite [HP: 35] [LF: 0.34]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.37673	0.00543	3.37962	4.52183	0.06409	0.05896
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.16638	0.00489	1.67562	3.49929	0.04010	0.03689

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02385	0.00477	588.06593	590.08402
Other General Industrial Equipmen Composite [HP: 35] [LF: 0.34]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02384	0.00477	587.81454	589.83177
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02147	0.00429	529.26401	531.08031

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.26003	0.00199	0.09362	3.17543	0.02124	0.00776	0.04495
LDGT	0.20996	0.00261	0.13107	2.87699	0.02271	0.00886	0.03741
HDGV	0.55462	0.00580	0.40908	7.07237	0.04705	0.02337	0.08207
LDDV	0.11752	0.00122	0.14779	6.24280	0.02275	0.00813	0.01671
LDDT	0.10939	0.00119	0.16580	2.37677	0.02097	0.00775	0.01559
HDDV	0.09303	0.00403	1.89281	1.41030	0.13570	0.05690	0.06887
MC	2.37795	0.00276	0.74929	11.33662	0.03087	0.02126	0.05547

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01316	0.00453	287.69372	289.26155

LDGT	0.01343	0.00641	377.62219	379.69563
HDGV	0.03723	0.02142	837.18500	843.90355
LDDV	0.06206	0.00067	361.88717	363.80179
LDDT	0.03781	0.00098	354.50515	355.82311
HDDV	0.03346	0.16927	1203.33768	1249.13023
MC	0.09671	0.00291	394.54849	398.02871

2.1.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Building Construction Phase

2.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 2
Start Year: 2030

- Phase Duration
Number of Month: 3
Number of Days: 10

2.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 30000
Height of Building (ft): 30
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 30

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.17757	0.00487	1.43048	1.60436	0.06071	0.05586
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.20295	0.00487	1.90940	3.56552	0.06421	0.05907
Generator Sets Composite [HP: 14] [LF: 0.74]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.53313	0.00793	4.26652	2.84009	0.16628	0.15298
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.16638	0.00489	1.67562	3.49929	0.04010	0.03689
Welders Composite [HP: 46] [LF: 0.45]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.37186	0.00735	3.27306	4.38692	0.04548	0.04184

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02140	0.00428	527.61055	529.42117
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02138	0.00428	527.07594	528.88473
Generator Sets Composite [HP: 14] [LF: 0.74]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02305	0.00461	568.32000	570.27033
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02147	0.00429	529.26401	531.08031
Welders Composite [HP: 46] [LF: 0.45]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02305	0.00461	568.30087	570.25114

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.26003	0.00199	0.09362	3.17543	0.02124	0.00776	0.04495
LDGT	0.20996	0.00261	0.13107	2.87699	0.02271	0.00886	0.03741
HDGV	0.55462	0.00580	0.40908	7.07237	0.04705	0.02337	0.08207

LDDV	0.11752	0.00122	0.14779	6.24280	0.02275	0.00813	0.01671
LDDT	0.10939	0.00119	0.16580	2.37677	0.02097	0.00775	0.01559
HDDV	0.09303	0.00403	1.89281	1.41030	0.13570	0.05690	0.06887
MC	2.37795	0.00276	0.74929	11.33662	0.03087	0.02126	0.05547

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01316	0.00453	287.69372	289.26155
LDGT	0.01343	0.00641	377.62219	379.69563
HDGV	0.03723	0.02142	837.18500	843.90355
LDDV	0.06206	0.00067	361.88717	363.80179
LDDT	0.03781	0.00098	354.50515	355.82311
HDDV	0.03346	0.16927	1203.33768	1249.13023
MC	0.09671	0.00291	394.54849	398.02871

2.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Architectural Coatings Phase

2.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 4
Start Quarter: 1
Start Year: 2030

- Phase Duration
Number of Month: 0
Number of Days: 7

2.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 30000
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.26003	0.00199	0.09362	3.17543	0.02124	0.00776	0.04495
LDGT	0.20996	0.00261	0.13107	2.87699	0.02271	0.00886	0.03741
HDGV	0.55462	0.00580	0.40908	7.07237	0.04705	0.02337	0.08207
LDDV	0.11752	0.00122	0.14779	6.24280	0.02275	0.00813	0.01671
LDDT	0.10939	0.00119	0.16580	2.37677	0.02097	0.00775	0.01559
HDDV	0.09303	0.00403	1.89281	1.41030	0.13570	0.05690	0.06887
MC	2.37795	0.00276	0.74929	11.33662	0.03087	0.02126	0.05547

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01316	0.00453	287.69372	289.26155
LDGT	0.01343	0.00641	377.62219	379.69563
HDGV	0.03723	0.02142	837.18500	843.90355
LDDV	0.06206	0.00067	361.88717	363.80179
LDDT	0.03781	0.00098	354.50515	355.82311
HDDV	0.03346	0.16927	1203.33768	1249.13023
MC	0.09671	0.00291	394.54849	398.02871

2.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2.4 Paving Phase

2.4.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 4
Start Quarter: 4
Start Year: 2030

- Phase Duration
Number of Month: 0
Number of Days: 7

2.4.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 12000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.55254	0.00854	4.19486	3.25471	0.16262	0.14961
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.19614	0.00486	2.13448	3.42423	0.08701	0.08005

Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.46682	0.00542	3.46037	4.06488	0.11860	0.10911
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Emission Factors	0.16638	0.00489	1.67562	3.49929	0.04010	0.03689

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02313	0.00463	570.18325	572.13997
Pavers Composite [HP: 81] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02133	0.00427	525.84285	527.64741
Rollers Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02382	0.00476	587.11055	589.12536
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02147	0.00429	529.26401	531.08031

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.26003	0.00199	0.09362	3.17543	0.02124	0.00776	0.04495
LDGT	0.20996	0.00261	0.13107	2.87699	0.02271	0.00886	0.03741
HDGV	0.55462	0.00580	0.40908	7.07237	0.04705	0.02337	0.08207
LDDV	0.11752	0.00122	0.14779	6.24280	0.02275	0.00813	0.01671
LDDT	0.10939	0.00119	0.16580	2.37677	0.02097	0.00775	0.01559
HDDV	0.09303	0.00403	1.89281	1.41030	0.13570	0.05690	0.06887
MC	2.37795	0.00276	0.74929	11.33662	0.03087	0.02126	0.05547

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01316	0.00453	287.69372	289.26155
LDGT	0.01343	0.00641	377.62219	379.69563
HDGV	0.03723	0.02142	837.18500	843.90355
LDDV	0.06206	0.00067	361.88717	363.80179
LDDT	0.03781	0.00098	354.50515	355.82311
HDDV	0.03346	0.16927	1203.33768	1249.13023
MC	0.09671	0.00291	394.54849	398.02871

2.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower

LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560 / 2000$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / $acre)^2$ / acre)
2000: Conversion Factor square pounds to TONs (2000 lb / TON)

3. Personnel

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

3.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Weber
Regulatory Area(s): Salt Lake City, UT; NOT IN A REGULATORY AREA; Ogden, UT; Northern Wasatch Front, UT

- Activity Title: Personnel Commuting

- Activity Description:
Commuting to LMTF Propellant Facility

- Activity Start Date
Start Month: 5
Start Year: 2030

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.023195
SO_x	0.000204
NO_x	0.011079
CO	0.270867

Pollutant	Emissions Per Year (TONs)
PM 10	0.001919
PM 2.5	0.000746
Pb	0.000000
NH_3	0.003486

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.001288
N_2O	0.000484

Pollutant	Emissions Per Year (TONs)
CO_2	29.593003
CO_2e	29.757146

3.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 0
Civilian Personnel: 15
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

3.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

3.4 Personnel Emission Factor(s)

- On Road Vehicle Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.26003	0.00199	0.09362	3.17543	0.02124	0.00776	0.04495
LDGT	0.20996	0.00261	0.13107	2.87699	0.02271	0.00886	0.03741
HDGV	0.55462	0.00580	0.40908	7.07237	0.04705	0.02337	0.08207
LDDV	0.11752	0.00122	0.14779	6.24280	0.02275	0.00813	0.01671
LDDT	0.10939	0.00119	0.16580	2.37677	0.02097	0.00775	0.01559
HDDV	0.09303	0.00403	1.89281	1.41030	0.13570	0.05690	0.06887
MC	2.37795	0.00276	0.74929	11.33662	0.03087	0.02126	0.05547

- On Road Vehicle Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01316	0.00453	287.69372	289.26155
LDGT	0.01343	0.00641	377.62219	379.69563
HDGV	0.03723	0.02142	837.18500	843.90355
LDDV	0.06206	0.00067	361.88717	363.80179
LDDT	0.03781	0.00098	354.50515	355.82311
HDDV	0.03346	0.16927	1203.33768	1249.13023
MC	0.09671	0.00291	394.54849	398.02871

3.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

4. Heating

4.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Weber
Regulatory Area(s): Salt Lake City, UT; NOT IN A REGULATORY AREA; Ogden, UT; Northern Wasatch Front, UT

- Activity Title: Heating

- Activity Description:

- Activity Start Date
Start Month: 5
Start Year: 2030

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.005453
SO_x	0.000595
NO_x	0.099143
CO	0.083280

Pollutant	Emissions Per Year (TONs)
PM 10	0.007535
PM 2.5	0.007535
Pb	0.000000
NH_3	0.000000

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.002241
N_2O	0.002241

Pollutant	Emissions Per Year (TONs)
CO_2	118.990266
CO_2e	119.646770

4.2 Heating Assumptions

- Heating
Heating Calculation Type: Heat Energy Requirement Method

- Heat Energy Requirement Method
Area of floorspace to be heated (ft^2): 30000
Type of fuel: Natural Gas
Type of boiler/furnace: Industrial (10 - 99 MMBtu/hr)
Heat Value ($MMBtu/ft^3$): 0.00105
Energy Intensity ($MMBtu/ft^2$): 0.0694

- Default Settings Used: Yes

- Boiler/Furnace Usage
Operating Time Per Year (hours): 900 (default)

4.3 Heating Emission Factor(s)

- Heating Criteria Pollutant Emission Factors (lb/1000000 scf)

VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3
5.5	0.6	100	84	7.6	7.6		

- Heating Greenhouse Gasses Pollutant Emission Factors (lb/1000000 scf)

CH_4	N_2O	CO_2	CO_2e
2.26	2.26	120019	120143

4.4 Heating Formula(s)

- Heating Fuel Consumption ft^3 per Year
FC_{HER}= HA * EI / HV / 1000000

FC_{HER}: Fuel Consumption for Heat Energy Requirement Method
HA: Area of floorspace to be heated (ft^2)
EI: Energy Intensity Requirement ($MMBtu/ft^2$)
HV: Heat Value ($MMBTU/ft^3$)
1000000: Conversion Factor

- Heating Emissions per Year
HE_{POL}= FC * EF_{POL} / 2000

HE_{POL}: Heating Emission Emissions (TONs)
FC: Fuel Consumption
EF_{POL}: Emission Factor for Pollutant
2000: Conversion Factor pounds to tons

5. Emergency Generator

5.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Weber
Regulatory Area(s): Salt Lake City, UT; NOT IN A REGULATORY AREA; Ogden, UT; Northern Wasatch Front, UT

- Activity Title: Emergency Generator

- Activity Description:

- Activity Start Date

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Start Month: 5
Start Year: 2030

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.005650
SO_x	0.004759
NO_x	0.023288
CO	0.015552

Pollutant	Emissions Per Year (TONs)
PM 10	0.005083
PM 2.5	0.005083
Pb	0.000000
NH_3	0.000000

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.000094
N_2O	0.000019

Pollutant	Emissions Per Year (TONs)
CO_2	2.328750
CO_2e	2.693250

5.2 Emergency Generator Assumptions

- Emergency Generator
Type of Fuel used in Emergency Generator: Diesel
Number of Emergency Generators: 1

- Default Settings Used: Yes

- Emergency Generators Consumption
Emergency Generator's Horsepower: 135 (default)
Average Operating Hours Per Year (hours): 30 (default)

5.3 Emergency Generator Emission Factor(s)

- Emergency Generators Criteria Pollutant Emission Factor (lb/hp-hr)

VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3
0.00279	0.00235	0.0115	0.00768	0.00251	0.00251		

- Emergency Generators Greenhouse Gasses Pollutant Emission Factor (lb/hp-hr)

CH_4	N_2O	CO_2	CO_2e
0.000046297	0.000009259	1.15	1.33

5.4 Emergency Generator Formula(s)

- Emergency Generator Emissions per Year
$AE_{POL} = (NGEN * HP * OT * EF_{POL}) / 2000$

AE_{POL}: Activity Emissions (TONs per Year)
NGEN: Number of Emergency Generators
HP: Emergency Generator's Horsepower (hp)
OT: Average Operating Hours Per Year (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hp-hr)

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *Environmental Impact Analysis Process* (EIAP, 32 CFR 989); the *General Conformity Rule* (GCR, 40 CFR 93 Subpart B); and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.24a

a. Action Location:

Base: HILL AFB
State: Utah
County(s): Weber
Regulatory Area(s): Salt Lake City, UT; Northern Wasatch Front, UT; Ogden, UT; NOT IN A REGULATORY AREA

b. Action Title: Hill AFB LMTF

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2030

e. Action Description:

LMTF

f. Point of Contact:

Name: Katelyn Kopp
Title: Contractor
Organization: PHE Inc.
Email: katelyn.kopp@phe.com
Phone Number: 301.907.9078

2. Analysis: Total reasonably foreseeable net change in direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" (highest annual emissions) and "steady state" (no net gain/loss in emission stabilized and the action is fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

All emissions estimates were derived from various sources using the methods, algorithms, and emission factors from the most current *Air Emissions Guide for Air Force Stationary Sources*, *Air Emissions Guide for Air Force Mobile Sources*, and/or *Air Emissions Guide for Air Force Transitory Sources*. For greater details of this analysis, refer to the Detail ACAM Report.

____ applicable
__X__ not applicable

Conformity Analysis Summary:

2030

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Salt Lake City, UT			

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

VOC	0.517	70	No
NOx	2.520	70	No
CO	2.325		
SOx	0.009	70	No
PM 10	0.170		
PM 2.5	0.080	70	No
Pb	0.000		
NH3	0.080	70	No
Northern Wasatch Front, UT			
VOC	0.517	100	No
NOx	2.520	100	No
CO	2.325		
SOx	0.009		
PM 10	0.170		
PM 2.5	0.080		
Pb	0.000		
NH3	0.080		
Ogden, UT			
VOC	0.517		
NOx	2.520		
CO	2.325		
SOx	0.009		
PM 10	0.170	100	No
PM 2.5	0.080		
Pb	0.000		
NH3	0.080		
NOT IN A REGULATORY AREA			
VOC	0.517		
NOx	2.520		
CO	2.325		
SOx	0.009		
PM 10	0.170		
PM 2.5	0.080		
Pb	0.000		
NH3	0.080		

2031 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Salt Lake City, UT			
VOC	0.034	70	No
NOx	0.134	70	No
CO	0.370		
SOx	0.006	70	No
PM 10	0.015		
PM 2.5	0.013	70	No
Pb	0.000		
NH3	0.003	70	No
Northern Wasatch Front, UT			
VOC	0.034	100	No
NOx	0.134	100	No
CO	0.370		
SOx	0.006		

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

PM 10	0.015		
PM 2.5	0.013		
Pb	0.000		
NH3	0.003		
Ogden, UT			
VOC	0.034		
NOx	0.134		
CO	0.370		
SOx	0.006		
PM 10	0.015	100	No
PM 2.5	0.013		
Pb	0.000		
NH3	0.003		
NOT IN A REGULATORY AREA			
VOC	0.034		
NOx	0.134		
CO	0.370		
SOx	0.006		
PM 10	0.015		
PM 2.5	0.013		
Pb	0.000		
NH3	0.003		

The Criteria Pollutants (or their precursors) with a General Conformity threshold listed in the table above are pollutants within one or more designated nonattainment or maintenance area/s for the associated National Ambient Air Quality Standard (NAAQS). These pollutants are driving this GCR Applicability Analysis. Pollutants exceeding the GCR thresholds must be further evaluated potentially through a GCR Determination.

The pollutants without a General Conformity threshold are pollutants only within areas designated attainment for the associated NAAQS. These pollutants have an insignificance indicator for VOC, NOx, CO, SOx, PM 10, PM 2.5, and NH3 of 250 ton/yr (Prevention of Significant Deterioration major source threshold) and 25 ton/yr for Pb (GCR de minimis value). Pollutants below their insignificance indicators are at rates so insignificant that they will not cause or contribute to an exceedance of one or more NAAQSs. These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Refer to the *Level II, Air Quality Quantitative Assessment Insignificance Indicators* for further details.

None of the annual net change in estimated emissions associated with this action are above the GCR threshold values established at 40 CFR 93.153 (b); therefore, the proposed Action has an insignificant impact on Air Quality and a General Conformity Determination is not applicable.

Katelyn Kopp, Contractor — Oct 22 2025

Name, Title — **Date**