



Hill Air Force Base, Utah

Proposed Final

**Environmental Assessment:
Proposed Infrastructure
to Support East Airfield Expansion
Hill Air Force Base, Utah**

April 28, 2003

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to Support East Airfield Expansion
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Contract GS35F0065J, Order #02RT0908

**General Services Administration, and Department of the Air Force
Air Force Materiel Command
Hill Air Force Base, Utah 84056**

April 28, 2003

Prepared in accordance with the Department of the Air Force Environmental Impact Analysis Process (EIAP) 32 CFR Part 989, Effective July 6, 1999, which implements the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) regulations.

EXECUTIVE SUMMARY

Purpose and Need

The purpose of the proposed action is to accommodate current US Air Force missions by constructing power transmission facilities and vehicular access to the C-130 hangar area on Hill AFB. The power transmission facilities would consist of an above ground power line, a substation, and a buried power line. The vehicular access would consist of widening an existing 2-lane section of road and moving an existing fence; constructing new roadway and fence; and constructing a guard shack for a new east gate on Hill AFB.

The proposed east airfield expansion infrastructure is needed to accommodate three previously approved C-130 depot maintenance hangars. Present electrical and vehicular services are not adequate for the new hangars.

Scope of Review

No cultural and/or historical resources were identified within the area of the proposed action on Hill AFB property. No species of plants or animals listed as endangered, threatened, or sensitive by state or federal agencies were observed in or around the proposed excavation area, and no suitable habitat for any such species is likely to be disturbed by the project. No hazardous waste is expected to be generated by the project, but accidental spills of fuel, lubricants, or other chemicals during construction could occur.

The issues that were identified and analyzed in the document are: air quality, solid and hazardous wastes, physical environment (surface soils and groundwater), and biological resources. Environmental effects of the no action alternative were also considered.

Selection Criteria

The future configuration of the east airfield infrastructure at Hill AFB should provide adequate electrical service; provide convenient vehicular access; and be protective of facilities, human health, and the environment.

Proposed Action

Proposed Action - The proposed action includes all work necessary to develop power transmission facilities and vehicular access to the C-130 hangar area on Hill AFB. The power transmission facilities would consist of an above ground power line, a substation, and a buried power line. The vehicular access would consist of widening an existing 2-lane section of road and moving an existing fence; constructing new roadway and fence; and constructing a guard shack for a new east gate on Hill AFB.

No Action Alternative – Under the no action alternative, Hill AFB would not be able to supply electrical power to the C-130 hangars. Vehicular traffic bound to or from the east airfield area would be constrained to use existing Hill AFB gates, causing additional traffic congestion at gates that are already, at times, used to capacity.

Additional Alternatives - Hill AFB planners and engineers evaluated several alternative locations for constructing the required electrical service and vehicular access facilities. These alternatives were not retained for detailed consideration due to issues such as capacity of existing electrical utilities, negative impact on airfield operations, the extent of the airfield south clear zone, traffic safety, and capacity of intersections.

Results of the Environmental Assessment

The proposed action and the no action alternative were both considered in detail. The proposed action could be implemented with minor short-term environmental impacts such as air emissions and disturbing vegetation during construction activities. Following the construction phase, revegetation of portions of the site to prevent erosion may improve those parts of the site, if planted with a diverse mix of native species. Generation of hazardous waste would not be anticipated; however, waste management plans and adequate spill response resources exist should the need arise. No long-term environmental impacts are expected.

There are no environmental impacts associated with the no action alternative. The no action alternative would not provide adequate electrical service or provide convenient vehicular access.

COMPARISON OF ALTERNATIVES

Issue	<u>Proposed Action</u> Construct the East Airfield Infrastructure Facilities	<u>No Action</u> Do Not Construct the Facilities
Air Quality	Temporary construction-related emissions.	No impact.
Solid and Hazardous Wastes	Would not be generated. No impact (accidental spills to be remediated).	No impact.
Surface Soils	Construction-related erosion control measures may be required.	No impact.
Groundwater	No impact (contaminated groundwater is below the maximum depth of excavation).	No impact.
Biological Resources	Revegetation with native species may improve conditions at the site.	No impact.

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LIST OF ACRONYMS AND CHEMICAL TERMS

AFB	Air Force Base
bgs	Below Ground Surface
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DAQ	Utah Division of Air Quality
DWQ	Utah Division of Water Quality
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
FONSI	Finding of No Significant Impact
IRP	Installation Restoration Program
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO _x	Oxides of Nitrogen
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PM-10	Particulates Smaller Than 10 Microns in Diameter
RCRA	Resource Conservation and Recovery Act
SO ₂	Sulfur Dioxide
UAC	Utah Administrative Code
USAF	United States Air Force
UST	Underground Storage Tank
VOC	Volatile Organic Compound

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

Hill Air Force Base (AFB) is an air logistics center that maintains aircraft, missiles, and munitions for the United States Air Force (USAF). In support of that mission, Hill AFB provides worldwide engineering and logistics management for the F-16 fighter aircraft, and maintains both F-16 and C-130 aircraft. Maintenance operations for the C-130 aircraft include both general repair, painting, and depainting operations.

Hill AFB has received all necessary approvals for construction of three depot maintenance hangars, which will expand C-130 workload capacity to meet both current and projected demand. Military construction project number KRSM 993013A is currently underway, to construct the first phase of the approved C-130 hangars.

1.2 Purpose and Need

The purpose of the proposed action is to accommodate current USAF missions by constructing power transmission facilities and vehicular access to the C-130 hangar area on Hill AFB. The power transmission facilities would consist of an above ground power line, a substation, and a buried power line. The vehicular access would consist of widening an existing 2-lane section of road and moving an existing fence; constructing new roadway and fence; and constructing a guard shack for a new east gate on Hill AFB.

The proposed east airfield expansion infrastructure is needed to accommodate the three previously approved C-130 depot maintenance hangars. Present electrical and vehicular services are not adequate for the new hangars.

1.3 Location of the Proposed Action

Hill AFB is located approximately twenty five miles north of downtown Salt Lake City and 7 miles south of downtown Ogden, Utah (Figure 1). Hill AFB is surrounded by several communities: Roy and Riverdale to the north; South Weber to the northeast; Layton to the south; and Clearfield, Sunset, and Clinton to the west. The base lies primarily in northern Davis County with a small portion located in southern Weber County.

The proposed east airfield expansion infrastructure is located in the eastern portion of the base (Figure 2), just inside the base property. Current Hill AFB land use in the vicinity of the proposed facilities (Figures 3 and 4) consists of open grassy areas, with some trees along the proposed roadway.

1.4 Scope of the Environmental Review and Anticipated Environmental Issues

The scope of this environmental review is to analyze environmental concerns related to constructing an overhead power line, substation, and buried power line; widening an existing 2-lane section of road and moving an existing fence; constructing new roadway and fence; and constructing a guard shack. Related utilities to be provided are telephone and electric service to the guard shack. No existing utilities would be impacted. No hazardous wastes are expected to be generated by the operating facilities. Solid wastes may be generated, and hazardous wastes could be generated if a spill of fuel, lubricants, or construction-related chemicals occurs during construction activities.

No cultural and/or historical resources are known to exist within the boundaries of the proposed action on Hill AFB property (personal communication, Ms. Jaynie Hirschi).

No species of plants or animals listed as endangered, threatened, or sensitive by state or federal agencies were observed in or around the proposed project area, and no suitable habitat for any such species is likely to be disturbed by the project.

No surface water resources exist within the area of the proposed action. Hill AFB conducts groundwater monitoring of the shallow, unconfined aquifer within the area of the proposed action. Contamination has been detected in wells in the vicinity of the proposed power facilities. The measured depth to groundwater near the proposed action is approximately 20-30 feet below ground surface (bgs) in the vicinity of the proposed power facilities (e-mail, Jeff Watkins), and approximately 15-37 feet bgs in the vicinity of the proposed vehicular access (e-mail, Sheri Rolfsness).

The issues that have been identified for detailed consideration and are therefore presented in Sections 3 and 4 are: air quality, solid and hazardous wastes, physical environment (surface soils and groundwater), and biological resources. Environmental effects of the proposed action and the no action alternative were both considered.

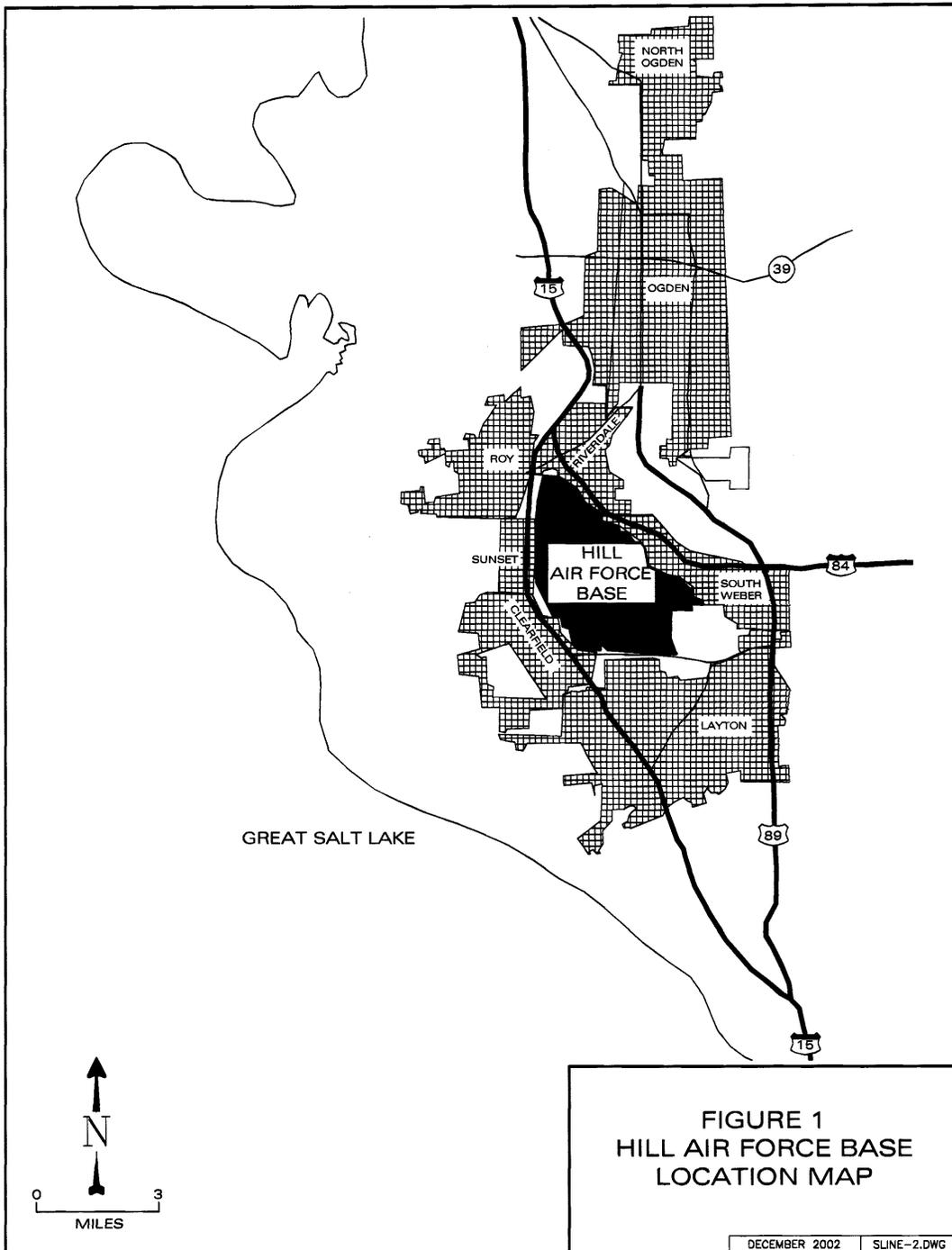


Figure 1: Hill AFB Location Map

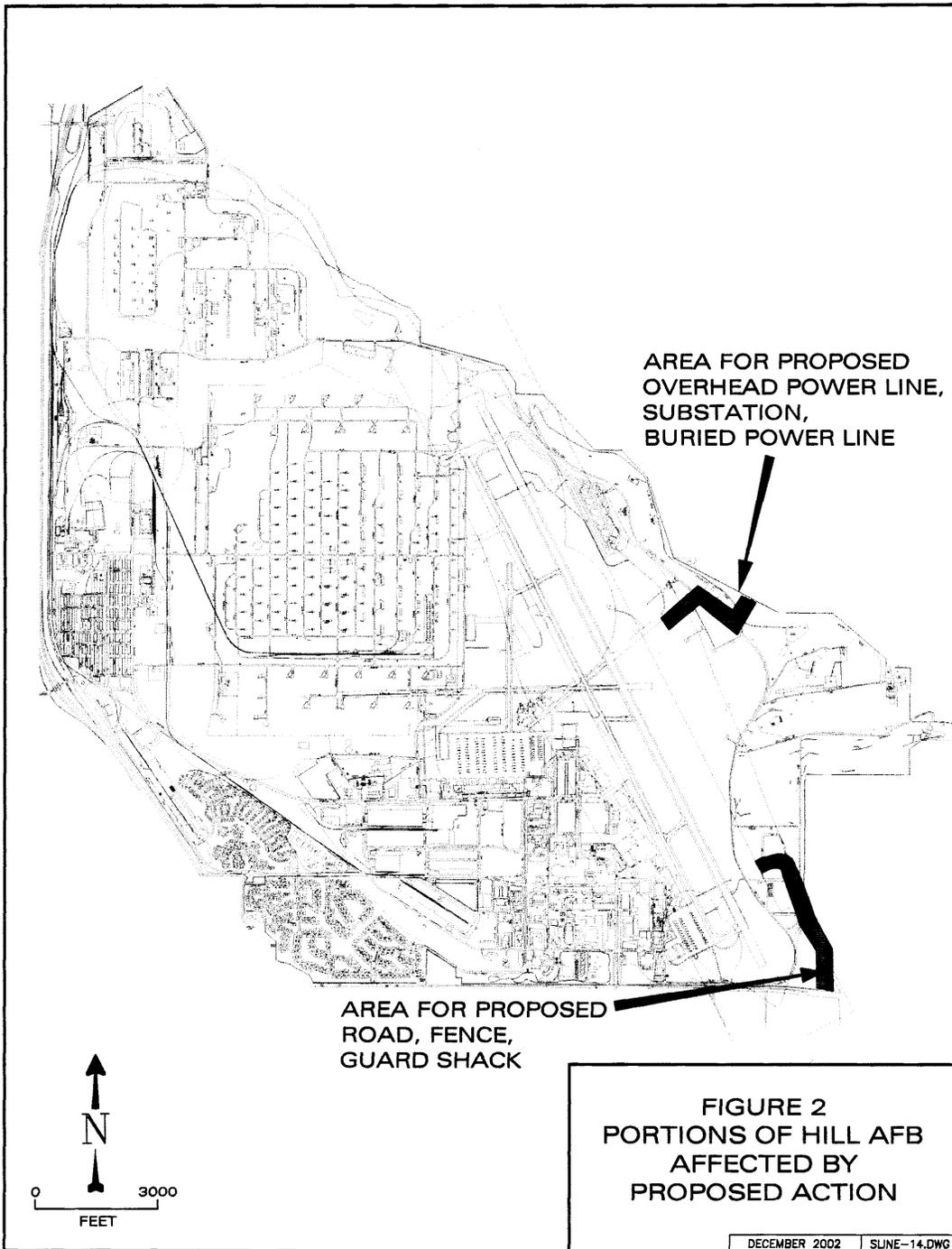


Figure 2: Portions of Hill AFB Affected by Proposed Action

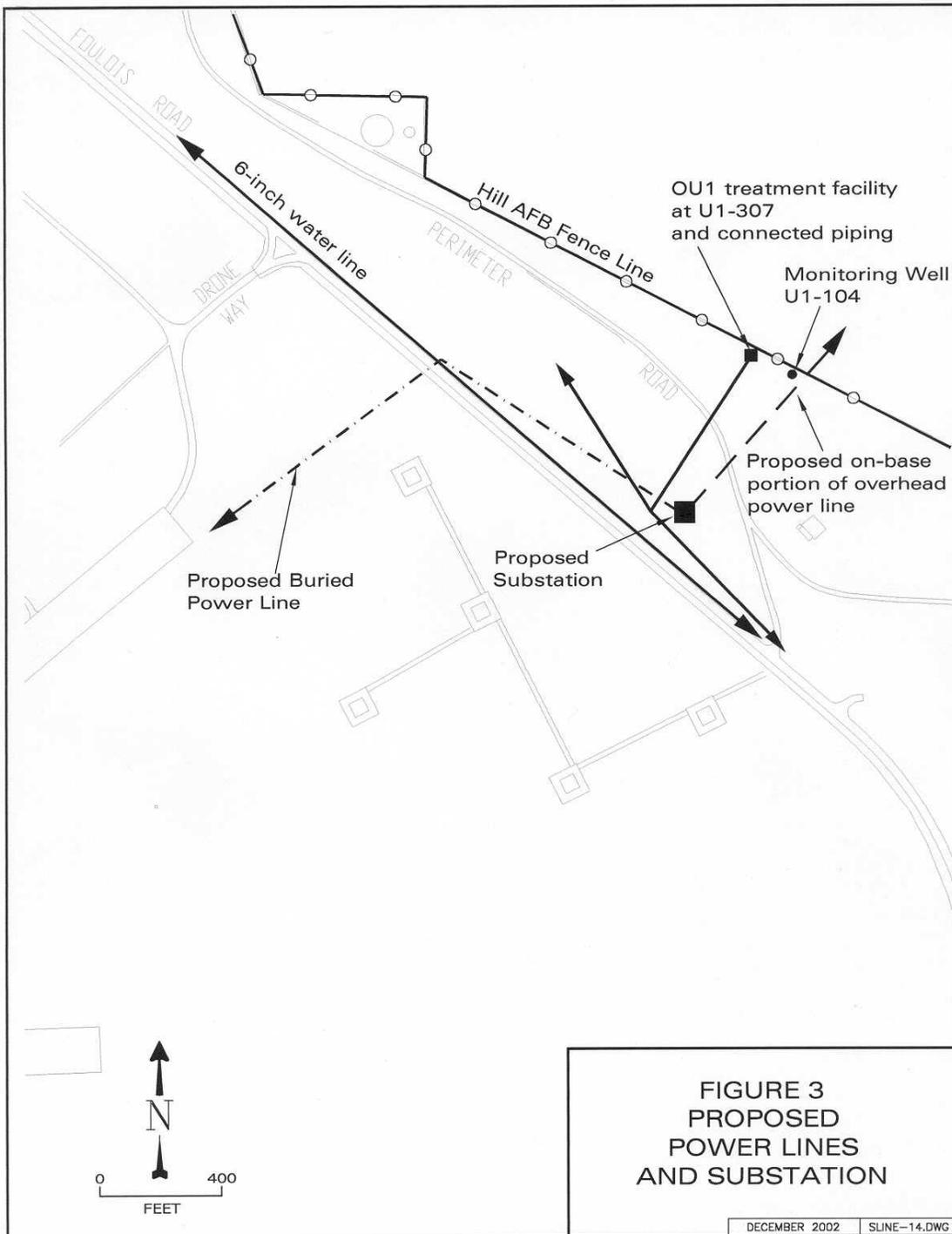


Figure 3: Proposed Power Lines and Substation

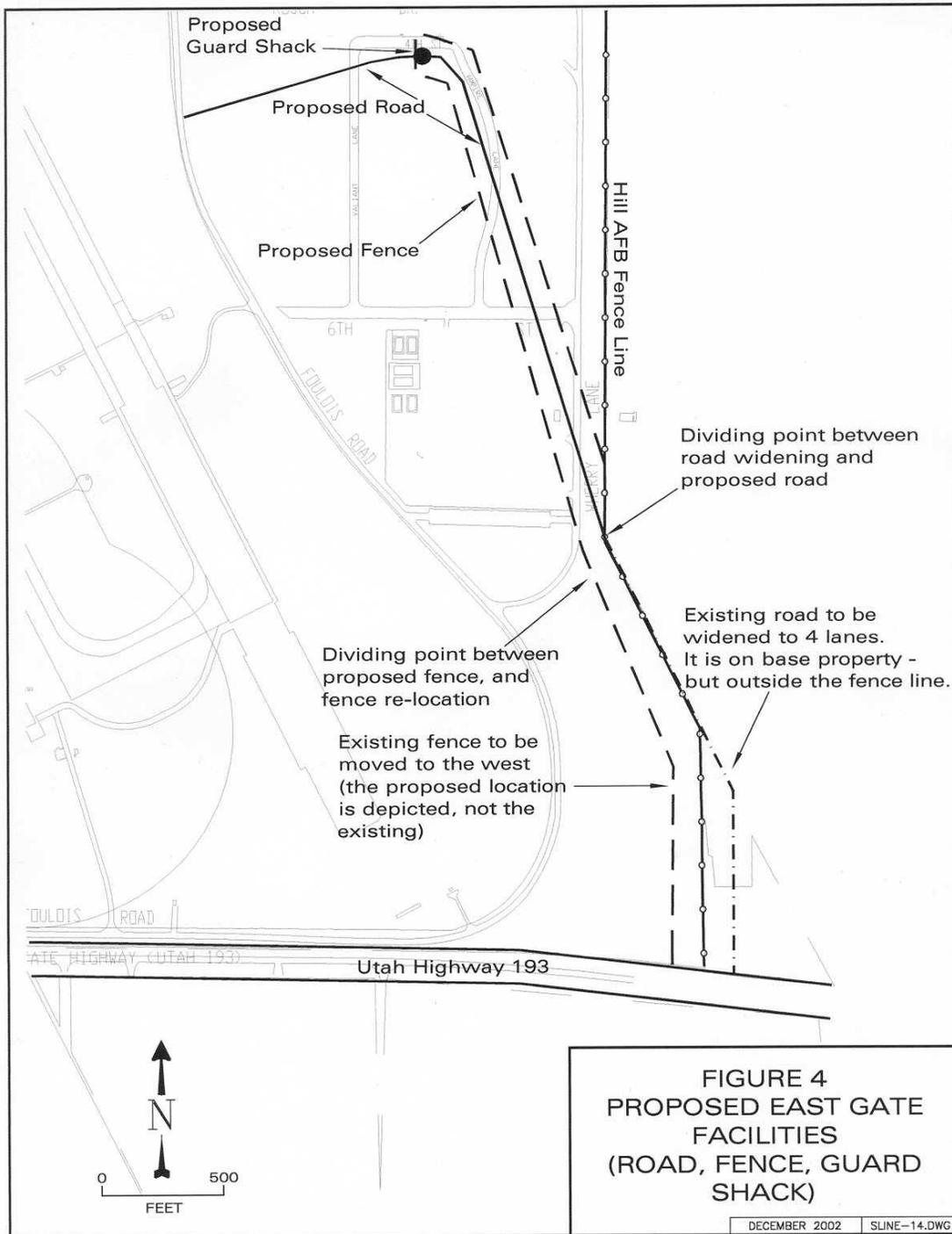


Figure 4: Proposed East Gate Facilities

1.5 Applicable Regulations and Permits

Any outgranting easement or lease of Air Force property must be accomplished in accordance with Air Force Instruction 32-9003.

Throughout the construction phase of the project, Hill AFB personnel and their contractors would follow safety guidelines of the Occupational Safety and Health Administration (OSHA) as presented in the *Code of Federal Regulations* (CFR) for trenching, Title 29 Part 1926 Subpart P, and power distribution, 29 CFR 1926 Subpart V.

No air emissions would be produced by the operating facilities. Air emissions generated by construction activities must be addressed in accordance with Utah's State Implementation Plan, which complies with the Clean Air Act's General Conformity Rule, Section 176 (c). A conformity analysis was conducted for this proposed action as specified by "*Determining Conformity of Federal Actions to State or Federal Implementation Plans*," 40 CFR 93, revised July 1, 1998 (see Sections 3.1 and 4.1 of this document). The contractor would be required to have a water truck on site as needed during especially dry and windy weather for the purpose of dust suppression.

Hill AFB would require two weeks' notice prior to any construction activities resulting from the proposed action or other selected on-base alternative. Hill AFB would provide an archaeologist to observe the excavation for unearthing of any cultural and/or historical resources. If any resources were to be identified, construction would be required to proceed in such a fashion that adverse affects to those resources were mitigated. Hill AFB would also provide utility clearance prior to excavation activities.

The requirements of the Utah Water Quality Act (consistent with the federal Clean Water Act) related to construction impacts to surface waters are incorporated into section R317-8 of the *Utah Administrative Code* (UAC). Construction dewatering projects require review from Utah's Division of Water Quality (DWQ). If construction were to begin prior to March 10, 2003, and if the project would disturb an aggregate of 5 acres or more or require dewatering, a construction stormwater permit from DWQ would be required. Construction projects that disturb greater than or equal to 1 acre and less than 5 acres must be covered under the general stormwater construction permit effective March 10, 2003 (<http://www.deq.state.ut.us/EQWQ/updes/stormwater.htm>).

The proposed construction is not expected to generate any wastes that are regulated by the Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act, or similar law. Hazardous wastes at Hill AFB are routinely and properly handled in accordance with RCRA regulations, Utah hazardous waste management regulations contained in the UAC Section R315-1, and the *Hill AFB Hazardous Waste Management Plan*. These regulations control hazardous waste from its origin and storage to ultimate treatment, and/or disposal. In Utah, the above regulations are enforced by the Utah Division of Solid and Hazardous Waste.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This section describes selection criteria, the proposed action, and the no action alternative.

2.1 Selection Criteria

As discussed in Section 1.1, Hill AFB has received all necessary approvals for construction of three depot maintenance hangars for C-130 aircraft. Military construction project number KRSM 993013A is currently underway, to construct the first phase of the approved C-130 hangars. The depot maintenance hangars will require electrical service, and vehicular access. Due to these considerations, the following selection criteria were established. The future configuration of the east airfield infrastructure at Hill AFB should:

- provide adequate electrical service;
- provide convenient vehicular access; and
- be protective of facilities, human health, and the environment.

2.2 Proposed Action: Construct the East Airfield Infrastructure Facilities

The proposed action includes all work necessary to develop power transmission facilities and vehicular access to the C-130 hangar area on Hill AFB. An additional benefit of the proposed action would be adding a new substation to Hill AFB, which would be a redundant source of power when existing substations experience outages. The power transmission facilities would consist of an above ground power line, a substation, and a buried power line (Figure 3). The vehicular access would consist of widening an existing 2-lane section of road and moving an existing fence; constructing new roadway and fence; and constructing a guard shack for a new east gate on Hill AFB (Figure 4).

The power facilities would require less than 0.2 acres of ground disturbance (4,000 linear feet of trench at a width of 3 feet or less, and under 1,000 square feet for the substation pads). The road and guard shack would disturb approximately 7 acres (5,000 linear feet at an assumed width of 60 feet, and the guard shack to reside within the same footprint). Power poles would be installed with augers, and fencing would be installed using either augers or slide hammers.

The deepest point of excavation would be 10 feet bgs at the location of the power pole to be placed adjacent to the substation. The remainder of the facilities would be constructed by excavating 7 feet of soil or less. While open, the sides of any excavations would be sloped at 1.5 horizontal to 1.0 vertical or other such angle as approved by the design and geotechnical engineering contractors. The construction contractor would restore all impacted surfaces to their original condition.

The environmental impacts of the proposed action are summarized in Section 4.5 of this document, and are discussed at greater length throughout Section 4 of this document.

2.3 No Action Alternative: Do Not Construct the Facilities

The no action alternative does not meet the selection criteria to provide adequate electrical service or to provide convenient vehicular access. However, the framework of an environmental assessment requires that the no action alternative must be considered even if it does not meet all of the selection criteria.

Under the no action alternative, Hill AFB would not be able to supply electrical power to the C-130 hangars. Vehicular traffic bound to or from the east airfield area would be constrained to use existing Hill AFB gates, causing additional traffic congestion at gates that are already, at times, used to capacity.

The environmental impacts of the no action alternative are summarized in Section 4.5 of this document, and are discussed at greater length throughout Section 4 of this document.

2.4 Identification Of Alternatives Eliminated From Further Consideration

Hill AFB planners and engineers evaluated several alternative locations for constructing the required electrical service and vehicular access facilities. These alternatives and the reasons they were not retained for detailed consideration are presented in this section.

Electrical Substation 2 is located near the northwest corner of Hill AFB. This substation is currently operating at or over its design capacity. One electrical fire has already occurred at this substation due to capacity overloads. Even if Electrical Substation 2 were to be reconstructed to supply the required capacity, the length of required power lines to reach the C-130 depot maintenance hangars would exceed 3 miles. For these reasons, routing power from electrical Substation 2 was eliminated from further consideration.

Providing electrical service from any of the other local substations would require crossing the Hill AFB runway area. Because this approach would be logistically difficult, and because it may have a severe negative impact on airfield operations during construction of the required underground power lines, routing power from the west side of the airfield was eliminated from further consideration.

Two potential alternatives were evaluated for providing the required vehicular access. Hill AFB planners considered constructing a gate near the southeast corner of the base, along Utah Highway 193, and routing traffic north toward existing Foulois Road. This alignment would encroach upon the airfield south clear zone, and was eliminated for safety reasons.

The other potential alternative was to improve and re-open the Hill AFB north gate to the community of Riverdale. In this case, routing large trucks and commuter vehicles through a residential area was considered to present both safety hazards and nuisance concerns. Just as important, however, was the assessment by base planners that severe congestion would exist for commuters at the existing south gate during afternoon departure hours. Even if half of the expected 1,000 or more vehicles per day departed

using the north gate, traffic analyses indicate the south gate would not be able to accommodate 500 additional vehicles per afternoon attempting to exit from Foulis Road.

3.0 EXISTING ENVIRONMENT

3.1 Air Quality

Hill AFB is located in Davis and Weber Counties, Utah. Neither county is in complete attainment status with federal clean air standards (Figure 4). Nonattainment areas fail to meet national ambient air quality standards (NAAQS) for one or more of the criteria pollutants: oxides of nitrogen (NO_x), sulfur dioxide (SO₂), ozone (O₃), particulates less than 10 microns in diameter (PM-10), carbon monoxide (CO), and lead. Davis County was upgraded from an ozone non-attainment area to a maintenance area, effective 1997. Current status according to the Utah Division of Air Quality (DAQ 2002) for the City of Ogden in Weber County (approximately 7 miles north of the proposed action) is designation as a non-attainment area for PM-10 and a maintenance area for CO.

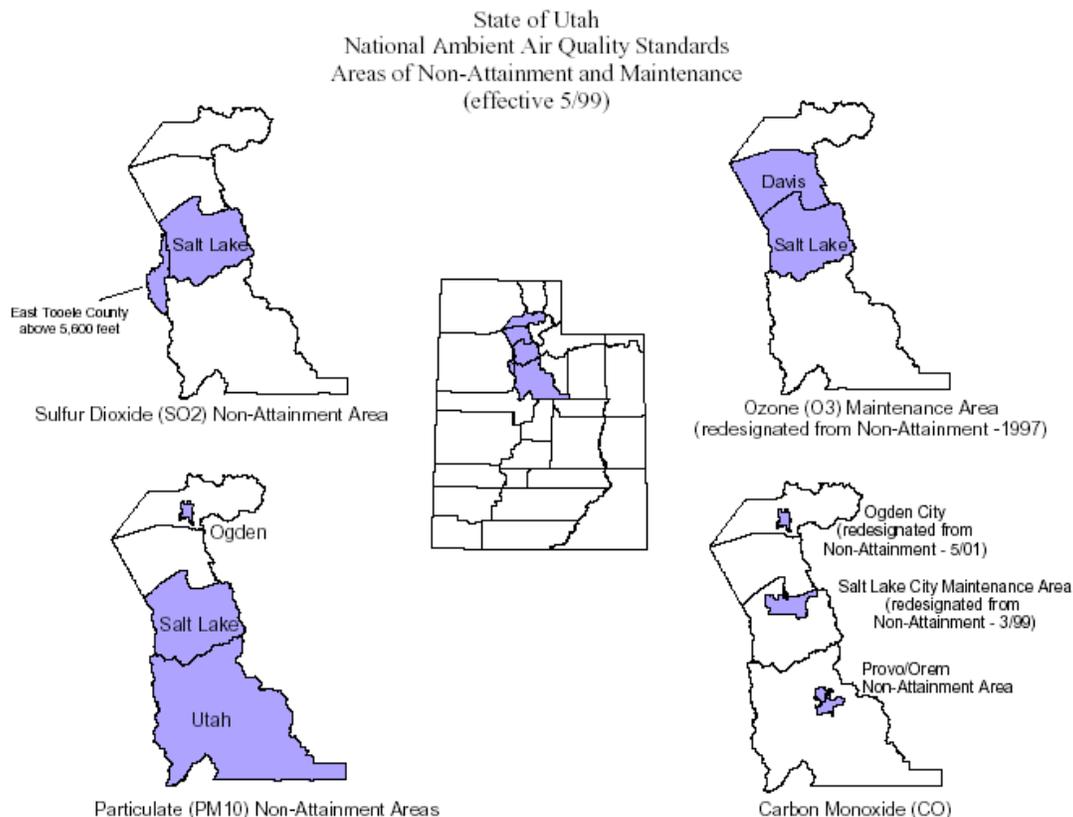


Figure 5: State of Utah National Ambient Air Quality Standards, Areas of Non-Attainment and Maintenance (Effective 5/99)

The current air quality trend at Hill AFB is one of controlling emissions as Hill AFB managers implement programs to eliminate ozone-depleting substances, limit use of volatile organic compounds (VOCs), install VOC emission control equipment for painting operations, switch to lower vapor pressure solvents and aircraft fuel, convert internal combustion engines from gasoline and diesel to natural gas, and improve the capture of particulates during painting and abrasive blasting operations (in compliance with the base's Title V air quality permit).

3.2 Solid and Hazardous Wastes

In general, hazardous wastes include substances that, because of their concentration, physical, chemical, or other characteristics, may present substantial danger to public health or welfare or to the environment when released into the environment or otherwise improperly managed. Hazardous wastes generated at Hill AFB are managed as specified in the *Hill AFB Hazardous Waste Management Plan* with oversight by personnel from the Environmental Management Directorate and the Defense Reutilization and Marketing Office. Hazardous wastes at Hill AFB are properly stored during characterization, and then manifested and transported off site for treatment and/or disposal.

There are no solid or hazardous wastes currently being generated within or adjacent to the proposed action. There are no known sources of RCRA contamination or polychlorinated biphenyls (PCBs) in the area (personal communication, Mr. Mike Petersen). There are no known sources of underground storage tank (UST) contamination in the area (personal communication, Ms. Shannon Smith). There is no known surface contamination in the area that would be addressed by the Hill AFB installation restoration program (IRP [personal communication, Mr. Jeff Watkins, Ms. Sheri Rolfsness]).

3.3 Physical Environment

3.3.1 Surface Soils

The surface soils in the vicinity of proposed excavations are relatively flat, are sustaining a crop of native and non-native shrubs and herbaceous species, and are not eroding. A steep slope exists below the proposed overhead power line, but no power poles or other project-related construction are anticipated for this slope.

3.3.2 Groundwater

Groundwater flow in the immediate area of the proposed power facilities is toward the northeast and the Weber River valley, and depth to groundwater ranges between 20 and 30 feet bgs. In the immediate area of the proposed vehicular access, groundwater flows south toward Layton, and depth to groundwater ranges between 15 and 37 feet bgs. The Hill AFB IRP has investigated water quality in the shallow, unconfined aquifer in both areas by installing and sampling neighboring monitoring wells. Contamination has been

detected in wells in the vicinity of the proposed power facilities (Hill 2002). IRP maps do not show contamination in the vicinity of the proposed vehicular access (Hill 2002).

3.4 Biological Resources

The vegetation in the area of the proposed power facilities consists of two distinct sections with different characteristics. One section (approximately 30 percent of the total area), where the proposed disturbance would take place, consists of a mixture of native and non-native grasses and broad-leaf plants, and is located on the level bench at the southwest end of the corridor. Within this portion of the area, total vegetative cover varies from about 25 percent to about 70 percent, with a smaller area of existing roadway and bare ground. Among the grasses present are bluegrass, cheatgrass, and crested wheatgrass. Broadleaf plants include storksbill, spurge, and curly-cup gumweed. There are no shrubs present. This vegetation is impacted by periodic mowing. Overall, the condition of this vegetated area is poor, with over 50 percent of the plant community consisting of non-native, weedy species.

The other section (approximately 70 percent of the total area) is on the slope at the northeast end of the corridor. The vegetation of this area is a mixed shrub-grass community. Principal plant species in this area include crested wheatgrass (30%), big sagebrush (15%), sunflower (10%), rubber rabbitbrush (5%), squawbush (5%), and snakeweed (5%). Various forbs, including goldenrod, russian thistle, and balsamroot make up about 20% of the vegetation. About 10% of this area is bare ground or roadway. The overall condition of the vegetation in this portion of the area is fair to poor, with over 30% of the vegetative cover consisting of non-native plants.

The proposed power project site and its immediate surroundings are too small in area to provide significant habitat either for most birds or any mammals larger than small rodents (not observed). A few bird species, primarily magpies (observed), sparrows, meadowlarks (observed), and finches (american goldfinch was observed) probably feed in the area periodically. Some of the bare-ground areas would provide suitable nesting sites for killdeer, and the shrubs and grasses on the sloped area would provide nesting habitat for some songbirds.

Throughout the entire proposed roadway corridor, the vegetation is heavily impacted by past and continuing human activities. Approximately 50 percent of the proposed corridor is non-vegetated, either as pavement or bare gravel areas. The remainder is a largely non-native plant community consisting of remnant trees from old landscape plantings with an understory of mixed grasses and weedy species, which is impacted by periodic mowing.

Mostly non-native trees remaining from previous landscaping efforts are scattered through the area and along old roads and fences. Approximately 30 trees exist in the proposed roadway corridor. Tree species present include russian olive (40%), chinese elm (20%), european ash (17%), english hawthorn (thornless, 10%), lombardy poplar (7%), honey locust, crab apple, silver poplar, and fremont cottonwood. Only the

cottonwood is native to Utah. Most of the trees are fairly large, with approximate diameter at breast height ranging from 4 to 24 inches.

The vegetated understory consists of a mixture of native and non-native grasses and broad-leaf plants. Within this portion of the area, total vegetative cover varies from about 25 percent to about 70 percent. Among the grasses present are bluegrass, cheatgrass, and crested wheatgrass. Broadleaf plants include russian thistle, aster, clover, storksbill, spurge, goldenrod, and curly-cup gumweed. There are no shrubs present. This vegetation is impacted by periodic mowing. Overall, the condition of this vegetated area is poor, with over 50 percent of the plant community consisting of non-native, weedy species.

Most of the proposed roadway corridor and its surroundings are too small in area to provide significant habitat either for most birds or any mammals larger than small rodents. A number of bird species, including american kestrels, morning doves, northern flickers (observed), black-billed magpie (observed), common raven (observed), horned larks, sparrows, dark-eyed junco (observed), western meadowlark (observed), blackbirds, and finches (observed), probably feed throughout the area periodically. The trees probably provide foraging opportunities for insect and fruit-eating birds, including vireos, robins, starlings, waxwings, warblers, tanagers, and orioles (none observed). Some birds probably nest in the trees, including magpies, robins, starlings, orioles, and finches (no nests were observed). Lack of dense understory and shrubs probably limits the number of ground-nesting species using the area; however, some of the gravel areas would provide suitable nesting sites for killdeer.

No species of plants or animals listed as endangered, threatened, or sensitive by state or federal agencies were observed in or around the proposed power facilities or the proposed roadway corridor.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Air Quality

4.1.1 Impacts of the Proposed Action

No air emissions would be produced by operating the proposed facilities. The only air quality impacts of the proposed action would be related to generation of PM-10 during excavation, backfill, and general construction operations, and construction equipment emissions during the same time period.

Emissions of PM-10 would be produced as soil is disturbed during proposed construction activities. The US Environmental Protection Agency (EPA) has estimated that fugitive dust emissions from construction activities produce 0.11 tons of PM-10 per acre per month (EPA 1996). The proposed action would involve approximately 2 weeks of excavation and backfill activities for approximately 7 acres being disturbed during construction of buried power lines, substation pads, roadway, and the guard shack. Fugitive dust emissions of 0.04 tons of PM-10 were therefore calculated for the proposed action. To mitigate emissions of fugitive dust, the construction contractor would be required to have a water truck on site as needed during dry and windy weather for the purpose of dust suppression and reducing the emissions of PM-10.

The internal combustion engines of heavy equipment would also generate emissions of PM-10, VOCs, NO_x, and CO. Assumptions and estimated emissions are listed in Table 2.

Table 1: Calculated Heavy Equipment Emissions

Data Assumptions:						
Equipment Type	Diesel Emission Factor (lbs/hr)					
	SO_x	NO_x	CO	VOC	PM10	
Asphalt Truck	0.143	1.691	0.675	0.183	0.139	
Backhoe	0.182	1.89	0.572	0.291	0.172	
Bulldozer	0.348	4.166	1.794	0.257	0.165	
Concrete Truck	0.454	4.166	1.794	0.304	0.256	
Crane/Cherry Picker	0.143	1.691	0.675	0.183	0.139	
Dump Truck	0.454	4.166	1.794	0.304	0.256	
Flat Bed	0.454	4.166	1.794	0.304	0.256	
Fork Lift	0.143	1.691	0.675	0.183	0.139	
Front End Loader	0.182	1.89	0.572	0.291	0.172	
Motored Grader	0.086	0.713	0.151	0.052	0.061	
Roller/Compactor	0.143	1.691	0.675	0.183	0.139	
Scraper	0.463	3.84	1.257	0.425	0.406	
Note: VOC = Aldehydes and Hydrocarbons						
Source: Table II-7.1, AP-42						
Used Miscellaneous Eqpt. EFs for Crane, Drill Rig, Fork Lift and Roller/Compactor						
Construct Power Facilities and East Gate Vehicular Access						
EQUIPMENT TYPE	HOURS OF OPERATION	Diesel Emissions (lbs)				
		SO_x	NO_x	CO	VOC	PM10
Asphalt Truck	24	3.432	40.584	16.2	4.392	3.336
Backhoe	30	5.5	56.7	17.2	8.7	5.2
Bulldozer	60	20.9	250.0	107.6	15.4	9.9
Concrete Truck	10	4.5	41.7	17.9	3.0	2.6
Crane/Cherry Picker	36	5.1	60.9	24.3	6.6	5.0
Dump Truck	12	5.4	50.0	21.5	3.6	3.1
Flat Bed	4	1.8	16.7	7.2	1.2	1.0
Fork Lift						
Front End Loader	12	2.2	22.7	6.9	3.5	2.1
Motored Grader	6	0.5	4.3	0.9	0.3	0.4
Roller/Compactor	6	0.9	10.1	4.1	1.1	0.8
Scraper						
TOTAL ESTIMATED EMISSIONS (lbs)		50.3	553.5	223.8	47.9	33.3
TOTAL ESTIMATED EMISSIONS (tons)		0.03	0.28	0.11	0.02	0.02

Source of Hours: Discussions With Ray Worthen, P.E., Hill AFB Mechanical Engineer

Related to conformity with Utah's State Implementation Plan, and therefore the Clean Air Act's General Conformity Rule and 40 CFR 93, the proposed construction is expected to be less than 6 months in duration. Therefore, it does not require a new source review. Fugitive emissions from construction activities should be mitigated according to *Utah Administrative Code, Rule R307-205, Emission Standards: Fugitive Emissions and Fugitive Dust*. Good housekeeping practices should be used to maintain construction

opacity at less than 20 percent. Haul roads should be kept wet, and any soil that is deposited on nearby paved roads by construction vehicles should be removed from the roads and returned to the site or appropriate disposal area. Conformity was determined to exist.

4.1.2 Impacts of the No Action Alternative

There would be no air quality impacts associated with the no action alternative.

4.1.3 Cumulative Impacts

Air emissions would be temporary, only being generated during the construction period. There are no cumulative impacts to air quality associated with the proposed action. There are no cumulative air quality impacts associated with the no action alternative.

4.2 Solid and Hazardous Wastes

4.2.1 Impacts of the Proposed Action

During the proposed construction activities, no solid wastes would be generated except for minor amounts of construction debris that would be treated as uncontaminated trash. It is possible that equipment failure or a spill of fuel, lubricants, or construction-related chemicals could generate solid or hazardous wastes. In such a case, or if excavated soils exhibit suspicious odors or appearance, the following procedures would apply on Hill AFB.

Hill AFB personnel have specified procedures for handling construction-related solid and hazardous wastes in their engineering construction specifications. The procedures are stated in *Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection*. All solid non-hazardous waste is collected and disposed on a daily basis. Samples from suspect wastes are analyzed for hazardous vs. non-hazardous determination. The suspect waste is safely stored while analytical results are pending. Hazardous wastes are stored at sites operated in accordance with the requirements of 40 CFR 265. The regulations require the generator to characterize hazardous wastes with analyses or process knowledge. Hazardous wastes are eventually labeled, transported, treated, and disposed in accordance with federal and state regulations.

4.2.2 Impacts of the No Action Alternative

With respect to solid and hazardous wastes, the no action alternative has no impacts.

4.2.3 Cumulative Impacts

Proper handling of solid and hazardous wastes eliminates releases of contaminants to the environment. There are no cumulative solid or hazardous waste impacts associated with the proposed action. There are no cumulative solid or hazardous waste impacts associated with the no action alternative.

4.3 Physical Environment

4.3.1 Surface Soils

4.3.1.1 Impacts of the Proposed Action

Near surface soils may be compacted by construction vehicles during the proposed action. Annual winter frost heave activity (from the freezing of normal soil moisture) would later counteract the compaction process.

Construction projects can increase soil erosion. Most of the area of proposed construction is relatively flat and the potential for erosion is therefore small. Hill AFB construction specifications would mitigate any erosion potential that does exist by requiring the contractor to restore the land to its original condition. The area disturbed by excavation would be backfilled and subsequently re-planted, re-seeded, or sodded to prevent soil erosion.

If a power pole were to be placed on the slope, it would be installed by simply drilling a hole with an auger; no excavation would be required (personal communication, Mr. Jerry Isaacson), and there would be no impacts to surface soils.

4.3.1.2 Impacts of the No Action Alternative

With respect to surface soils, the no action alternative has no impacts.

4.3.1.3 Cumulative Impacts

There are no cumulative impacts to surface soils associated with the proposed action or with the no action alternative.

4.3.2 Groundwater

4.3.2.1 Impacts of the Proposed Action

Contaminated groundwater exists at the northeast end of the proposed overhead power line, at a depth of approximately 20 feet bgs (e-mail from Jeff Watkins). No excavation or augering for a power pole is anticipated in this area (personal communication, Jerry Isaacson). If a power pole were to be required at this location, the depth of augering would be limited to 10 feet bgs (personal communication, Jerry Isaacson), and no contact with groundwater would exist.

4.3.2.2 Impacts of the No Action Alternative

With respect to groundwater, the no action alternative has no impacts.

4.3.2.3 Cumulative Impacts

There are no cumulative impacts to groundwater resources associated with the proposed action or the no action alternative.

4.4 Biological Resources

4.4.1 Impacts of the Proposed Action

As stated in Section 3.4, no species of plants or animals listed as endangered, threatened, or sensitive by state or federal agencies were observed in or around the proposed project sites. No suitable habitat for any such species is likely to be disturbed by the project.

During excavation for the substation and buried power line, the vegetation of the area would be entirely removed, and any animal species present would be displaced. A small area of vegetation would be permanently removed, although the impact of this loss would not be significant, as the area in question consists of habitat that is already heavily impacted by human activities and is in poor condition. Loss of this area would have little impact on wildlife in the area. The proposed power poles would provide potential nesting and roosting sites for some birds. In addition, the power lines may increase the risk of injury or death to some birds due to collisions and electrocution. Proper power line construction measures can mitigate this risk.

Construction of the proposed roadway would permanently destroy and remove the vegetation in the project area, including the loss of about 30 trees. Because none of this vegetation is in a natural, native condition, and is already subject to intensive, human-

caused impacts, the affect on vegetation resources of the proposed project is not significant. Impact to wildlife resources is also likely to be insignificant, and would be confined to the loss of foraging and nesting habitat for some birds due to the loss of the trees. This impact could be easily mitigated over the long term by planting additional trees nearby. Following the construction phase, revegetation of portions of the site to prevent erosion may improve those parts of the site, if planted with a diverse mix of native species

4.4.2 Impacts of the No Action Alternative

With respect to biological resources, the no action alternative has no impacts.

4.4.3 Cumulative Impacts

There are no cumulative impacts to biological resources associated with the proposed action. Permanent loss of a small area of mostly non-native vegetation, which is already impacted by human activities, would have little impact upon the suitability of the surrounding areas as habitat for the common and widespread species of birds and mammals which use these areas.

4.5 Summary of Impacts

The proposed action and the no action alternative were both considered in detail. The proposed action could be implemented with minor short-term environmental impacts such as air emissions and disturbing vegetation during construction activities. Following the construction phase, revegetation of portions of the site to prevent erosion may improve those parts of the site, if planted with a diverse mix of native species. Generation of hazardous waste would not be anticipated; however, waste management plans and adequate spill response resources exist should the need arise. No long-term environmental impacts are expected.

Table 2: Summary Comparison of Alternatives

Issue	<u>Proposed Action</u> Construct the East Airfield Infrastructure Facilities	<u>No Action</u> Do Not Construct the Facilities
Air Quality	Temporary construction-related emissions.	No impact.
Solid and Hazardous Wastes	Would not be generated. No impact (accidental spills to be remediated).	No impact.
Surface Soils	Construction-related erosion control measures may be required.	No impact.
Groundwater	No impact (contaminated groundwater is below the maximum depth of excavation).	No impact.
Biological Resources	Revegetation with native species may improve conditions at the site.	No impact.

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7.0 REFERENCES

CFR: *Code of Federal Regulations*, US Government Printing Office, Office of the Federal Register (various sections and dates).

DAQ 2002: *State of Utah National Ambient Air Quality Standards, Areas of Non-Attainment and Maintenance (Effective May, 1999)*, Utah Division of Air Quality Website, November, 2002.

EPA 1996: *National Air Pollutant Emission Trends, Procedures Document for 1900-1996*, US Environmental Protection Agency, Page 4-285, 1996.

EPA 1985: *AP-42, Computation of Air Pollution Emission Factors, Volume I, Stationary Point and Area Sources, and Volume II, Mobile Sources*, US Environmental Protection Agency, 1985.

Hill AFB: *Construction Specifications, Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection*, Hill AFB, UT, current version.

Hill 2002: *Hill AFB 2000 Environmental Restoration Management Action Plan (Web Page)*, content as of 12/29/02, <http://www.em.hill.af.mil/restoration/map/hill.html>.

FINDING OF NO SIGNIFICANT IMPACT

1. NAME OF ACTION: Construct infrastructure to support the east airfield expansion on Hill Air Force Base (AFB), Utah.

2. DESCRIPTION OF THE PROPOSED ACTION: Hill AFB proposes to accommodate current USAF missions by constructing power transmission facilities and vehicular access to the C-130 hangar area on Hill AFB.

The proposed action includes all work necessary to develop power transmission facilities and vehicular access to the C-130 hangar area on Hill AFB. The power transmission facilities would consist of an above ground power line, a substation, and a buried power line. The vehicular access would consist of widening an existing 2-lane section of road and moving an existing fence; constructing new roadway and fence; and constructing a guard shack for a new east gate on Hill AFB.

The power facilities would require less than 0.2 acres of ground disturbance (4,000 linear feet of trench at a width of 3 feet or less, and under 1,000 square feet for the substation pads). The road and guard shack would disturb approximately 7 acres (5,000 linear feet at an assumed width of 60 feet, and the guard shack to reside within the same footprint). Power poles would be installed with augers, and fencing would be installed using either augers or slide hammers.

The deepest point of excavation would be 10 feet bgs at the location of the power pole to be placed adjacent to the substation. The remainder of the facilities would be constructed by excavating 7 feet of soil or less. While open, the sides of any excavations would be sloped at 1.5 horizontal to 1.0 vertical or other such angle as approved by the design and geotechnical engineering contractors. The construction contractor would restore all impacted surfaces to their original condition.

3. SELECTION CRITERIA: The following criteria were used to assemble alternatives. The future configuration of the east airfield infrastructure at Hill AFB should:

- provide adequate electrical service;
- provide convenient vehicular access; and
- be protective of facilities, human health, and the environment.

4. ALTERNATIVES CONSIDERED OTHER THAN THE PROPOSED ACTION:

Under the no action alternative, Hill AFB would not be able to supply electrical power to the C-130 hangars. Vehicular traffic bound to or from the east airfield area would be constrained to use existing Hill AFB gates, causing additional traffic congestion at gates that are already, at times, used to capacity.

Hill AFB planners and engineers evaluated several alternative locations for constructing the required electrical service and vehicular access facilities. These alternatives were not retained for detailed consideration due to issues such as capacity of existing electrical utilities, negative impact on airfield operations, the extent of the airfield south clear zone, traffic safety, and capacity of intersections.

5. SUMMARY OF ANTICIPATED ENVIRONMENTAL EFFECTS:

a. Proposed Action: This alternative fully satisfies all applicable regulations and provides for accomplishment of mission objectives without impacts to human health or the environment. The proposed action could be implemented with minor short-term environmental impacts such as air emissions during construction activities. Following the construction phase, revegetation of portions of the site to prevent erosion may improve those parts of the site, if planted with a diverse mix of native species. Neither generation of hazardous waste nor acid spills would be anticipated; however, waste management plans and adequate spill response resources exist should the need arise. No long-term environmental impacts are expected.

b. No Action Alternative: There are no environmental impacts associated with the no action alternative. The no action alternative would not provide electrical service or provide convenient vehicular access.

6. FINDING OF NO SIGNIFICANT IMPACT: Based on the above considerations, a Finding of No Significant Impact (FONSI) is appropriate for this assessment.

Approved by:

Environmental Protection
Committee Chairman

Date: _____