

ENVIRONMENTAL ASSESSMENT
FOR
BUCKLEY AIR FORCE BASE
AIR TRAFFIC CONTROL TOWER AND FIRE
STATION
BUCKLEY AIR FORCE BASE, COLORADO



Prepared for

United States Air Force

by

Headquarters Air Force Center for Environmental Excellence

Environmental Analysis Division

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14. ABSTRACT This EA evaluates the potential environmental impacts from implementing the Proposed Action. The EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. Specific activities to be performed as part of the Proposed Action include: demolition of existing Air Traffic Control Tower/Crash House facilities and the construction of a new control tower and the expansion of the existing Fire Station to meet the evolving mission needs of Buckley Air Force Base.					
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FINDING OF NO SIGNIFICANT IMPACT

AIR TRAFFIC CONTROL TOWER AND FIRE STATION

BUCKLEY AIR FORCE BASE, COLORADO

AGENCY: United States Air Force, 460 Air Base Wing.

BACKGROUND: Pursuant to the National Environmental Policy Act, the Council on Environmental Quality regulations implementing the Act (40 Code of Federal Regulations [CFR] 1500-1508), Department of Defense Directive 6050.1, Regulation 5000.2-R, and Air Force Instruction 32-7061, The Environmental Impact Analysis Process as promulgated in 32 CFR Part 989, and other applicable federal regulations, the USAF conducted an assessment of the potential environmental consequences of the Proposed Action and the No Action Alternative. The Proposed Action is to provide the USAF with an adequate and properly configured air traffic control tower and consolidated fire station/crash house to support BAFB mission objectives. The Air Traffic Control Tower and Fire Station Environmental Assessment (EA) dated November 2002 is incorporated by reference.

PROPOSED ACTION: The Air Force proposes to construct a new air traffic control tower and an addition to the existing fire station. The proposed action also includes the demolition of the existing air traffic control tower and crash house.

FACTORS CONSIDERED IN DETERMINING THAT NO ENVIRONMENTAL IMPACT STATEMENT IS REQUIRED: The EA analyzed the environmental impacts of alternatives to the Proposed Action taking into account all relevant environmental resource areas and conditions. The Air Force has examined the following resource areas and conditions and found that the Proposed Action would either have no, or inconsequential impact on: air quality, biological resources, cultural resources, geology and soils, hazardous substances, land use, noise, socioeconomics and environmental justice, transportation, utilities, and water resources.

PUBLIC NOTICE: The National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, and the U.S. Air Force Environmental Impact Analysis Process require public review of the EA prior to Finding of No Significant Impact (FONSI) approval and implementing the proposed action. The public had 30 days to review and submit comments on the EA. The public comment period ended on April 18, 2003. The comments and concerns submitted by the public are incorporated into the analysis of potential environmental impacts as part of the EA.

FINDING OF NO SIGNIFICANT IMPACT: Based on requirements of the National Environmental Policy Act, the Council on Environmental Quality, and CFR Part 989, I conclude that the environmental effects of the Proposed Action are not significant, and therefore, an environmental impact statement will not be prepared. An availability notice for public review was published in the Denver Post and the Rocky Mountain News, Denver, CO newspaper, on March 16, 2003 for a 30-day review period. Hard copies of the EA and Draft FONSI were placed in the Aurora Public Library, Aurora, Colorado (CO), and the Denver Public Library, Denver, CO. for dissemination. The signing of this FONSI completes the Air Force Environmental Impact Analysis Process (EIAP).



ALLEN KIRKMAN, JR
Colonel, USAF
Commander, 460th Air Base Wing

26 Jul 2003

Date

ORIGINAL

COVER SHEET
ENVIRONMENTAL ASSESSMENT
OF
AIR TRAFFIC CONTROL TOWER AND FIRE STATION
AT BUCKLEY AIR FORCE BASE, COLORADO

- a. Responsible Agency: Department of the Air Force
- b. The Proposed Action analyzed in this Environmental Assessment (EA) includes the demolition of existing facilities, and the construction of new facilities at the Air Traffic Control Tower and a new addition to the existing Fire Station
- c. Written comments and inquiries regarding this document should be directed to:
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303-677-9077 elise.sherva@buckley.af.mil
- d. Designation: Environmental Assessment (EA)
- e. Abstract: This EA evaluates the potential environmental impacts from implementing the Proposed Action. The EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. Specific activities to be performed as part of the Proposed Action include: demolition of existing Air Traffic Control Tower/Crash House facilities and the construction of a new control tower and the expansion of the existing Fire Station to meet the evolving mission needs of Buckley Air Force Base.
- f. Comment period ended on April 18, 2003.

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SECTION 1.0

PURPOSE AND NEED FOR THE PROPOSED ACTION

The United States Air Force (USAF) has prepared this Environmental Assessment (EA) to assess the potential environmental effects resulting from construction and demolition activities at Buckley Air Force Base (BAFB) that are required to continue support of base mission objectives. Specific activities to be performed as part of the Proposed Action include: demolishing the existing collocated air traffic control tower/crash house; constructing a new air traffic control tower; and constructing an addition to the existing fire station.

1.1 PURPOSE AND NEED FOR PROPOSED ACTION

The purpose and need of the Proposed Action is to provide the USAF with an adequate and a properly configured air traffic control tower and consolidated fire station.

The demolition of the existing crash house and air traffic control tower is necessary to establish a cost-effective, properly sited air traffic control tower utilizing the latest technology. The existing air traffic control tower is obsolete and does not contain adequate space to allow controllers to perform their duties. The existing crash house is old, outdated, and does not provide sufficient space for the Hazardous Material Spill Response Team's trailer and equipment. Currently the crash house and fire station are located on opposite sides of the airfield. An addition to the fire station would co-locate both facilities to create greater operational efficiency. The proposed fire station addition and new air traffic control tower meet the criteria and scope specified in the USAF Handbook 32-1084 "*Facility Requirements*." In addition, antiterrorism and force protection requirements have been considered in the development of the Proposed Action.

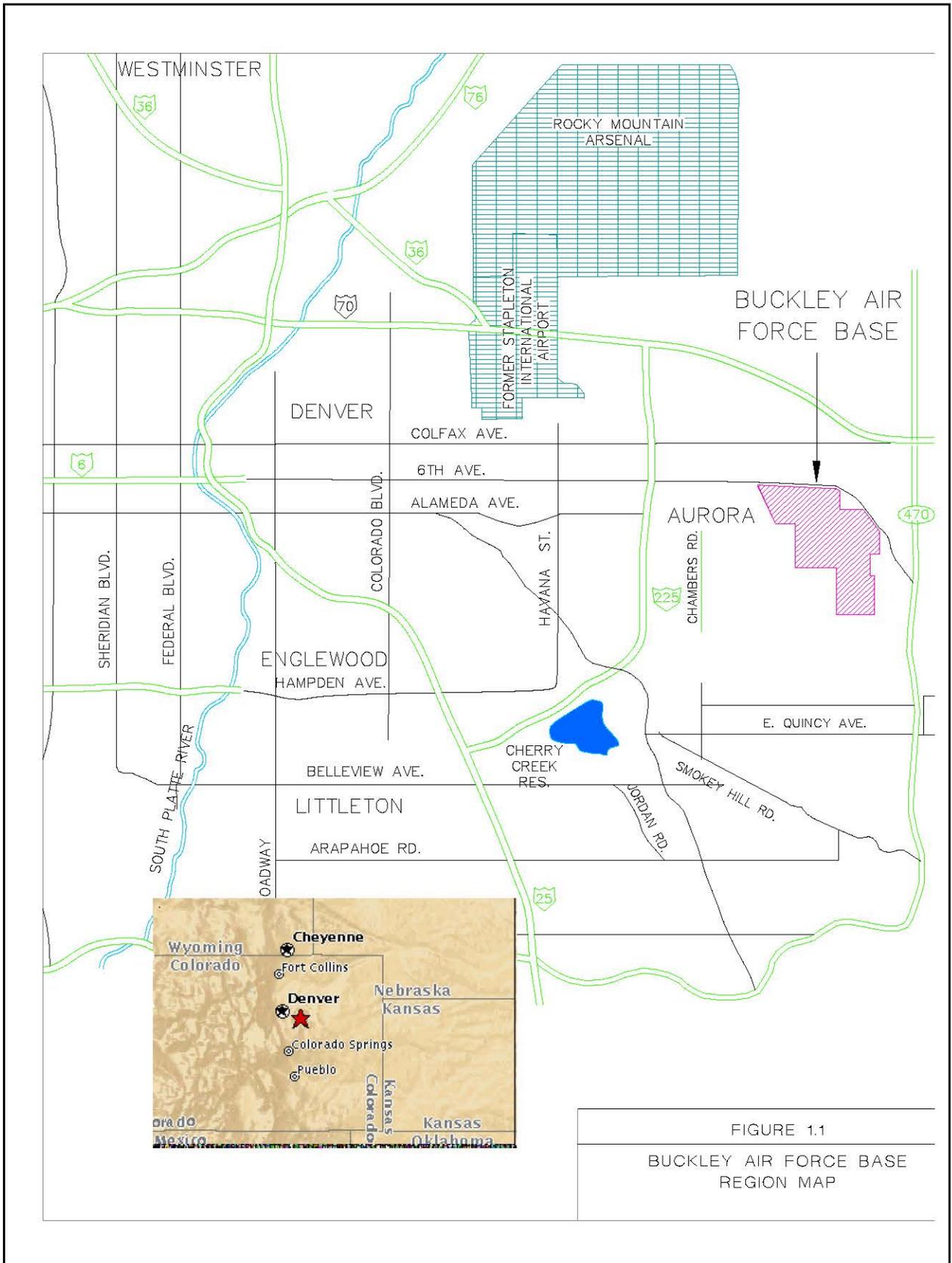
1.2 LOCATION AND DESCRIPTION OF BUCKLEY AIR FORCE BASE

BAFB is located in Arapahoe County Colorado, on the eastern edge of the city of Aurora, approximately five miles east of Denver and approximately ten miles southwest of Denver International Airport (see Figure 1-1). Figure 1-2 shows BAFB roads and major on-base features. The 460 Air Base Wing (ABW) is the current host and supports both Civilian and Department of Defense (DoD) tenants. Tenants include but are not limited to the 2nd Space Warning Squadron, Air Force Office of Special Investigations; Aerospace Data Facility; United States Property and Fiscal Office for Army and Air Force; Army Industrial Hygiene Midwest, 743rd Army Military Intelligence Battalion, Air National Guard (140th Wing); Army National Guard [2nd/35th Aviation Battalion, First Battalion, 89th Troop Command, 101st Army Band, Detachment 1, 128th Mobile Public Affairs, HQ, STARC (Detachment 5 Medical Support, 8th Weapons of Mass Destruction Civil Support Team), Navy/Marines (Navy/Marine Training Center, Battery A, 1st Battalion, 14th Marine Regiment, Marine Air Control Squadron 23), and the Civil Air Patrol.

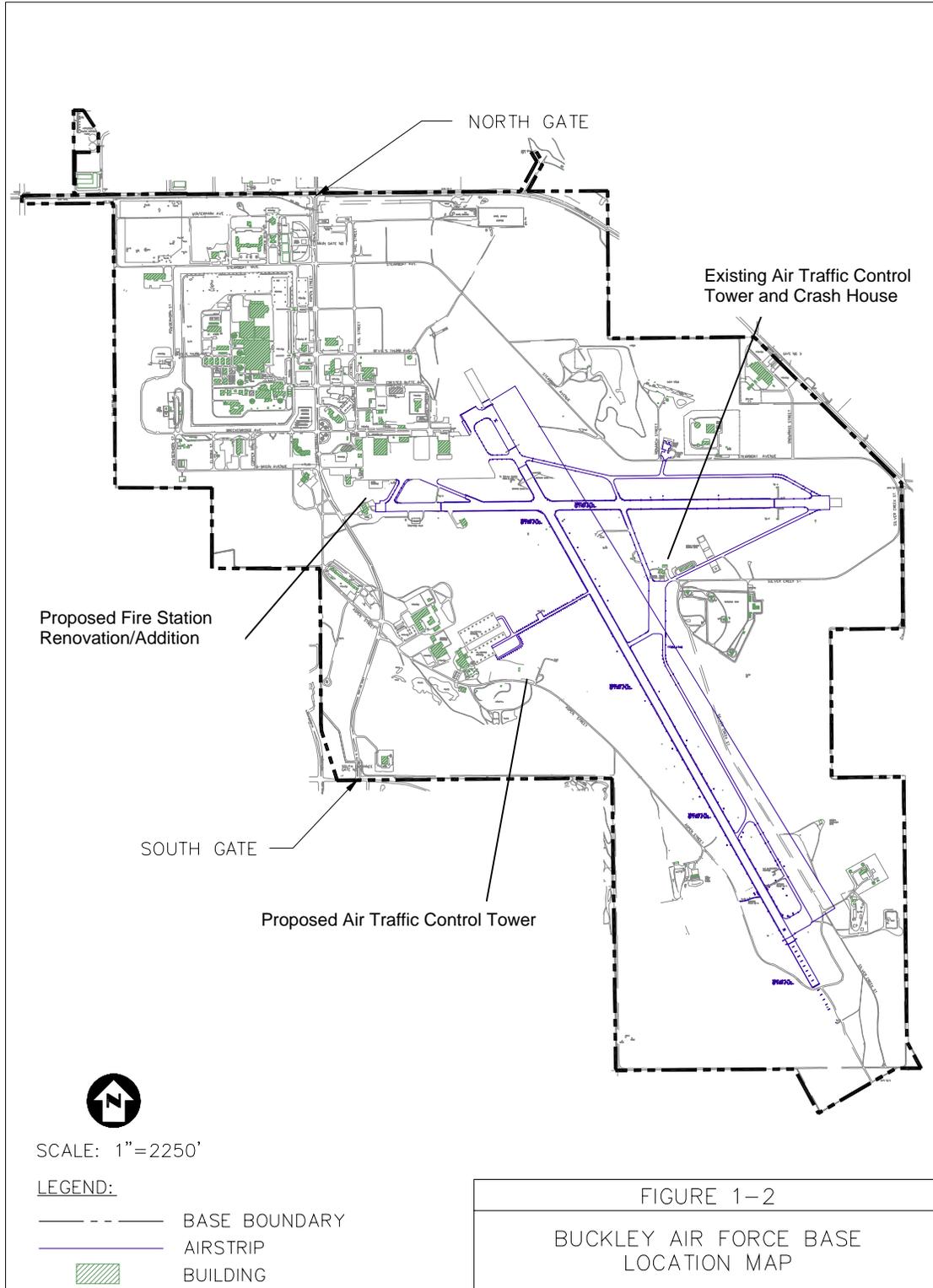
The Colorado Air National Guard (COANG) operates and maintains the airfield located on BAFB, which is the only operating military airfield in the Denver Metropolitan Area. The airfield supports the training of the 120th Fighter Squadron, deployment needs of the 140th Wing, training of the Colorado Army Guard Aviation units, deployment needs of United States Property and Fiscal Office for Colorado, (Colorado National Guard), Reserves, and Active Duty Units in this region, to include the Regional Civil Support Team, and provides services for government and military aircraft crossing the country. Other major activities on BAFB include the development of space and missile systems, satellite tracking, data reception, and early warning radar.

1.3 SCOPE OF THE ENVIRONMENTAL REVIEW

This environmental analysis has been conducted in accordance with the President's Council on Environmental Quality (CEQ) regulations, Title 40 of the



Purpose and Need for Proposed Action



Code of Federal Regulations (CFR) §§1500-1508, as they implement the requirements of the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. §4321, *et seq.*, and Air Force Instruction (AFI) 32-7061, *The Environmental Impact Analysis Process*, as promulgated in 32 CFR Part 989. 32 CFR 989 addresses implementation of NEPA and directs Air Force officials to consider environmental consequences as part of the planning and decision-making process. While the Environmental Assessment provides information with which to make better decisions about proposed actions, it does not impart project approval or authorization which is obtained through the 460 ABW Facilities Board.

The study area for this EA includes BAFB and its region of influence (ROI). The ROI determines the geographical area to be addressed as the affected environment. Although the base boundary may constitute the ROI limit for some resources, potential impacts associated with certain issues (e.g., transportation and air quality) transcend these limits. This EA describes and addresses the potential environmental and socioeconomic impacts of the Proposed Action.

1.3.1 Resources Not Analyzed in this EA

The Air Force has examined the following resource areas and conditions and found that the Proposed Action would have no or inconsequential impact. These resources are summarized here to affirm their consideration in the EA.

RESOURCE	REASON ELIMINATED FROM ANALYSIS
Air Space	The Proposed Action does not impact any flying missions at BAFB; therefore, impacts on air space are not expected and are not analyzed in this EA.
Environmental Justice	Environmental justice was considered in accordance with EO 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, as applied to the Air Force by authority set for in DoD Instruction 4715.9. The median household income exceeded the \$13,423 threshold in all zip code areas; therefore, there does not appear to be a disproportionately high low-income population in the ROI. Of the ten surrounding zip-code areas, one zip code (80239) had a disproportionately high minority population. Construction and operation of the air traffic control tower or the fire station addition would not have an adverse impact on the surrounding community. As a result, it was determined that the proposed action would not have an overall disproportionately adverse environmental or human health effect on the minority population. Potential impacts are not expected and are not analyzed in this EA.
Rail Transportation	Impacts to rail transportation associated with the Proposed Action are not expected and are not analyzed in this EA.
Visual Resources	The visual resources would not be impacted by the Proposed Action. Existing buildings identified in the Proposed Action to be demolished would be replaced with similar structures; therefore, no impacts to visual impacts are expected and are not analyzed in this EA.
Ordnance/Munitions	No ordnance or munitions concerns are associated with the Proposed Action; therefore, no impacts to ordnance/munitions would result as a result of the Proposed Action.
Wetlands	No wetlands are identified within or adjacent to the Proposed Action site boundaries; therefore, no impacts to wetlands would result as a result of the Proposed Action.

1.3.2 Resources Analyzed in this EA

Potentially impacted resources were considered in detail to provide sufficient evidence and analysis for determining whether or not additional investigations would be required per 40 CFR Part 1508.9.

The resources analyzed in detail include land use, transportation, utilities (including water, wastewater, solid waste, electricity, and natural gas), hazardous wastes, hazardous materials, stored fuel, geology and soils, water resources, air quality, noise, socioeconomics, biological resources, cultural resources, and health and safety.

1.4 ORGANIZATION OF THE EA

This EA is organized into eight sections. Section 1.0 contains a statement of the purpose and need for the Proposed Action, defines the sites and locations for the Proposed Action, presents the scope of the environmental review, and outlines the organization of this EA. Section 2.0 of the EA describes the Proposed Action and the No Action Alternative, and presents a comparison of any potential environmental consequences of these alternatives. Section 3.0 contains a description of the environmental resources that potentially could be affected by the Proposed Action or alternatives at each of the proposed or alternative sites. Section 4.0 analyzes the environmental consequences, states any unavoidable environmental impacts, and describes any irreversible commitment of resources. In addition, this section discusses the impacts of the No Action Alternative. Section 5.0 lists the preparers of the EA, and Section 6.0 identifies the persons and agencies consulted in the preparation of this EA. Section 7.0 provides a list of source documents relevant to the preparation of this EA. Section 8.0 is a list of acronyms used in this EA.

SECTION 2.0

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 THE PROPOSED ACTION

The Proposed Action is to provide the USAF with an adequate and properly configured air traffic control tower and consolidated fire station/crash house to support BAFB mission objectives. The Proposed Action includes the demolition of existing facilities and the construction and operations of new facilities. The Proposed Action includes construction of a new air traffic control tower, an addition to the existing fire station, and phased demolition of the existing air traffic control tower and crash house.

Figure 2-2 shows the location of the current air traffic control tower and crash house on the northeast side of the runway and the location of the proposed new air traffic control tower. Figure 2-3 shows the proposed addition of a crash house to the existing fire station on the northwest side of the runway. The demolition of the existing crash house/air traffic control tower will occur after construction is complete and the new facilities are operational.

2.1.1 Detailed Description of Proposed Action

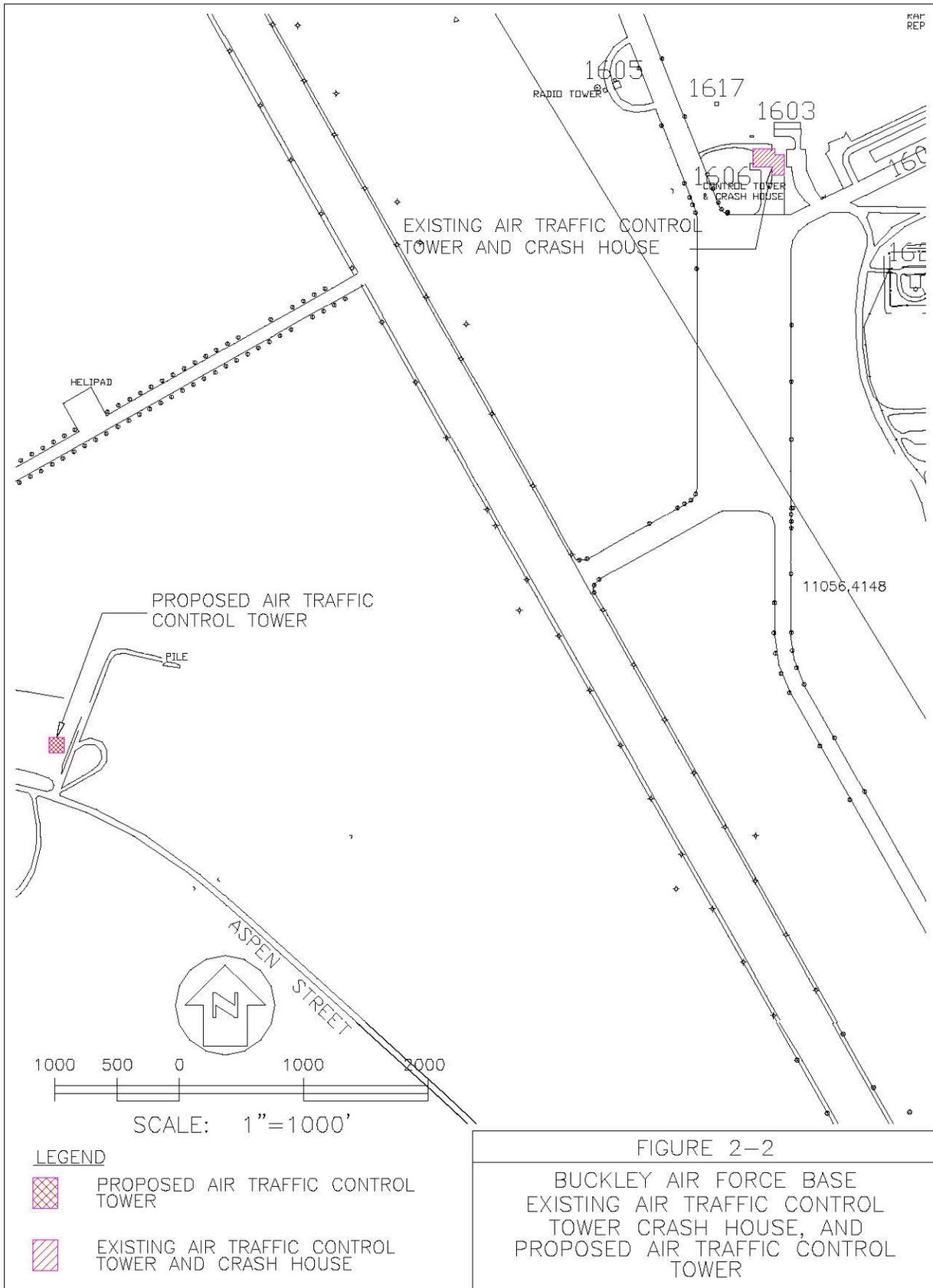
2.1.1.1 Construct Air Traffic Control Tower and Add a Crash House to the Existing Fire Station

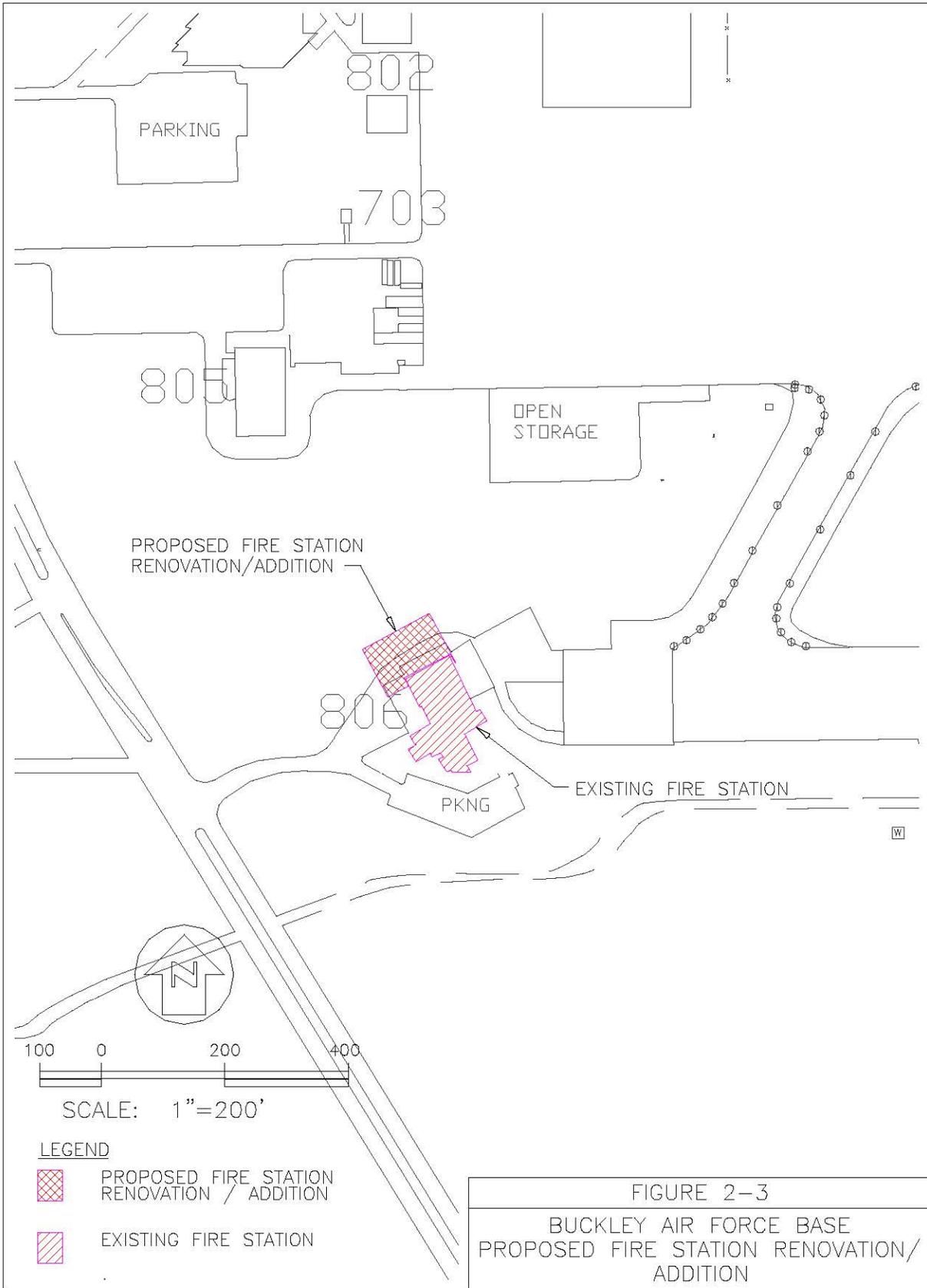
This action would consist of constructing a new air traffic control tower (approximately 5,800 sf) on the west side of the runway (southeast of the Army aviation site) and crash house located on the northeast side of the runway. This action would include demolishing the current air traffic control tower subsequent to the construction of the new tower. In addition, the action would consolidate the fire station into one facility by constructing an addition, upgrading, and reconfiguring the current fire station (Building 806) located on the northwest side of the runway. Under the Proposed Action, the renovation to the fire station would be approximately 21,531 sf. When the fire station is expanded the crash house (building 1606; approximately 8,780 sf) would be demolished.

2.2 NO ACTION ALTERNATIVE

The No Action Alternative would require continued use of the current air traffic control tower and fire station. The crash house would continue to exist separately from

the fire station. No modifications would occur to the existing fire station (Building 806). In addition, the crash house/air traffic control tower (Building 1606) would not be demolished.





2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED

An alternative considered was the construction of a new air traffic control tower just north of the existing tower in the open land adjacent to the runway. This alternative was eliminated because of the proximity to the Quantity Distance (QD) that would limit potential expansion for the Munitions complex, the proximity to the Airfield Lighting Vault would violate existing Air Force Regulations (AFIs), and it would be within the Airfield Influence Zone for Clearance, Navaid Transmitter Zone, and the ADF Antenna Zone. These conflicts would result in safety and mission problems.

2.4 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

The preferred alternative is the Proposed Action. The environmentally preferred alternative is the No Action Alternative.

2.5 COMPARISON OF THE ENVIRONMENTAL IMPACTS OF ALL ALTERNATIVES

Table 2.5-1 compares the environmental effects of the Proposed Action and the No Action Alternative.

TABLE 2.5-1 COMPARISON OF ENVIRONMENTAL CONSEQUENCES

Environmental Resource Areas	Proposed Action	No Action Alternative
Air Quality	Short-term – Negligible Adverse	Short-term – No Impacts
	Long-term – No Impacts	Long-term – No Impacts
Biological Resources	Short-term – Minor Adverse	Short-term – No Impacts
	Long-term – Minor Adverse	Long-term – No Impacts
Cultural Resources	Short-term – No Impacts*	Short-term – No Impacts
	Long-term – No Impacts*	Long-term – No Impacts
Indirect and Cumulative Impacts	Short-term – No Impacts	Short-term – No Impacts
	Long-term – No Impacts	Long-term – No Impacts
Geology and Soils	Short-term – Minor Adverse	Short-term – No Impacts
	Long-term – No Impacts	Long-term – No Impacts
Hazardous Wastes, Hazardous Materials, Stored Fuel	Short-term – No Impacts	Short-term – No Impacts
	Long-term – No Impacts	Long-term – No Impacts

Table 2.5-1 Comparison of Environmental Consequences (continued)

Environmental Resource Areas	Proposed Action	No Action Alternative
Health and Safety	Short-term – No Impacts	Short-term – No Impacts
	Long-term – Negligible Beneficial Impacts	Long-term – Adverse
Land Use	Short-term – No Impacts	Short-term – No Impacts
	Long-term – No Impacts	Long-term – No Impacts
Noise	Short-term – Minor Adverse	Short-term – No Impacts
	Long-term – No Impacts	Long-term – No Impacts
Socioeconomics	Short-term – No Impacts	Short-term – No Impacts
	Long-term – No Impacts	Long-term – No Impacts
Transportation	Short-term – Negligible Adverse Impacts	Short-term – No Impacts
	Long-term – Negligible Beneficial Impacts	Long-term – No Impacts
Utilities	Short-term - No Impacts	Short-term – No Impacts
	Long-term – No Impacts	Long-term – No Impacts
Water Resources	Short-term - Minor Adverse Impacts	Short-term – No Impacts
	Long-term – Negligible Beneficial Impacts	Long-term – No Impacts

Notes:

* = No impacts would occur contingent upon all buildings proposed for demolition or alteration being determined ineligible for listing in the NRHP.

SECTION 3.0

AFFECTED ENVIRONMENT

This section presents information on environmental conditions for resources potentially affected by the Proposed Action and the No Action Alternative described in Section 2.0. The environmental components addressed include relevant natural or human environments that are likely to be affected.

Under NEPA, the analysis of environmental conditions should address only those areas and environmental resources with the potential to be affected by the Proposed Action or alternatives; locations and resources with no potential to be affected need not be analyzed. The environment includes all areas and lands that might be affected, as well as the cultural and natural resources they contain or support. This section establishes the basis for assessing impacts of the alternatives on the affected environment provided in Section 4.0.

The ROI to be studied will be defined for each resource area affected by the proposed project. The ROI determines the geographical area to be addressed as the Affected Environment. Although the base boundary may constitute the ROI limit for some resources, potential impacts associated with certain issues (e.g., transportation, air quality) transcend these limits.

3.1 PHYSICAL AND DEMOGRAPHIC SETTING

BAFB is located on a 3,250 acre parcel in Arapahoe County, Colorado, and is approximately 5 miles east of Denver (COANG, 1997). The 460 ABW is the host organization at BAFB (formerly the 821st Space Group under the 21st Space Wing).

3.2 AIR QUALITY AND REGULATIONS

Air quality in any given region is measured by the concentration of various pollutants in the atmosphere, typically expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Air quality is determined not only by the types and quantities of atmospheric pollutants, but also by surface topography, the size of the air basin, and by the prevailing meteorological conditions. The ROI, for discussion of air quality and potential impacts on these resources, includes the entire base boundary. The Clean Air Act (CAA) of 1970 directed the United States Environmental Protection Agency (USEPA) to develop, implement, and enforce strong environmental regulations that would ensure cleaner air for all Americans. In order to protect public health and welfare,

the USEPA developed concentration-based standards called National Ambient Air Quality Standards (NAAQS). The promulgation of the CAA was driven by the failure of nearly 100 cities to meet the NAAQS for ozone and carbon monoxide and by the inherent limitations in previous regulations to effectively deal with these and other air quality problems. The USEPA established both primary and secondary NAAQS under the provisions of the CAA. Primary standards define levels of air quality necessary to protect public health with an adequate margin of safety. Secondary standards define levels of air quality necessary to protect public welfare (i.e., soils, vegetation, property, and wildlife) from any known or anticipated adverse effects.

NAAQS are currently established for six air pollutants (known as “criteria air pollutants”) including carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur oxides (SO_x, measured as sulfur dioxide, SO₂), lead (Pb), and particulate matter. Particulate matter standards include particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM₁₀).

SO₂ in the atmosphere is converted to various conjugated sulfur compounds that form physically harmful vapors or micro droplets (e.g., sulfuric acid) when combined with particulate matter and water. Most SO_x compounds are irritants to the upper respiratory tract, and prolonged exposure can cause permanent lung damage.

Although O₃ is considered one of the criteria air pollutants and is measurable in the atmosphere, it is considered a secondary pollutant because O₃ typically is not emitted directly from most emissions sources. O₃ is formed in the atmosphere by photochemical reactions involving previously emitted pollutants or ozone precursors; therefore, O₃ is not considered when calculating emissions. Ozone precursors primarily consist of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) that are directly emitted from various emission sources. For this reason, an attempt is made to control O₃ through the control of NO_x and VOCs. On June 5, 1998 the USEPA issued the final rule identifying areas where the 1-hour NAAQS for ozone is no longer applicable. Under this rule, the 1-hour standard will not apply to areas in which no violation of the previous 1-hour ozone standards have occurred. However, in areas in which past violations have occurred; the 1-hour ozone standard will continue to apply.

The CAA does not make the NAAQS directly enforceable. However, the CAA does require each state to promulgate a state implementation plan (SIP) that provides for implementation, maintenance, and enforcement of the NAAQS in each air quality control region (AQCR) in the state. The CAA also allows states to adopt air quality standards that are equally or more stringent than the federal standards. The state of Colorado has adopted each of the NAAQS as the Colorado standards except for SO₂ as listed in Table 3.2-1. For SO₂, Colorado has adopted more stringent standards for each of the averaging times (COANG, 2000d).

Buckley AFB is under the jurisdiction of the Colorado Department of Public Health and Environment (CDPHE), which is tasked with enforcing the CAA Title V Air Operating Permit (Permit No. 950PAR118 renewed 1 July 2002). The permit expires 30 June 2007.

On April 2, 2002 CDPHE issued Construction Permit No. 01AR0868S to the Army Air Force Exchange Service (AAFES) for three (3) underground storage tanks (USTs) at the Base Exchange gasoline station. Monitoring and record keeping requirements have been incorporated into Buckley's new Title V Air Operating permit.

The stationary source inventory reports approximately 165 stationary combustion emission units, including natural gas-fired heating units, boilers, furnaces, roof heaters, hot water heaters, diesel engine driven electricity generators and natural gas-fired electricity generators.

Primary fuel storage at the Base includes two 210,000-gallon JP-8 aboveground storage tanks (ASTs) and sixteen diesel ASTs ranging in size from 12,000 to 42,000 gallons. Additionally there are two gasoline ASTs at 4,000 and 6,000 gallon capacity and three 12,000-gallon gasoline underground storage tanks (USTs). Abrasive paint removal is performed in the Corrosion Control Hangar (Building 800) using hand-held sanders. While mobile sources are not considered under the CAA Title V operating permit or the Colorado operating permit program, they are significant components of total base emissions. Mobile sources include on- and off-road vehicles and equipment, aerospace ground equipment, and aircraft operations (COANG, 2000a).

The area in which the Base operates is designated as attainment maintenance for particulate matter smaller than 10 microns (PM₁₀). The base is a synthetic minor source (permit limits < 100 tons per year) for the PM₁₀ emissions under the Prevention of Significant Deterioration (PSD) provisions.

The Denver metropolitan area achieved attainment status for ozone (VOC) emissions on 11 October 2001, carbon monoxide (CO) on January 14, 2002 and PM₁₀ on 16 October 2002. Due to these changes in attainment status the Base is now a minor source for CO, VOCs and PM₁₀ (potential to emit (PTE) < 250 tpy). The base is a synthetic minor source for nitrogen oxides (NO_x) and sulfur dioxide (SO₂) emissions under the PSD provisions because the Base accepted permit limits that established a PTE of less than 250 tpy. If the Base adds new sources or modifies existing sources that result in a significant net emissions increase for any pollutant as listed in Colorado Regulation No. 3, Part A, Section I.B.58, PSD permitting requirements may apply.

On June 8, 1992, the Base was issued Initial Approval for Construction Permit 90AR147. Compliance with the Title V requirements results in the Construction Permit being considered as Final Approval by the Division. The permit limits the Base emissions of criteria pollutants to levels just under the Prevention of Significant Deterioration/New Source Review (PSD/NSR) thresholds of 250 and 100 tons per year to allow the classification of the Base as a minor source for PSD/NSR considerations.

The facility is not subject to the requirements of Section 112(r)(7), the Accidental Release Plan Program of the Clean Air Act. There are no pollutant-specific emission units at the facility that use a control device to achieve compliance with any emission standard or limitation. Therefore, the Compliance Assurance Monitoring (CAM) rule provisions do not apply.

Toxic air pollutants are those pollutants listed by the Clean Air Act Amendments of 1990 that are hazardous to human health or the environment, but are not specifically covered under another part of the Act. The National Emissions Standards for Hazardous Air Pollutants (NESHAPS) and Colorado State regulate several toxic air pollutants including arsenic, asbestos, benzene, beryllium, mercury, and vinyl chloride. Buckley AFB currently emits hazardous air pollutants during the course of base activities such as storing fuel, using paints, and running generators. These emissions are estimated annually in the Buckley AFB Air Emission Inventory.

Buckley AFB has also developed its own operational restrictions as an internal strategy for compliance. The 2000 inventory shows Buckley AFB to be well below permit limits for all pollutants (COANG, 2000d).

TABLE 3.2-1 NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS

Criteria Pollutant	Averaging Time	Primary NAAQS ^{a,b,c}	Secondary NAAQS ^{a,b,d}	Colorado Standards ^{a,b}
Carbon Monoxide	8-hour	9 ppm (10 mg/m ³)	No standard	9 ppm (10 mg/m ³)
	1-hour	35 ppm (40 mg/m ³)	No standard	35 ppm (40 mg/m ³)
Nitrogen Dioxide	Annual	0.0543 ppm (100 µg/m ³)	0.0543 ppm (100 µg/m ³)	0.0543 ppm (100 µg/m ³)
Ozone	1 hour ^e	0.12 ppm (235 µg/m ³)	0.12 ppm (235 µg/m ³)	0.12 ppm (235 µg/m ³)
PM ₁₀	Annual	50 µg/m ³	50 µg/m ³	50 µg/m ³
	24-hour	150 µg/m ³	150 µg/m ³	150 µg/m ³
Sulfur Oxides (measured as SO ₂)	Annual	80 µg/m ³	No standard	15 µg/m ³
	24-hour	365 µg/m ³	No standard	100 µg/m ³
	3-hour	No standard	1,300 µg/m ³	700 µg/m ³

- PM₁₀ Particles with aerodynamic diameters less than or equal to a nominal 10 micrometers
- ^a The 8-hour primary and secondary ambient air quality standards are met at a monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08ppm.
- ^b The NAAQS and Colorado standards are based on standard temperature and pressure of 0 degrees Celsius and 760 millimeters of mercury.
- ^c National Primary Standards: The levels of air quality necessary to protect the public health with an adequate margin of safety. Each state must attain the primary standards no later than three years after the state implementation plan is approved by the USEPA.
- ^d National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the state implementation plan is approved by the USEPA.

3.2.1 Meteorology

BAFB has a semi-arid climate that is characteristic of the High Plains. It typically experiences low humidity, abundant sunshine, low precipitation, and large diurnal temperature fluctuations. The average annual temperature is 50.1 degrees Fahrenheit

(°F). July is the hottest month with an average maximum temperature of 88.8 °F, and the coolest is January with an average minimum temperature of 15.5 °F. Precipitation fluctuates throughout the year with the wettest months occurring in spring and summer. The average annual precipitation is 16.3 inches. BAFB receives approximately 53 inches of snowfall per year. The prevailing winds within the local area are predominantly from the south and average 8.6 miles per hour (COANG, 1999b).

3.2.2 Regional Air Quality

The fundamental method by which USEPA tracks compliance with the NAAQS is the designation of a particular region as “attainment” or “non-attainment.” Based on the NAAQS, each state is divided into four types of areas for each of the criteria pollutants:

1. Those areas that are in compliance with the NAAQS (attainment)
2. Those areas that don't meet the ambient air quality standards (non-attainment)
3. Those areas that formerly were non-attainment, but currently are in maintenance of attainment status
4. Those areas where a determination of attainment/non-attainment cannot be made due to a lack of monitoring data (unclassifiable – treated as attainment until proven otherwise)

The Denver metropolitan area, which includes most of Arapahoe County and Buckley AFB, is presently designated by EPA as in attainment for all criteria pollutants (CDPHE, 2002).

3.2.3 Baseline Air Emissions

BAFB is in the Denver Metropolitan Intrastate Air Quality Control Region 36. An air emissions inventory is an estimate of total mass emission of pollutants generated from a source or sources over a period of time, typically a year. The quantity of air pollutants generally is measured in pounds per year or tpy. Emission sources may be categorized as either mobile or stationary emission sources. Typically, mobile emission sources at Air Force installations include aircraft, surface vehicles, aerospace ground equipment, and weapons testing. Stationary emission sources may include boilers, generators, fueling operations, industrial processes, and burning activities among others. Accurate air emissions inventories are needed for estimating the relationship between emissions sources and air quality. The 2001 Air Emissions Inventory summary for Buckley AFB is presented in Table 3.2-2 and includes mobile and stationary sources.

TABLE 3.2-2 STATIONARY AIR EMISSIONS INVENTORY

Pollutant Emission Sources	CO (tpy)	VOC (tpy)	SO_x (tpy)	NO_x (tpy)	PM₁₀ (tpy)	PM
1998 AQCR 36 Emission Inventory ¹	4,761	13,727	34,732	37,079	3,211	
Buckley AFB Mobile Emissions ²	194.7	28.4	4.4	37.8	2.03	1.3
Buckley AFB Stationary Emissions ²	28.24	7.84	2.03	96.20	11.95	10.31
Conformity Rule De Minimis Threshold	100	N/A	N/A	N/A	100	

- 1 Source: COANG, 2000d
 2 Source: Booz-Allen & Hamilton, 2002
 3 tpy: tons per year

3.2.4 Radon Gas

Radon is an odorless, tasteless radioactive gas. It is released by the breakdown of uranium-bearing granite deposits. Overexposure to radon can cause lung cancer. Building materials or fill soils used in construction can emit this gas. Radon is a naturally occurring gas in Colorado soils. The level at which the USEPA recommends consideration of radon mitigation measures is 4 picocuries per liter (pCi/L). BAFB screens for radon in accordance with Air Force policy for structures occupied on a full-time basis. Radon sampling was conducted between 1993 and 1997 at four buildings on base. The results range from 0.2 to 6.9 pCi/L (COANG, 2000b). All of the sampling results, except one, were below the USEPA standard of 4.0 pCi/L. Building 600 was the exception with radon levels of 6.9 pCi/L. These data did not include radon sampling for the firestation.

No buildings are currently located at the proposed air traffic control tower site, therefore no radon data is available for the potential construction site.

3.3 BIOLOGICAL RESOURCES

Biological resources include the native and introduced plants and animals in the project area. For discussion purposes, biological resources are divided into vegetation, wetlands, wildlife, sensitive species, and sensitive habitats. The ROI, for discussion of biological resources and potential impacts on these resources, includes on-site (where construction is proposed and/or training areas) and adjacent property.

BAFB is located in the Great Plains-Palouse Dry Steppe Province Ecoregion (USDA, 1995). This region is characterized by steppes or prairies composed of short bunched or sparsely distributed grasses. BAFB is located within the lowlands of the South Platte River. Areas to the north, south and east are largely undeveloped and support grazing

and farming activities. Areas to the west are primarily urbanized (i.e., Denver metropolitan area). Historically, the native climax vegetation for the region was predominantly mixed bunchgrass prairie (USAF, 2000a). The large acreage of open grass prairie, riparian corridor associated with East Tollgate Creek, and the open water at Williams Lake on BAFB provides a diversity of habitats that support many animal species. Wildlife found on BAFB is typical of the high plains of Colorado.

Numerous studies have been conducted for biological resources on and around BAFB. Biological resources at BAFB are addressed in various BAFB documents including the biological resource descriptions found in the *Final Supplemental EA of Proposed Prairie Dog Management Practices at BAFB*, June 2001, Base Master Plan, the BAFB Integrated Natural Resources Management Plan, the environmental considerations report for the bombing and gunnery ranges, the Colorado National Heritage Program (CNHP), and the archives search report findings conducted for the base. The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) was used to provide information about wetland locations. The Colorado Division of Wildlife (CDOW) has species distribution results (including state-listed and species of special concern) available for reptiles, amphibians, mammals, and birds, along with a data system containing element occurrence records (CDOW, 2001). The USFWS and the CDOW publish current lists of threatened and endangered species on their respective web sites (USFWS, 2001; CDOW, 2001). All these data sources were used in the development of the biological section of this EA.

3.3.1 Vegetative Communities

BAFB is characterized as the plains grassland ecosystem that is composed of a random assortment of grass communities. The crested wheatgrass (*Agropyron cristatum*) community is the dominant vegetative community occurring on base, particularly near developed portions of the base. The midgrass prairie, the second most common vegetation type, occurs primarily in the southern region of the base and includes species such as western wheatgrass (*Agropyron smithii*).

Vegetation currently occupying BAFB is composed of both native and exotic species. The general plant communities consist of grassland prairie, riparian corridor, and exotic weed monocultures. The vegetative communities were classified into the following habitat types: bottomland meadow, cottonwood/willow, crested wheatgrass, meadow, midgrass prairie, ornamental trees, rubber rabbit brush, weedy forb, and yucca stand (COANG, 1999b). Typical vegetation types include buffalo grass (*Buchloe dactyloides*), grama (*Bouteloua* sp.), wheatgrass (*Agropyron* sp.), needlegrass (*Stipa* sp.), sunflower (*Helianthus* sp.), locoweed (*Oxytropis* sp.), prickly pear cactus (*Opuntia macrorhiza*), yucca (*Yucca glauca*), and many wildflower species including blazingstar (*Nuttallia nuda*) and white prickly poppy (*Argemone polyanthemus*). Scattered shrubs such as sagebrush (*Seriphidium canum*), snakeweed (*Gutierrezia sarothrae*), and rabbit brush (*Chrysothamnus nauseosus*) provide additional cover along this grassland ecosystem. Trees along the shortgrass prairies are restricted to riparian corridors. Typical trees of the plains include cottonwood (*Populus deltoides*), willow (*Salix* sp.), and box elder (*Acer negundo*) (Guennel 1995).

Grassland communities, the predominant habitat on base, support numerous ground-nesting birds, such as the western meadowlark (*Sturnella neglecta*), horned lark (*Eremophila alpestris*), and western burrowing owl (*Athene cunicularia*). In addition, open grasslands on BAFB support large populations of black-tailed prairie dog (*Cynomys ludovicianus*).

Biological resources at the Proposed Action sites include:

- Proposed Air Traffic Control Facility: The proposed facility site is comprised of open grassland habitats and supports associated wildlife detailed in Section 3.3. Active black-tailed prairie dog burrows were identified during the January 2001 site visit.
- Air Traffic Control Tower/Crash House: Resources present at the Air Traffic Control Tower/Crash House include maintained turf grass and landscaping vegetation. Habitat is limited and/or discouraged to avoid biological impacts associated with aircraft operations. Active black-tailed prairie dog burrows were identified at the adjacent property during the January 2001 site visit.
- Fire Station (Building 806): Habitat present at Building 806 is limited and is composed of common landscaping vegetation and maintained turf grass. Habitat is limited and/or discouraged to avoid biological impacts associated with the adjacent runway and aircraft operations.

3.3.2 Wildlife

BAFB maintains a large acreage of open grassland prairie, which is interspersed with several riparian corridors. The base has adequate habitat for numerous species that pose a safety hazard to the flying mission. BAFB is in the process of updating the Integrated Natural Resources Management Plan (INRMP) that would include a Fish and Wildlife Management Plan. Preliminary information gathered suggests that a majority of the habitat present on BAFB has a moderate to high value in relation to its ability to support the maximum native species richness of birds, mammals, reptiles, and amphibians.

A total of seven amphibian and nineteen reptile species occur in Arapahoe County and may occur on BAFB (COANG, 1999b). Twelve of the reptile species are snakes, including the bullsnake (*Pituophis melanoleucus*), plains hognose snake (*Heterodon nasicus nasicus*), and the prairie rattlesnake (*Crotalus viridis viridis*). Other common reptiles include the western painted turtle (*Chrysemys picta belli*) and the northern prairie lizard (*Sceloporus undulatus garmani*). The great plains toad (*Bufo cognatus*) and plains spadefoot toad (*Scaphiopus bombifrons*) are among the amphibians that may be found at BAFB.

All native North American birds, their eggs, and nests are protected by the Migratory Bird Treaty Act (MBTA) of 1912, as amended. Resident bird species found to occur near BAFB include the western meadowlark (*Sturnella neglecta*), horned lark (*Eremophila*

alpestris), lark bunting (*Calamospiza melanocorys*), and sharp-tailed grouse (*Tympanuchus phasianellus*).

The burrowing owl (*Athene cunicularia*), American kestrel (*Falco sparverius*), Swainson's hawk (*Buteo swainsoni*), and prairie falcon (*Falco mexicanus*) are among the raptors found in the area. The wetland and riparian areas on base support ducks and geese, including northern shoveler (*Anas clypeata*), blue-winged teal (*Anas discors*), and Canada goose (*Branta canadensis*). Killdeer (*Charadrius vociferus*) and great blue herons (*Ardea herodias*) are shorebirds also found in association with water on base.

A number of small mammals exist on BAFB. Common rodents may include fox squirrel (*Sciurus niger*), thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*), prairie vole (*Microtus ochrogaster*), black-tailed prairie dog (*Cynomys ludovicianus*), and several species of mice (*Peromyscus* spp.). Black-tailed prairie dogs are abundant at BAFB and are a concern because they attract raptors to the runway that could create an increased aircraft strike hazard. An EA was prepared for the proposed management practices of the black-tailed prairie dogs (USAF 2001b). This EA prefers 1) the relocation of the prairie dogs off-base, 2) the transfer to a ferret breeding facility, and 3) using an U.S. Air Force Space Command and U.S. Department of Agriculture approved lethal rodent control when removal or relocation are not practicable. The base proposes non-lethal off-base relocation methods to the extent possible rather than lethal control measures for black-tailed prairie dog issues.

Predators include the red fox (*Vulpes vulpes*), badger (*Taxidea taxus*) and coyote (*Canis latrans*) (COANG, 1999b). White-tailed deer (*Odocoileus virginianus*) and mule deer (*Odocoileus hemionus*) are among the larger herbivores on base. Pronghorn (*Antilocapra americana*) that occur in the region have been excluded from the base by an exterior fence to prevent collision hazards to aircraft (COANG, 2000a).

The most prominent and abundant small mammal on BAFB is the black-tailed prairie dog (*Cynomys ludovicianus*). The black-tailed prairie dog a federal candidate for listing as threatened is the only prairie dog species found at BAFB (COANG, 2000a). Black-tailed prairie dogs, as well as the numerous other small mammalian species found on the base, provide an abundant food supply for foraging raptors and carnivorous mammalian species. The animals live in densely populated burrow colonies of 20 to 35 individuals per acre and can contain up to 30 to 50 burrow entrances per acre. A tunnel network that is 3 to 6 feet deep and approximately 15 feet long generally results from colonies of this size. At the entrance to their burrows, black-tailed prairie dogs construct mounds of dirt up to 2 feet high and 10 feet in diameter. These mounds serve as lookout stations, prevent water from entering tunnels, and may enhance tunnel ventilation. Black-tailed prairie dog burrows, when vacant, may be inhabited by burrowing owls (*Athene cunicularia*), rabbits, small rodents, snakes, lizards, insects, and spiders (Clippinger 1989, Hoogland 1995). Black-tailed prairie dogs are a major winter food source for bald eagles (*Haliaeetus leucocephalus*) ferruginous hawks (*Buteo regalis*), golden eagles (*Aquila chrysaetos*), and red-tailed hawks (*Buteo jamaicensis*) in this region (USAF, 2000b); these raptors also could use the ornamental trees near this area for resting sites or hunting perches.

A site reconnaissance survey on the Proposed Action site was conducted in January 2001. Active black-tailed prairie dog burrows that also have potential for occasional use as burrowing owl habitat were identified at the proposed site of the Air Traffic Control Tower and in the grassland areas adjacent to the existing access.

3.3.3 Sensitive Species

The USFWS lists species that are endangered or threatened, those that are proposed for endangered or threatened status, and candidates for listing. An endangered species is defined as any species in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. Sensitive species may be defined as federally-listed endangered, threatened, proposed candidate, species, state-listed species and state species of special concern (USFWS, 2001; CDOW 2001).

Species (flora and fauna) listed by federal or state agencies and known to occur permanently or periodically, or having the potential to occur on base are shown in Table 3.3-1.

**TABLE 3.3-1 SUMMARY OF SENSITIVE SPECIES POTENTIALLY LOCATED
AT BAFB**

Common Name	Scientific Name	Status	
		Federal	State
Amphibians			
Northern leopard frog	<i>Rana pipiens</i>	--	SSC
Birds			
Baird's sparrow	<i>Amodrammus bairdii</i>	--	SSC
Burrowing owl	<i>Athene cunicularia</i>	--	T
Ferruginous hawk	<i>Buteo regalis</i>	--	SSC
Mountain plover	<i>Charadrius montanus</i>	PT	SSC
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
Plains sharp-tailed grouse	<i>Tympanuchus phasianellus jamesii</i>	--	E
Mammals			
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	C	SSC
Black-footed ferret	<i>Mustela nigripes</i>	E	E

Common Name	Scientific Name	Status	
		Federal	State
Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	T	T
Plants			
Colorado butterfly plant	<i>Gaura neomexicana</i> ssp. <i>coloradensis</i>	T	S1
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	T	S2

Notes: E = Endangered, T=Threatened, SSC = Species of Special Concern, PT = Proposed Threatened,
C = Candidate Species, S1 = critically endangered in state, S2 = endangered or threatened in state

Source: USFWS, 2001; CDOW, 2001; CNHP, 2002

Black-tailed prairie dogs, federally classified by the USFWS as a candidate species and as a species of special concern by the state, are abundant at BAFB. Black-tailed prairie dog colonies rapidly are being removed from the Denver region as a result of development and the conversion of rural lands to urban uses. The Colorado Division of Wildlife is encouraging public landowners to keep black-tailed prairie dogs that are present on their property, or allow for expansion or start up of new black-tailed prairie dog colonies. Projected mission requirements and increasing public safety concerns from encroachment of prairie dogs into populated and flying areas indicated very little, if any, acreage can be kept available for black-tailed prairie dog colonies.

Buckley AFB falls within the block-cleared zone and is therefore considered to be black-footed ferret free. This species is not considered to be of concern at Buckley (USFWS, 1997).

Preble's meadow jumping mouse (*Zapus hudsonius preblei*) is listed by the state and federal government as threatened (USAF, 2000a). The Preble's meadow jumping mouse has an exclusive association with riparian vegetation near ponds and streams. Willow thickets or aspen forests with a well-developed grass understory are prime habitat for the mouse. Its diet is mostly grass seeds, and occasionally insects. Typically, the mouse will not move across roads, heavily grazed areas, or cultivated fields (USAF, 2000a). A survey for rare or imperiled species and significant natural communities, conducted by the Colorado Natural Heritage Program on BAFB in June 2000, specifically searched for Preble's meadow jumping mice and none were found on base (USAF, 2000a). The USFWS has determined that there would be no direct adverse effects to Preble's meadow jumping mouse (USFWS, 2002).

The bald eagle (*Haliaeetus leucocephalus*) is listed by the state and federal agencies as threatened. It occurs around lakes and rivers in the winter. It typically forages for fish but also is known to take small mammals, including black-tailed prairie dogs. Generally, winter habitat preferences for the bald eagle include a readily available food source associated with ice-free waters, diurnal perches, nocturnal roost trees, and low human activity. The bald eagle is a transient visitor to BAFB in the winter and is not known to breed in the immediate vicinity (USAF, 2000a).

The ferruginous hawk (*Buteo regalis*) a state species of special concern, is common in Arapahoe County (USAF, 2000a). It feeds almost exclusively on small mammals, including black-tailed prairie dogs and primarily nests in trees (USAF, 2000a). Ferruginous hawks are resident on the adjacent Prairie Conservation Center property and are likely to be present on BAFB.

The mountain plover (*Charadrius montanus*) is federally proposed as threatened and a state species of special concern. The plover prefers open, arid lands that support short grasses, such as buffalograss and blue grama, and scattered cactus on the eastern plains of Colorado. The mountain plover's reported range ends near the eastern boundary of Arapahoe County, and it is unlikely to occur on BAFB (USAF, 2000a).

The burrowing owl (*Athene cunicularia*), a state-threatened species, is known to occur on base. Burrowing owls typically are present in the area from March to late October and migrate out-of-state during the winter months. Burrowing owls typically occur in active black-tailed prairie dog towns and may be present in recently abandoned black-tailed prairie dog towns (USAF, 2000a). The burrowing owl also is protected under the Migratory Bird Treaty Act of 1918 and the Colorado Revised Statutes 33-2-105.

Ute ladies'-tresses, (*Spiranthes diluvialis*), federally listed as threatened, is an orchid found in seasonally moist soils and wet meadows near springs, lakes, or perennial streams and their associated floodplains below 6,500 feet in elevation. According to the Colorado Natural Heritage Program (CNHP), current distribution of the orchid does not include Arapahoe County. Although on-base surveys for the orchid are limited, the only potential habitat would be along the creeks.

The Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*), federally listed as threatened, prefers alluvial soils of drainage bottoms surrounded by mixed grass prairie, typically at elevations between 5,800 and 6,200 feet. According to the CNHP, current distribution of the Colorado butterfly plant includes wetland areas of Arapahoe County. This species could occur along the creeks on the base.

3.3.4 Sensitive Habitat

Sensitive habitats are those areas considered for protection due to their ecological value. They include wetlands, critical habitat for protected species, plant communities of limited or unusual distribution, and important seasonal use areas for wildlife. The shortgrass prairie habitat supporting the black-tailed prairie dog and wetlands are both found at Buckley AFB. Black-tailed prairie dog habitat is present however, no wetlands are present at the Proposed Action site.

3.4 CULTURAL RESOURCES

Cultural resources consist of prehistoric and historic sites including resources such as districts, buildings, structures and objects that are significant in American history, architecture, archaeology, engineering, and culture. Historic properties listed in or eligible for listing in the National Register of Historic Places (NRHP) are subject to

protection or consideration by a federal agency in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

For this analysis, the ROI is synonymous with the Area of Potential Effect (APE), as defined by regulations implementing the National Historic Preservation Act (NHPA). The ROI for the analysis of cultural resources includes all property within the Proposed Action areas where ground disturbance or other impacts may occur.

Numerous laws and regulations require federal agencies to consider the effects of a proposed project on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the federal agency proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Officer (SHPO) or the Advisory Council on Historic Preservation). The primary law governing the treatment of cultural resources is the NHPA, which requires a federal agency to consider potential impacts on historic properties from any proposed undertaking.

Only those potential historic properties determined to be significant under cultural resources legislation are subject to protection or consideration by a federal agency. Significant cultural resources, either prehistoric or historic in age, are referred to as “historic properties.”

3.4.1 Prehistoric Resources

Previous cultural resource investigations have resulted in the identification of 35 prehistoric sites and 24 isolated finds with prehistoric components within the BAFB boundaries (COANG, 2000f). All of these resources have been determined by the SHPO to be ineligible for nomination to the NRHP based on the lack of integrity and inability to provide data that could further the understanding of the prehistory of the area.

The seven archaeological recorded sites were associated with the BAFB cantonment areas, the hospital area, a railroad grade, a trash scatter, and a trash dump.

3.4.2 Historic Resources

A total of 58 historic resources (55 WW II era buildings and 3 Cold War era buildings) and seven historic archaeological resources were recorded during the 1990 Historic Resources Survey at BAFB (COANG, 2000c, 2000f).

A comprehensive, base-wide survey and evaluation of all facilities located on BAFB is currently underway. The BAFB will be completing the inventory prior to initiating the Proposed Action. This survey and SHPO consultation would be accomplished prior to the proposed action.

3.5 GEOLOGY AND SOILS

3.5.1 Geology

BAFB is located within the Denver Basin. The Denver Basin is a structural depression that is 300 miles long and 200 miles wide. This depression was created during a mountain building event referred to as Laramide Orogeny. The Denver Basin consists of geologic layers in excess of 13,000 feet thick that range in age from Late Pennsylvania through Quaternary. There are five principal stratigraphic units present within the Denver Basin: Fox Hills Sandstone; Laramie Formation; Arapahoe Formation; Denver Formation; and Dawson Arkose. The basal (compact) unit of the Denver Basin is Pierre Shale that underlies the Fox Hill Sandstone. Surficial material consists of several layers of unconsolidated alluvial gravels, sands, clays, and eolian material that were deposited in response to glacial and interglacial events (COANG, 1999b).

Coal reserves are present beneath the surface of BAFB; however, they are economically non-recoverable. Sand and gravel are mineral resources that also are also in the area, but they are not economically viable reserves (COANG, 1999b).

3.5.2 Soils

The U.S. Department of Agriculture (USDA) Soil Conservation Service (SCS), recently renamed the Natural Resource Conservation Service (NRCS), mapped and classified the soils on BAFB in 1971. The major soil mapping units present on base include the Fondis-Weld, Alluvial land-Nunn and Renohill-Buick-Little associations. Other areas on base have been identified as gravel pits, rock outcrop complexes, sandy alluvial land, and terrace escarpments (COANG, 1999b).

The Fondis-Weld association covers most of the surface area on base. It consists of deep loamy soils that formed mainly in silty material deposited by the wind. The Alluvial land-Nunn association typically is found along floodplains and terraces mainly along East Tollgate Creek and Sand Creek and consists of soils that have moderate permeability and high water holding capacity. The Renohill-Buick-Little association is comprised of moderately deep, well-drained, loamy to clayey soils (COANG, 1999b).

The NRCS completed a site visit for soil use as potential cropland at BAFB in January 2001. The determination made by the NRCS was that "...it would not be feasible to introduce agricultural production on the base without the added cost of installing conservation practices and/or irrigation system (NRCS, 2001)". Dry cropland soils were identified on-base as being of statewide importance. However, after a facility tour, few areas were recognized as having the potential to be converted to cropland, mainly due to parcel size and accessibility for farming operations.

3.5.3 Topography

The topography of BAFB is somewhat flat, with rolling uplands divided by northward and northwestward draining intermittent streams. Elevations on base range from 5,700

feet in the southeast corner to 5,470 feet in the northwest corner. BAFB is located within the western portion of the central high plains of Colorado to the west of the Great Plains. The base is approximately 50 miles east of the Continental Divide (COANG, 1999b).

3.6 HAZARDOUS SUBSTANCES

3.6.1 Hazardous Wastes

BAFB is regulated as a small quantity generator of hazardous wastes and maintains USEPA Identification Number CO9570025644 (Sherva 2002). There are two classifications of wastes generated at BAFB: nonhazardous solid waste and hazardous waste. Nonhazardous solid waste is removed by a contractor for off-site disposal. Recyclables also are removed from the base by a contractor.

Hazardous wastes, as defined in the Resource conservation and Recovery Act (RCRA) of 1976, are substances that have the characteristics of ignitability, corrosively, reactivity and toxicity that may cause an increase in mortality, a serious irreversible illness, an incapacitating reversible illness, or pose a substantial threat to human health or the environment. Normal operations at BAFB generate hazardous wastes as defined by Colorado Code of Regulations (6 CCR 1007-3) "Colorado Hazardous Waste Regulations".

Hazardous wastes generated at BAFB and during construction activities include waste paint-related materials, washer sludge, paint chips, sealant, used oil, waste fuel, solvent, and epoxy resin. There is one central accumulation site (CAS) where an indefinite quantity of hazardous waste is temporarily stored for up to 90 days at the north end of BAFB. The responsibility for managing hazardous waste lies with the generating organization and the base Environmental Flight and the Hazardous Waste Manager.

3.6.2 Hazardous Materials

Hazardous materials are those substances defined as hazardous by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. Sections 9601-9675), the Toxic Substances Control Act (15 U.S.C. Sections 2601-2671), and the Solid Waste Disposal Act, as amended by RCRA (42 U.S.C. Sections 6901-6992). In addition, hazardous substances and hazardous chemicals are regulated by the Emergency Planning and Community Right to Know Act (EPCRA)(42 U.S.C. Sections 11001-110505) and transportation of hazardous materials is regulated by the U.S. Department of Transportation (DoT) regulations within 49 CFR.

Operations at BAFB require the use and storage of hazardous materials. There is one 200-gallon AST located at building 806 and one 1000-gallon AST at building 1606. The 1000-gallon tank is used to store diesel for building 1606's boiler. Hazardous materials management is the responsibility of each individual or organization. Hazardous materials, on base include various paints, pesticides, adhesives, batteries, hydrazine, propylene glycol, and Petroleum, Oils, and Lubricants (POL). BAFB uses the Environmental

Management Information System (EMIS) to track hazardous materials brought on base. Each organization is responsible for ordering the hazardous materials they use.

Emergency response to spills or releases of hazardous materials is governed by the requirements of CERCLA, EO 12580, and EPCRA. Under CERCLA, the resident agencies at BAFB and contractors are responsible for reporting releases of reportable quantities to the National Response Center within 24 hours. BAFB maintains an Oil and Hazardous Materials Spill Prevention and Response Plan (COANG, 1995).

3.6.3 Asbestos

The current Air Force Policy is to manage or abate asbestos-containing material (ACM) in active facilities and remove ACM, following regulatory requirements before facility demolition. ACM is abated when there is a potential for asbestos fiber release that would affect the environment or human health.

The BAFB Asbestos Management Plan identifies procedures for management and abatement of asbestos and includes an ACM survey that covers 179 buildings on base. The Air Force requires that, prior to renovations or demolition of existing non-residential buildings, asbestos sampling be performed by a contractor to determine the percent and type of asbestos in the material.

Infrastructure, including asbestos lined pipes, was left in place during some demolition projects conducted in the 1950's and 1960's. Therefore, the potential exists for either finding asbestos lined pipes or asbestos contaminated soil during construction. An installation map of old World War II era structures would be used to determine the potential for asbestos contamination for each proposed construction site. In addition, soils samples were taken from eleven proposed fiscal years 04 to 07 construction sites, which did not include any of the proposed or alternative action sites, and analyzed for asbestos in January 2003.

Asbestos-containing material would be removed prior to the demolition or renovation of any facility in accordance with applicable federal, state, and local regulations prior to demolition activities (COANG, n.d. a).

3.6.4 Lead-Based Paint

Air Force Policy (1993) ensures that LBP hazards are avoided or abated during building modifications. The DoD banned the use of LBP in 1978. The base engineer assumes that all structures constructed during or prior to 1985 potentially contain LBP. There has not been an LBP survey conducted for BAFB facilities. LBP abatement is accomplished in accordance with applicable federal, state, and local regulations prior to demolition or renovation activities, in order to prevent any health hazards.

3.6.5 Polychlorinated Biphenyls

The Toxic Substance Control Act (TSCA, 15U.S.C Section 2601, et seq., as implemented by 40 CFR Part 761) regulates polychlorinated biphenyls (PCBs). PCBs are defined as PCB equipment, 500 parts per million (ppm) PCBs; PCB-contaminated, 50 ppm PCBs; and PCB items, 5-49 ppm PCBs. According to the Environmental Office, as of 1996, all transformers were tested and any containing PCBs were removed. As of 1998, the base no longer has any PCB containing electrical transformers. According to files kept by CEV, leaking transformers were found in Building 913, a transfer substation, and Building 901, an electrical vault. A September 1999 visual site inspection uncovered PCB-containing electrical equipment at the crash house, Building 1606. This equipment subsequently has been removed, and a note was made that oil had leaked from the equipment. Part of the floor was removed to remediate the site; however, more testing needs to occur.

Prior to using the DRMO for transformer storage while awaiting test results, storage occurred at the CE Northyard Storage Area and at the site of the planned administration building in the munitions area. No spills were reported at either site.

3.6.6 Pesticides

Pesticides routinely are applied throughout BAFB, with the majority of applications coordinated by the Public Health Officer. Pesticides are stored at the CE Entomology facility in Building 306. BAFB practices integrated pest management (IPM) that seeks to limit pesticide applications by applying treatments when an outbreak has occurred or prior to any training exercise. IPM utilizes four basic pest control methods: mechanical/physical control; habitat control; biological control; and chemical control (COANG, 1999a).

There are several pest problems on base that warrant constant vigilance. Rodents can carry the hantavirus, and this virus is present in Colorado. Hantavirus is spread by contact with rodent feces and urine, and poses an inhalation risk. Mice with the hantavirus are known to occur near the dam at Williams Lake. The base entomologist coordinates prevention efforts with the 460th Public Health Officer. Prevention methods include physical barriers, attention to hygiene practices, and public education. The preferred treatment for curbing the rodent population is the use of mechanical traps and glueboards in buildings; however, occasionally the pesticide bromdiolone is used. Before any building demolition, Bioenvironmental would inspect the building for signs of rodent infestations and clean and treat the infected areas accordingly. Pigeon droppings are the source of the disease psittacosis. A pre-demolition inspection also would include visually inspecting for signs of pigeon habitation, and the area would be cleaned if warranted (COANG 1999a).

Another serious health threat at BAFB is the sylvatic plague that is carried by fleas that infect burrowing rodents. BAFB has a large population of black-tailed prairie dogs. Fleas rarely are seen on the surface, and the treatment used to control the flea population is Pyreperm 455 Dust (pyrethrin/permethrin). As a preventative measure, a 100-foot

buffer zone is treated around the child development center in Building 725; otherwise, unless there is a specific problem near a building, the base is not treated. Pesticide applications include their use to control roaches in food service areas, and the spraying of herbicides for weed control along base boundaries, aircraft parking aprons, runways, and taxiways. Reportedly, no chlordane ever was used on the base.

3.6.7 Installation Restoration Program Sites (IRP)

The Air Force established the IRP to identify, characterize, and evaluate past disposal sites and remediate contamination on its installations as needed to control the migration of contaminants and potential hazards to human health and the environment in accordance with CERCLA requirements. There are 10 IRP sites on BAFB. Two sites are closed: Facility 801 (Site 6) and the Army Aircraft Burial Site (Site 8). One of these sites, fire training area 2 (Site 1), located in an area adjacent to Building 1606, is currently undergoing a supplemental remedial investigation. A cleanup was initiated at fire training area 3 (Site 4) in 1998 and the site is currently scheduled for additional remedial action.

The alleged Army Aircraft Burial Site (Site 8) has a state approved NFRAP DD. Four of the sites require further monitoring: the fire training area 1 (Site 5); the oil pit (Site 2); base landfill (Site 3); and sludge drying beds (Site 7). A remedial investigation is scheduled for the future for Site 9, the UST burial site. A supplemental remedial investigation to the previous remedial investigation is also being initiated in September 2002 for the former warehouse area (Site 10) (COANG, 2000b).

3.7 HEALTH AND SAFETY

For the purposes of this EA, safety issues focus on factors affecting construction and demolition safety, fire and public safety, aircraft safety, and aircraft and munitions safety. BAFB has a general safety policy relating to the performance of all activities on the base. Individuals, supervisors, managers, and commanders are expected to give full support to safety efforts. Safety awareness and strict compliance with established safety standards are expected. In the event of any mishaps, incidents are investigated, lessons learned are documented, and corrective actions are taken. In addition, the BAFB Disaster Preparedness Operations Plan 32-1 establishes procedures to respond to and recover from disasters or accidents, created or natural, affecting assigned and tenant organizations at BAFB, as well as the surrounding area. This plan includes procedures for responding to hazardous material spills and severe weather.

3.7.1 Construction, Demolition, and Maintenance Safety

Contractor personnel for the Proposed Action at BAFB would be responsible for ensuring ground safety and compliance with all applicable occupational health and safety regulations and worker compensation programs. The contractor also would be required to conduct construction and demolition activities in a manner that would not pose risks to workers currently occupying any existing facilities.

Exposure to hazardous materials, use of personal protective equipment, and availability of Material Safety Data Sheets (MSDS) are addressed by industrial hygiene programs. Industrial hygiene is the joint responsibility of bioenvironmental engineering and contractor safety departments, as applicable. They are responsible for reviewing all potentially hazardous workplace operations; monitoring exposure to workplace chemical (e.g., asbestos, lead, hazardous materials), physical (e.g., noise), and biological (e.g., infectious waste) agents; recommending and evaluating controls (e.g., ventilation, respirators); ensuring personnel are properly protected and not overexposed; and ensuring a medical surveillance program is in place to perform occupational health physicals for those workers subject to chemical exposures. As noted in Section 3.6.7 (IRP), an additional consideration for this Proposed Action is that area adjacent to Building 1606 (Air Traffic Control Tower and Crash House) is contained within IRP Site 1.

3.7.2 Fire and Public Safety

Wheatgrass and midgrass prairie vegetation are the dominant vegetation types located on BAFB and generally are susceptible to fire during extended periods of extreme heat and low humidity. Other vegetation types identified at BAFB include bottomland meadow grasses, cottonwood/willow, rubber rabbit brush, weedy forb, and meadow grasses, all primarily found along the East Tollgate Creek and Sand Creek drainages. High fire risk season for this type of vegetation typically extends from June to October.

Currently, fire protection services at BAFB are provided by a 45-person crash and structural fire department; 20 fire suppression personnel are on each shift at any one time. The crew's organization is based on a worst-case fire threat scenario involving large frame aircraft.

Law enforcement at BAFB is provided by a full-time police force. The police provide base perimeter patrols, entry point controls, traffic control, and general police protection.

3.7.3 Aircraft Safety

Aircraft safety criteria govern the location and height of structures located near the airfield to reduce obstructions to flight operations. AFR 86-14, Item 8 requires a 200 foot minimum facility clearance from the taxiway centerline to a fixed or mobile obstacle for Class B runways and the current Air Traffic Control Tower Bldg. 1606 is 185 ft. from centerline of Taxiway "W". The Air Traffic Control Tower facilities are being relocated due to conflicts with the airfield restricted zones.

3.7.4 Aircraft and Munitions Safety

There are three Explosive Safety Zones located on the installation. These include the munitions hold area on the south side of Taxiway L, the hot cargo pad and the munitions storage area located on the east side of the runway. To protect personnel, employees, and the public facilities such as the Air Traffic Control Tower which do not support the

Munitions Maintenance and Storage Complex would be located outside of these safety zones.

3.8 LAND USE

Land use at BAFB includes aircraft and mission operation and maintenance, airfield and airfield operations, administrative, community commercial, community service, medical, housing (accompanied and unaccompanied), outdoor recreation, open space and water (BAFB, 2002b).

An additional "Other Operations" category was developed for the existing land use plan. This classification includes the operations of tenant units that are not related to the airfield activities.

The ROI for land use includes those areas potentially affected by the Proposed Action at BAFB (see Figures 2-1 through 2-3). Most land uses at BAFB consist of aircraft operation and maintenance, open space, and community commercial (i.e. office). The areas being considered for the proposed Air Traffic Control Tower, Crash House, and fire station are classified as aircraft operation and maintenance.

3.9 NOISE

Noise is an important factor in planning land use on or near military installations. Noise levels and compatible land uses for BAFB are described in the BAFB Air Installation Compatibility Use Zone (AICUZ) study.

Noise is any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Human response to noise can vary according to the type and characteristic of the noise source, the distance between the noise source and the receptor, the sensitivity of the receptor, and the time of day. Under certain conditions, noise may cause hearing loss, interfere with human activities at home and work, and affect people's health. Community noise levels usually change continuously during the day and exhibit a daily, weekly, and yearly pattern.

The federal noise measure used for assessing total daily noise exposures in communities is the day-night average sound level (DNL) in units of decibels (dB). Most people are exposed to sound levels of 50 to 55 DNL or higher on a daily basis. Research indicates that most of the population is not highly annoyed by outdoor sound levels below 65 dB. Therefore, most agencies have identified 65 DNL as a criterion that protects those most affected by noise and that often can be achieved on a practical basis. Base activities that have the highest potential source for noise impacts are the aircraft/airspace operations. The AICUZ Study (COANG, 1998a) plotted the DNL from 65 to 80 dB for a typical busy day at BAFB. The DNL 65 dB contour covers the main runway and extends approximately one mile southeast and one mile northwest over Aurora, Colorado in Arapahoe County. Most of the base is within the 65 dB contour (COANG, 1998a).

3.10 SOCIOECONOMICS

Socioeconomics is defined as the basic attributes of population and economic activity within a particular area or ROI. Socioeconomics typically encompasses population, employment and earnings, and industrial and commercial growth. Socioeconomic data shown in this section are primarily at the county level. The region for this analysis includes Arapahoe County (which includes all the sites associated with the Proposed and Alternative Actions).

3.10.1 Population and Housing

The population of Arapahoe County was 487,967 persons in 2000, 24.6 percent greater than the 1990 population of approximately 359,143 persons. Table 3.10-1 ARAPAHOE COUNTY DEMOGRAPHICS	
Population, 2000	487,967
Population, percent change, 1990 to 2000	24.6%
Persons under 5 years old, percent, 2000	6.9%
Persons under 18 years old, percent, 2000	26.7%
Persons 65 years old and over, percent, 2000	8.6%
White persons, percent, 2000 (a)	79.9%
Black or African American persons, percent, 2000 (a)	7.7%
American Indian and Alaska Native persons, percent, 2000 (a)	0.7%
Asian persons, percent, 2000 (a)	3.9%
Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	0.1%
Persons reporting some other race, percent, 2000 (a)	4.5%
Persons reporting two or more races, percent, 2000	3.2%
Female persons, percent, 2000	50.7%
Persons of Hispanic or Latino origin, percent, 2000 (b)	11.8%
White persons, not of Hispanic/Latino origin, percent, 2000	73.9%
High school graduates, persons 25 years and over, 1990	230,583
College graduates, persons 25 years and over, 1990	88,573
Housing units, 2000	196,835
Homeownership rate, 2000	68.0%
Households, 2000	190,909
Persons per household, 2000	2.53
Households with persons under 18, percent, 2000	37.2%
Median household money income, 1997 model-based estimate	\$50,748
Persons below poverty, percent, 1997 model-based estimate	6.4%
Children below poverty, percent, 1997 model-based estimate	9.6%

Source U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, 2000 Census of Population and Housing, 1990 Census of Population and Housing, Small Area Income and Poverty Estimates, County Business Patterns, 1997 Economic Census, Minority- and Women-Owned Business, Building Permits, Consolidated Federal Funds Report, 1997 Census of Governments

3.10.2 Employment Per Capita Personal Income

In 1999, Arapahoe had a per capita personal income (PCPI) of \$40,177. This PCPI ranked 3rd in the state, and was 127 percent of the state average, \$31,533, and 141 percent of the national average, \$28,546. In 1989, the PCPI of Arapahoe was \$22,903 and ranked 3rd in the state. The average annual growth rate of PCPI over the past 10 years was 5.8 percent. The average annual growth rate for the state was 5.5 percent and for the nation was 4.4 percent (BEA, 1999).

3.10.3 Employment Total Personal Income

In 1999, Arapahoe had a total personal income (TPI) of \$19,368,842. This TPI ranked 2nd in the state and accounted for 15.1 percent of the state total. In 1989, the TPI of Arapahoe was \$8,817,223 and ranked 2nd in the state. The average annual growth rate of TPI over the past 10 years was 8.2 percent. The average annual growth rate for the state was 7.7 percent and for the nation was 5.4 percent (BEA, 1999).

3.10.4 Earnings By Industry

Earnings of persons employed in Arapahoe increased from \$5,466,415 in 1989 to \$15,900,885 in 1999, an average annual growth rate of 11.3 percent. The largest industries in 1999 were services, 30.5 percent of earnings; transportation and public utilities, 18.1 percent; and finance, insurance, and real estate, 14.7 percent. In 1989, the largest industries were services, 31.2 percent of earnings; finance, insurance, and real estate, 11.7 percent; and retail trade, 11.2 percent. Of the industries that accounted for at least 5 percent of earnings in 1999, the slowest growing from 1989 to 1999 was state and local government (6.0 percent of earnings in 1999), which increased at an average annual rate of 6.5 percent; the fastest was transportation and public utilities which increased at an average annual rate of 18.6 percent (BEA, 1999).

3.10.5 Annual Economic Influence

In 2001, there were 2,987 active duty military personnel stationed at BAFB along with 3,732 National Guard and Reserve personnel, with a total of approximately 7,000 personnel (USAF, 2000). The number of personnel supported by the base in 2001 was approximately 49,574, see Table 3.11-2. The BAFB gross annual payroll, with approximately 315.6 million dollars in 2001, see Table 3.11-3. The number of indirect jobs created that are related to BAFB activities was 3,862 in 2001. See Tables 3.11-3 for estimates on number and dollar value of total economic impact.

TABLE 3.10-2 PERSONNEL ASSOCIATED WITH BUCKLEY AIR FORCE BASE 2001

Employee Type	Number of People
Active Duty	2,987
Civilian	1,117
Contractors	1,396
Retirees	22,000
Vets/Dependents	16,126
Guard/Reserve (Traditional)	3,732
Total Supported by Base	49,574
Source: Buckley AFB Fiscal Year 01 Data Commander's Data Card as of 30 Sep 01	

TABLE 3.10-3 SUMMARY OF GROSS ANNUAL PAYROLL, FISCAL YEAR 2001

Classification	Total Dollars
Appropriated Fund Military	164,701,216
Appropriated Fund Civilian	50,990,792
Non-Appropriated Fund, Civilian, Contract Civilian, and Private Business	99,889, 620
Total Dollars	315,581,628

Source: Buckley AFB Fiscal Year 01 Data Commander's Data Card as of 30 Sep 01 .

TABLE 3.10-4 TOTAL ANNUAL ECONOMIC IMPACT ESTIMATE, FISCAL YEAR 2001

Classification	Total Dollars
Annual Payroll	315,581,628
Estimated Annual Dollar Value of Jobs Created	159,937,006
Annual Expenditures	35,618,617
Grand Total	511,137,251

Source: Buckley AFB Fiscal Year 01 Data Commander's Data Card as of 30 Sep 01 .

3.11 TRANSPORTATION

The ROI for traffic and transportation is the BAFB boundary and the surrounding commuting area. This section analyzes the peak hour traffic on the local roads accessing the base, as well as the average daily traffic on the base roads. The traffic analysis will be used in Section 4.12 as a baseline to compare the increase in traffic resulting from the

Proposed Action. The comparison of the increased traffic to the baseline data will determine the impacts from the Proposed Action.

Information on peak hour traffic and average daily traffic was obtained from Environmental Assessment for the Construction of a Base Exchange and Commissary Complex Buckley Air National Guard Base, Colorado, December 1999. Estimated population trends in the five counties (Adams, Arapahoe, Denver, Douglas, and Jefferson) surrounding BAFB indicate a four percent increase in population between 1999 and 2000 (CDLE, 2000). Because of the slight increase in population, the approximate values for the peak hour traffic and the average daily traffic from the 1999 Environmental Assessment are still applicable to the region.

BAFB is in the Denver metropolitan area, a major crossroads in the Rocky Mountains for vehicular traffic, with I-25, I-70, and I-76 connecting the area to other major cities in the United States. Branching off I-70 to the west of the base, I-225 runs in a north-south direction through the city of Aurora. Intersecting with I-225 in the city of Aurora and running in an east-west direction are two major arteries that serve as primary access to BAFB. The two major arteries are 6th Avenue and Mississippi Avenue that have varying levels of traffic depending on the time of day. Each road leads to one of two gates that serve as main entrances to the base: North Gate and South Gate. See Figure 1-1 for road locations.

3.11.1 North Gate

Traffic Outside Base. The primary artery, 6th Avenue, runs adjacent to the northern boundary of the base and leads to the North Gate, is open 24 hours a day. West of the gate, on 6th Avenue, the number of vehicles during afternoon peak hour traffic is approximately 1,300. East of the North Gate, 6th Avenue turns into Highway 30. On State Highway 30, the number of vehicles during peak hour traffic is 400 (USAF, 2000a).

Traffic On Base. At the North Gate, 6th Avenue intersects with Aspen Avenue, the most heavily trafficked road on the base during morning and afternoon rush hour. Traversing the base in a north-south direction, Aspen Avenue has average daily traffic ranging from 3,000 vehicles per day in the central base area to 500 in the less traveled areas of the base (USAF, 2000b).

3.11.2 South Gate

Traffic Outside Base. The second major artery, Mississippi Avenue, provides access to BAFB through South Gate, open during weekday peak commuting hours. West of the South Gate, Mississippi Avenue is a four-lane divided roadway with 700 vehicles on the road during peak hour traffic (USAF, 2000b).

Traffic On Base. At the South Gate, Mississippi Avenue intersects with South Vail Street that connects with Aspen Avenue in the central base area. On South Vail Street, between the intersection with Aspen Avenue and the South Gate, the average daily traffic is 4,000 vehicles per day (USAF, 2000b).

3.12 UTILITIES (INFRASTRUCTURE)

Water supply. BAFB obtains potable water from the City of Aurora. BAFB has a contract with the City of Aurora, where BAFB provides an estimate of its water usage. However, the Proposed Action does not impose any water use limitations on the base (USAF, 2000a). Water is distributed to facilities on BAFB for domestic use, process use, and fire protection. BAFB used approximately 0.08 million gallons per day (MGD) of water during FY99.

Wastewater Treatment BAFB generates both domestic and industrial wastewater. The industrial wastewater consists of water from oil/water separators and does not require pre-treatment (USAF, 2000b). BAFB has a wastewater permit that is issued by the Metro Wastewater Regional District (effective 2 August 2000). BAFB reported an average daily flow of 185,543 gallons per day between July and September 2002 (Hranac, 2002). The Metro Wastewater Region treatment plant was designed to meet the population estimates through 2010, with a hydraulic capacity of 185 MGD. Currently, the plant treats 140-156 MGD (USAF, 2000b). Wastewater from the existing crash house and air traffic control tower is discharged to a septic tank and leach field.

Solid Waste Solid waste collection and disposal services at BAFB are handled by a private contractor. Waste is collected from dumpsters located throughout the base and routinely transported to the Denver-Arapahoe Disposal Site, in Arapahoe County. The permitted portion of the landfill occupies 2,680 acres with an estimated design life of 40 to 50 years (USAF, 2000b).

BAFB generated approximately 4 tons per day of solid waste in Fiscal Year (FY) 2002. This amount does not include construction and demolition wastes, asbestos, or recycled items. BAFB recycled approximately 1.4 ton per day of material in FY 2002 (BAFB, 2002a).

Electricity: Electricity is provided by the Public Service Company of Colorado (PSC). The PSC East Substation, located at the intersection of Colfax Avenue and I-225, provides electrical power to the base through 13.2 kilovolt (kV) overhead distribution lines. Buckley AFB is the largest user of power from this substation. In FY00, the facilities at Buckley AFB used approximately 292,400 kilowatt-hours (kWh) per day of electricity (BAFB, 2002a).

Natural Gas: Natural gas is provided to Buckley AFB through a gas main beneath 6th Avenue (USAF, 2000b). The regional natural gas system has a capacity of 130 billion cubic ft. In FY00, Buckley AFB used approximately 5,900 cubic ft of natural gas per day (BAFB, 2002a).

3.13 WATER RESOURCES

Water resources include both surface and subsurface waters. Surface water includes all lakes, ponds, rivers, streams, impoundments, and wetlands within a defined area or watershed. Subsurface water, commonly referred to as groundwater, typically is found in

certain areas known as aquifers. Aquifers are areas of mostly high porosity soil where water can be stored within soil pore spaces. Groundwater usually is recharged during rain events and is withdrawn for domestic, agricultural, and industrial purposes. The CWA of 1972 is the primary federal law that protects the nation's waters. Its primary objective is to restore and maintain the integrity of the nation's waters.

Water resources analyzed in this section include the watershed and aquifers associated with BAFB. Flood hazards associated with the 100-year floodplain also are addressed in this section.

3.13.1 Surface Water

BAFB generally is divided into two watershed regions. Watershed 1, on the eastern side of the base, contains three drainage areas (1,2, and 5). Watershed 2, on the western side of the base, contains two drainage areas (3 and 4) (COANG, 1999b). There are a total of 3,272 acres of drainage area at BAFB, of which 411.5 acres (12.6 percent) are impervious surface (COANG, 1999b). The base has extensive natural and man-made surface drainage as well as underground storm drainage lines.

Stormwater runoff from BAFB drains into one of three streams adjacent to the base. East Tollgate Creek receives flows from the western side of the base, Sand Creek and Murphy Creek receive flows from the eastern side of the base. All of these are intermittent streams in the vicinity of the base flow, predominately in the spring and summer. Sand Creek is perennial downstream from the base. The streams are tributaries to the South Platte River that is located approximately 15 miles northwest of the base, and is the primary surface water drainage system in the region. Williams Lake, the largest surface water source on BAFB, is located in the northeast portion of the base and was created by damming a minor tributary to Murphy Creek. It occupies approximately 10 acres, but has a maximum surface area of 30 acres. It is an impoundment for runoff and well water, and is used strictly for fire-fighting or recreational purposes (COANG, 1999b and COANG, 2000e).

Drainage Area 3 is the only area on base that includes industrial facilities where hazardous materials are used and potential runoff contamination could occur. Stormwater for the area discharges to the west. It is regulated under the National Pollutant Discharge Elimination System (NPDES) [Colorado Discharge Permit System (CDPS)] General Permit for Stormwater Discharges Associated with Industrial Activities. BAFB operates under General Permit COR 05A05F (issued February 1, 2001). This permit is valid for five years and authorizes the discharge of storm water associated with industrial activity, and requires annual monitoring activities (CDPS, 1996).

To control the discharge of floating pollutants resulting from accidental spills, the base maintains oil containment booms systems and absorbents. The base also maintains an Oil and Hazardous Materials Spill Prevention and Response Plan to satisfy 40 CFR 112 (COANG, 1995).

3.13.2 Floodplains

Executive Order (EO) 11988, Floodplains Management, directs government agencies to avoid adverse effects and incompatible development in floodplains. The objective of this presidential order is to avoid, to the extent possible, the long- and short-term adverse impacts associated with occupancy and modification of floodplains. The EO applies to all federal agencies conducting activities and programs that may potentially affect floodplains. To comply with EO 11988, before taking any action, the Air Force must evaluate the impacts of specific proposals on the floodplain. If construction is unavoidable, the agencies must ensure the action conforms to applicable floodplain protection standards and that accepted flood-proofing and other flood protection measures are applied to the construction.

The Federal Emergency Management Agency (FEMA) has designated the East Tollgate Creek drainage as being within the 100-year floodplain. While the area inside the installation is not included on the FEMA map, extrapolation shows that the floodplain would continue through the installation (COANG, 1997).

3.13.3 Groundwater

There are four major bedrock aquifers that underlie BAFB within the Denver Basin. These are the Denver, Upper Arapahoe, Lower Arapahoe, and Larmie-Fox Hills. The aquifers are separated by beds of shale with low permeability and are located in zones of sandstones and siltstones. The Denver Basin is the uppermost aquifer and is approximately 1,000-feet thick. It is classified as a tributary in the area surrounding BAFB because it comes in contact with surrounding surface water systems or with their alluvium. It is approximately 175-feet thick in the area under the base. The Upper and Lower Arapahoe aquifers are 400 to 700-feet thick and underlie the Denver Aquifer. The Laramie-Fox Hills Aquifer is 600 to 800-feet thick and underlies the Arapahoe aquifers. The Denver Basin aquifer system is a secondary source of drinking water for suburban Denver and nearby rural communities. The water from the Laramie-Fox Hills Aquifer has been known to contain methane and hydrogen sulfide (COANG, 1999b).

There are alluvial aquifers in the area surrounding BAFB. They are the result of alluvial deposition from erosion and are associated with the East Tollgate Creek and Sand Creek. Groundwater recharges to this aquifer through direct infiltration of precipitation and irrigation water and through groundwater seepage (COANG, 1999b).

There are six groundwater wells on base. In 1986, the base connected their system with the City of Aurora distribution system. Potable water is supplied to BAFB by the City of Aurora.

SECTION 4.0

ENVIRONMENTAL CONSEQUENCES

The effects of the Proposed Action and alternatives would have on the affected environment are discussed in this section. If for any reason there were any unavailable or incomplete information for any resource topic, it would be identified and discussed under that resource topic, including how the lack of information might influence the analysis and conclusion.

4.1 AIR QUALITY

Impacts to air quality would be considered if pollutant emissions associated with the implementation of the Proposed Action caused or contributed to a violation of any national or state ambient air quality standard, exposed sensitive receptors to substantially increased pollutant concentrations, represented an increase of ten percent or more in affected AQCR's emissions inventory, or exceeded any significance criteria established by the Colorado SIP.

4.1.1 Proposed Action

Fugitive dust from ground-disturbing activities associated with site grading, demolition, and construction, and combustive emissions from vehicles and heavy equipment would be generated during the implementation of the Proposed Action. Fugitive dust emissions would produce elevated particulate concentrations; however, they would be temporary, would fall rapidly from the source, and would not produce long-term impacts. The basewide emissions inventory considers impacts from stationary as well as mobile sources, including on-road and off-road heavy and light duty vehicle movement emissions (off-road use restricted to construction practices). Pollutants from vehicle and heavy equipment exhausts are NO_x, CO, PM₁₀, and VOCs. Internal combustion engine exhausts would be temporary and would not result in any long-term impacts. The 2002 inventory shows the base to be well below the Title V Air Operations Permit limits for all pollutants (COANG, 2000d). As directed by 5 CCR 1001-5, BAFB would obtain an Air Contaminant Emissions Notice by the state of Colorado for all construction activities identified in the Proposed Action.

The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of construction activity. The USEPA has estimated that uncontrolled fugitive dust emissions from ground-disturbing activities would be emitted at a rate of 80 pounds of total suspended particulates (TSP)

per acre per day of disturbance. Fugitive dust emissions from demolition activities would be generated primarily from building dismemberment, debris loading, and debris hauling. The USEPA has established a recommended emission factor of 0.011 lbs of PM₁₀ per square foot of demolished floor space. The total area to be demolished under the Proposed Action is 6,780 sf.

The USEPA assumes that 230 working days are available per year for construction, and that half of these working days would result in uncontrolled fugitive dust emissions. There are 24,561 sf of new construction planned, and it is estimated that the project area would cover slightly more than 1 acre. There would be slightly elevated short-term PM₁₀ ambient air concentrations. However, as a result of construction and site grading, it would be temporary; would fall rapidly with distance from the source; and would not produce any long-term impacts. The effects of fugitive dust from construction activities would be reduced significantly with an effective watering program. Watering the disturbed area twice per day with approximately 3,500 gallons per acre would reduce TSP emissions by as much as 50 percent. Table 4.1-1 shows the estimated pollutant emissions that may result from the implementation of the Proposed Action. Table 4.1-2 compares emission estimates to the 1998 AQCR 36 Emission Inventory and the USEPA *de minimis* values.

Table 4.1-1 Estimated Pollutant Emissions from Construction Activities					
New Construction or Renovation (N/R)	N				
Building Square Footage	24,561.0	ft ²	No. Stories	1	
Asphalt Area	9,895.5	ft ²	Depth	4	inches
Concrete Area	2,562.8	ft ²	Depth	12	inches
Demolition Building Area	6,780.0	ft ²			
Total Area of Site	1.01	Acres (area disturbed by ground breaking)			
Project Duration	12	Months (ground breaking to completion)			
Construction Emissions					
Construction Activity	CO (tons)	VOC (tons)	NO _x (tons)	SO _x (tons)	PM ₁₀ (tons)
Site Preparation/Ground Disturbance	-	-	-	-	1.12
New Building Construction	1.06	0.18	2.41	0.26	0.16
Existing Building Renovation	-	-	-	-	-
Building Demolition	0.01	0.06	0.16	0.02	0.05
Asphalt Paving Operations	0.06	0.00	0.01	0.00	0.00
Concrete Paving Operations	0.04	0.01	0.09	0.01	0.01
Total Emissions	1.17	0.25	2.67	0.28	1.33

* The Estimated Pollutant Emissions from Construction Activities were developed by Parsons, Inc.

TABLE 4.1-2 PROPOSED ACTION AIR EMISSIONS AT BAFB

Pollutant	Proposed Action Annual Emissions (tpy)	1998 AQCR 36 Emission Inventory (tpy)	Net Change (%)	De minimis Values^a (tpy)	Above/ Below De minimis
CO	1.49	4,761	0.031	100	Below
VOC	0.34	13,727	0.002	100	Below
NO_x	3.41	37,079	0.009	100	Below
SO_x	0.36	34,732	0.001	100	Below
PM₁₀	4.71	3211	0.15	100	Below
Pb	--		--	25	--

^a Source: 40 CFR 93.153, November 30, 1993.

tpy Tons per year
% Percent

Impacts to air quality relative to emissions of hazardous air pollutants would result from some construction activities (heavy equipment operation and use of paints and glues), however, these activities would be short-term and the emission of hazardous air pollutants would be minimal as they generally account for a very small percentage of total construction related activity.

Appropriate air pollution controls would be provided and the acquisition of applicable air permits and/or control plan submittals would be made prior to commencement of construction. Construction and demolition activities would result in the generation of fugitive dust. Proper dust control measures would be applied. If ground disturbance activities exceed 6 months in duration (as is planned) an Air Pollutant Emissions Notice (APEN) notification must be filed with CDPHE, Air Quality Control Division (AQCD). The state uses the APEN to determine whether an air emission permit is necessary.

4.1.2 Air Conformity Analysis

Federal actions must comply with the USEPA Final General Conformity Rule published I 40 CFR 93, Subpart B (for federal agencies) and 40 CFR 51 Subpart W (for state requirements). The Final Conformity Rule, which took effect on January 31, 1994, requires all federal agencies to ensure that proposed agency activities conform to an approved or promulgated State Implementation Plan (SIP) or Federal Implementation Plan (FIP). Conformity means compliance with a SIP or FIP for the purpose of attaining or maintaining the NAAQS. Specifically, this means ensuring the federal activity does not: 1) cause a new violation of the NAAQS; 2) contribute to an increase in the frequency or severity of violations of existing NAAQS; 3) delay the timely attainment of any NAAQS; or 4) delay interim or other milestones contained in the SIP for achieving attainment.

The Final General Conformity Rule applies only to federal actions in designated non-attainment or maintenance areas, and the rule requires that total direct and indirect emissions or non-attainment criteria pollutants, including ozone precursors, be

considered in determining conformity. The rule does not apply to actions that are not considered regionally significant and where the total direct and indirect emissions of non-attainment criteria pollutants do not equal or exceed *de minimis* threshold levels for criteria pollutants established in 40 CFR 93.153(b). A federal action would be considered regionally significant when the total emissions from the proposed action equal or exceed 10 percent of the non-attainment area's emissions inventory for any criteria air pollutant. If a federal action meets *de minimis* requirements and is not considered a regionally significant action, then it does not have to undergo a full conformity determination. Ongoing activities currently being conducted are exempt from the rule as long as there is no increase in emissions above the *de minimis* levels as the result of the federal action.

For purposes of analysis, it was assumed that the type, square footage, and specific details proposed for the Proposed Action construction are those specified in Section 2.1. It also was assumed that the period of construction was limited to one year. The annual emissions presented in Table 4.1-2 include the estimated annual PM₁₀ emissions associated with implementation of the Proposed Action (demolition and construction) BAFB.

The Proposed Action includes the construction of new air traffic control tower and the renovation of Building 806. No increase in baseline emissions would be anticipated after construction completion. In addition, the Proposed Action includes the demolition of Building 1606.

An air conformity analysis was performed using the estimated annual emissions associated with the implementation of the Proposed Action. The estimated values for CO, VOC, NO_x, SO_x, and PM₁₀ were determined to be less than the USEPA *de minimis* values and less than 10% of the AQCR 36 Emission inventory (see Table 4.1-2).

A conformity determination under the CAA conformity rules is not required because 1) the Proposed Action is not regionally significant because the AQCR 36 emissions will increase by less than 10%, and, 2) the Proposed Action estimated emissions are below *de minimis* values as stated in 40 CFR 93.153(b). Since the action's emissions are low, temporary, and insignificant, the Proposed Action would conform to the SIP.

4.1.3 No Action Alternative

Under the No Action Alternative, the demolition and construction of the air traffic control tower and the modifications to the fire station would not occur. Average daily vehicle miles traveled from the main base to the existing crash house and control tower would remain consistent. There would be no impacts as a result of the No Action Alternative and baseline conditions as discussed in Section 3.2 would remain unchanged.

4.2 RADON GAS

4.2.1 Proposed Action

Currently no buildings are located at the proposed air traffic control tower site, therefore no radon data surveys are available for this site. However, after the new air traffic control tower is constructed, it would be subject to radon sampling because it would be occupied more than 8 hours per day (Per 40 CFR Part 195).

4.2.2 No Action Alternative

Under the No Action Alternative, the proposed air traffic control tower and fire station addition would not be built; therefore, radon resources would not be affected as a result of the No Action Alternative.

4.3 BIOLOGICAL RESOURCES

This section analyzes the potential for impacts to biological resources from the implementation of the Proposed Action or the No Action Alternative. Analyses of impacts on base focus on whether and how ground-disturbing activities may affect biological resources.

4.3.1 Proposed Action

The Proposed Action is not likely to have any adverse effects on biological resources, with the exception of the black-tailed prairie dogs and their commensal species (i.e. burrowing owl, snakes, rabbits) present at the air traffic control tower/crash house. Under the Proposed Action, approximately 0.50 acre of the black-tailed prairie dog colony would be impacted as a result of construction activity. The construction area for the air traffic control tower/crash house would be designated a control zone per section 2.2.2 of USAF, 2001b and non-lethal means of removal would be employed prior to construction to remove the black-tailed prairie dogs on the subject site. Non-lethal means of removal (i.e., trapping, soap and water foam method, or vacuum truck method) are the preferred means of removal when feasible. The prairie dogs would be relocated to another area off-base or donated to a USFWS black-footed ferret breeding facility. Lethal means of removal may be used for the prairie dogs located at the Proposed Action construction site if live removal is not feasible. However, non-lethal means of removal would be the preferred course of action and is the basis for the minor, local adverse impact evaluation to the local population of black-tailed prairie dogs. Following the demolition of Building 1606, there would be new prairie dog habitat available. The USAF will send a copy of the draft EA to the U.S. Fish and Wildlife Service for review and comment. The EA cover letter will include a request to confer about the effects of the Proposed Action on the black-tailed prairie dog.

The subject site would be monitored for burrowing owls per CDOW guidelines. If burrowing owls are using the site, a U.S. Fish and Wildlife nest take permit would be required prior to construction at the site because the burrowing owl is protected under the Migratory Bird Treaty Act. No construction could occur while burrowing owls are present at the subject site if the construction would occur within 150 feet of the owl's nest burrow (per CDOW guidance). Options to deal with the presence of burrowing owls (assuming that USFWS and CDOW applicable permits would be granted) include: 1) waiting until after 1 November (the owls typically migrate away from Colorado in late October; the absence would be confirmed by monitoring), but prior to 1 March, and after the prairie dogs were relocated or exterminated, to block access or destroy the burrow entrances by using either physical obstructions (e.g., sandbags) or by disturbing the surface by plowing, disking, or grading the site; or 2) trap and relocate the burrowing owls to a suitable black-tailed prairie dog colony (i.e., a colony with some vacant, unused burrows on the periphery) before initiating construction. The trapping and relocation option, if approved by the USFWS and CDOW, would be best performed in late March or early April, soon after the owl's return to Colorado, during the owl's courtship period (Delevoryas 1997).

Black-tailed prairie dog burrows are also used by rabbits, snakes, and other small mammals. Destruction of a portion of the black-tailed prairie dog colony to make way for the new air traffic control tower would have a direct, local, minor to moderate adverse effect on the populations of these other species as a result of loss of habitat and the potential for some mortality of less mobile species when construction is initiated.

The Proposed Action would have a minor to moderate, local, direct adverse effect on the black-tailed prairie dog and potentially to the burrowing owl if they are found to use the colony at the proposed air traffic control tower site. These species use the habitat at the subject site. Adverse effects to the prairie dogs would be minor and local, as a result of the non-lethal control method that would most likely be used to remove the prairie dogs from this colony. The adverse effect on the black-tailed prairie dog would be moderate and local if lethal controls were necessary.

Many studies have addressed noise and disturbance to various species of birds, including several federally threatened or endangered species. The effect of noise on animals is variable, not only between different species, but also between individuals (COANG, 1999b). In general, field studies on a variety of animals have demonstrated few, if any, measurable lasting physiological or reproductive effects from impulse or steady state noise, particularly at levels below 120 dBA (COANG, 1999b). Noise-related impacts to wildlife during the demolition and construction activities would be minor, short-term impacts. Under the Proposed Action, no long-term noise impacts to wildlife are anticipated.

4.3.2 No Action Alternative

Under the No Action Alternative, BAFB would continue to utilize Buildings 806, and 1606. The proposed new air traffic control tower would not be constructed and the

renovation to Building 806 would not occur; therefore, no impacts would occur as a result of the No Action Alternative.

4.4 CULTURAL RESOURCES

This section analyzes the potential for impacts to cultural resources from the implementation of the Proposed Action or No Action Alternative. Impacts potentially could result from the projected training operations at the base. Analyses of on-base impacts focus on whether and how ground-disturbing activities may affect cultural resources.

4.4.1 Proposed Action

Ground disturbing activities under the Proposed Action include the construction of the proposed new air traffic control tower and the renovation to Building 806. Building 1606 has not been evaluated per section 110 of the Historic Preservation Action. If this building is determined not eligible for listing in the NRHP, no impacts would occur. However, if Building 1606 is determined to be eligible for listing, coordination between BAFB and the SHPO would occur prior to any demolition activity. There are no known archeological resources associated with the proposed demolition and construction sites, therefore, no impacts are anticipated.

4.4.2 No Action Alternative

Under the No Action Alternative, all proposed demolition and construction activities would not occur. Therefore, no impacts to cultural or archeological resources would occur.

4.5 GEOLOGY, SOILS AND TOPOGRAPHY

4.5.1 Proposed Action

The sites of the demolition and construction for the air traffic control tower and fire station are on previously disturbed soils. The soils in the air traffic control tower area are Fondis-Weld (COANG, 1999b). The soil is well-drained, with a high water holding capacity. It has moderately slow permeability and is somewhat susceptible to wind and water erosion. The soils in the area of the fire station are Rock Outcrop. The soil in this area has been stripped so that interbedded shale and sandstone are exposed at the surface. Shale is dominant and resists water penetration. Sandstone is hard and coarse grained.

Soils exposed during demolition and construction would be subject to erosion. Impacts to soils would occur during site grading and trenching. With the use of best management practices, such as applying water during dry periods or covering the soils during heavy rain events and using barriers to restrict erosion of exposed soils, impacts would be reduced or minimized. There are no prime farmlands in the air traffic control tower or fire station areas. There would be neither long-term nor major short-term impacts to geology from the Proposed Action.

4.5.2 No Action Alternative

Under the No Action Alternative, the construction and demolition associated with the air traffic control tower and the fire station would not occur. There would be no impacts to geology, soils, or topography as discussed in Section 3.6.

4.6 HAZARDOUS WASTE AND HAZARDOUS MATERIALS MANAGEMENT

The following section evaluates the impacts to hazardous waste management and hazardous materials with respect to the Proposed Action and No Action Alternative.

4.6.1 Proposed Action

4.6.1.1 Hazardous Waste

Building 806 is a storage facility for medical and biohazardous waste. A September 1999 visual site inspection found no evidence of contamination (COANG, n.d. b).

It is not known at this time whether there are any storage tanks or oil/water separators associated with Building 1606. There is one oil water separator located at the fire station.

Under the Proposed Action, no effects to hazardous wastes would occur as no stored wastes would be relocated or disturbed during management activities associated with this alternative.

4.6.1.2 Hazardous Materials

Building 806, the fire station, has one 200-gallon diesel AST associated with it. There are hazardous materials stored at the facility. They include cylinder storage, paints, Aqueous Fire Fighting Foam (AFFF), and Halon.

Building 1606 has one 1000-gallon AST. This AST will be removed when building 1606 is demolished. Impacts from removing the AST are not anticipated since the tanks would be emptied prior to their removal. Flammable storage lockers at Building 1606 store paint, gasoline, diesel, thinners, oil, hydraulic fluid, and antifreeze. However if any contamination is discovered during demolition or if a spill were to occur, BAFB would clean the site per all applicable local, federal, state, and Air Force regulations.

Under the Proposed Action, no adverse impacts to hazardous materials would occur. Consolidation of the Hazardous Material and Crash Teams and equipment into a single facility will reduce the travel time and accident response time providing a beneficial long-term impact on the base aircraft safety operations by significantly reducing accident response time should there be an accidental spill.

4.6.1.3 Asbestos

The Air Force conducted an asbestos survey that included Buildings 1606 and 806. Building 806 was determined to be ACM-free. Building 1606 tested positive for ACM in five different areas (COANG, n.d. a). All suspect material would require special handling and disposal in accordance with federal, state, and local regulations. Impacts from asbestos-containing material would be considered significant if the Colorado Department of Public Health and the Environmental and/or Occupational Safety and Health Act standards were exceeded during construction or, if the asbestos-containing material were left in place where later detrimental exposure of employees or the public could occur. The ROI for ACM is considered to be the construction site or its immediate surroundings where airborne asbestos fibers might be sufficiently concentrated to be inhaled in harmful quantities.

The concerns regarding the potential release of asbestos fibers would be eliminated with the use of new building materials during construction. Proper abatement procedures would be followed during demolition and disposal should there be any asbestos insulation materials be identified during demolition or construction. Therefore measures would be taken during the demolition and construction process to remove and dispose of any ACM in accordance with all applicable local, federal, and state regulations. The Base would consult with the CDPHE to determine the appropriate measures, and there would be no impacts regarding ACM from implementation of the Proposed Action.

4.6.1.4 Lead-based Paint

Waste generated during demolition of the Building 1606 has the potential to contain hazardous substances (LBP). The building was constructed in 1954, and all building constructed before 1985 must be tested for LBP prior to demolition. If tests prove that LBP is an issue, the hazards associated with it would be abated in accordance with applicable federal, state, and local regulations prior to demolition. If proper abatement procedures were followed, there would be no impacts from LBP with respect to the Proposed Action. Building 806 was constructed in 1996 and would not contain LBP hazards.

4.6.1.5 PCBs

There is no longer any PCB containing transformers on the Base (COANG, 2000b). There were no spills reported at any of the construction or demolition sites associated with the Proposed Action (COANG, n.d. b).

4.6.1.6 Pesticides

The buildings planned for demolition would be inspected for signs of rodent infestation and cleaned and treated, if necessary, to eliminate the threat of spreading the hantavirus. The outside of the buildings would be inspected for pigeon droppings and cleaned, if necessary, to prevent the spread of psittacosis. Areas of construction would be inspected prior to ground disturbing activities for evidence of prairie dog burrows and

treated for fleas with Pyreperm 455 Dust as a precaution as necessary to eliminate the threat of spreading the Bubonic plague (COANG 1999a). If proper labeling instructions and procedures were followed, there would be no impacts from pesticides associated with the Proposed Action.

4.6.1.7 IRP Sites

There are no IRP sites associated with the fire station (COANG, n.d. b.).

There is an IRP (IRP Site 1; Fire Training Area 2) site associated with the existing air traffic control tower. Fire Training Area 2 is the site of a former fire training area east of the runway. It is approximately 8,000 square feet and is circular in shape with a diameter of approximately 100 feet. Aviation gasoline, JP-4, and various solvents were burned at the pit. Fire training exercises were conducted from the early 1950s to 1972. The site has been filled and graded and may be partially covered by the adjacent concrete, aircraft parking aprons and an aircraft hangar. The Fire Training Area 2 is currently undergoing a supplemental remedial investigation. Any site grading done in this area must be coordinated with the EMO and must meet base guidelines (COANG, n.d. b.).

There would be no significant impacts from hazardous wastes or substances associated with the Proposed Action.

4.6.2 No Action Alternative

If the No Action Alternative is selected, there would be no construction, grading, or demolition performed in conjunction with the air traffic control tower or complex. There would be impacts associated with ACM from Building 1606. Building 1606 tested positive for ACM in the five homogenous samples taken from five different areas of the building. All of the ACM was found to be in good repair and does not pose a threat. However, regular inspections and maintenance should be conducted to ensure that the ACM remains intact. There are no other impacts from hazardous materials or wastes associated with the No Action Alternative.

4.7 HEALTH AND SAFETY

4.7.1 Proposed Action

Implementation of the Proposed Action would not be expected to result in either an increase in accidents or a downgrading of the current safety environment at the proposed locations.

Construction and Demolition Safety: No adverse impacts to construction or demolition worker safety would occur under implementation of the Proposed Action. Although the Proposed Action would require both construction and demolition activities, occupational health and safety regulations would be enforced, and activities would be conducted in a manner that would not pose risks to workers occupying existing facilities.

Any potential exposure to hazardous materials and required use of personal protective equipment would be monitored in accordance with existing industrial hygiene programs.

Fire and Public Safety: No adverse impacts to fire or public safety would occur under implementation of the Proposed Action. There would be a reduction in the average daily vehicle trips on a road that is difficult to maintain during winter storms resulting in traffic safety improvements. New facilities development, replacement facilities, and structural demolitions are proposed for areas currently monitored for fire suppression and prevention and for law enforcement. No new developments that would increase safety risks to the public are proposed.

Aircraft and Munitions Safety: The Proposed Action would have beneficial effects on aircraft safety. The demolition of the current air traffic control tower and construction of a new air traffic control tower would establish a cost-effective, properly sited air traffic control tower utilizing the latest technology. The consolidation of the Crash Team and equipment would provide a beneficial long-term impact on the base aircraft safety operations by significantly reducing accident response time. The Proposed Action would not have adverse impacts on aircraft safety; nor would the Proposed Action be adversely impacted by aircraft operations.

4.7.2 No Action Alternatives

With the selection of the No Action Alternative the safety environment would be negatively impacted. The existing air traffic control tower is obsolete and does not contain adequate space to allow controllers to perform their duties. In addition, the existing Air Traffic Control Tower is in close proximity to the QD which would limit potential Munitions Complex expansion plans; the existing site violates current AFIs because it is not greater than 150 feet from the Airfield Lighting Vault; and it is within the Airfield Influence Zone for Clearance, Navaid Transmitter Zone, and the ADF Antenna Zone. These problems with the current Air Traffic Control Tower siting create safety and base mission problems for BAFB. The existing crash house does not provide sufficient space for the Hazardous Materials Response Team's trailer and equipment.

4.8 LAND USE

Currently, land use at the Proposed Action sites includes Aircraft Operations and Maintenance at Buildings 806 and 1606 (BAFB, 2002b).

4.8.1 Proposed Action

The Proposed Action site locations would not change their existing land use designation, and the Air Traffic Control Tower remains compatible with the current land use therefore, no impacts would occur (Sherva, 2003).

4.8.2 No Action Alternative

Under the No Action Alternative, no changes in land use classification would occur; therefore, no impacts to land use would occur.

4.9 NOISE

The primary human response to environmental noise is annoyance. The degree of annoyance has been found to correlate well with the DNL.

4.9.1 Proposed Action

Noise impacts from the Proposed Action are a function of demolition activities, site grading, and construction. The highest calculated cumulative energy equivalent sound levels from construction activities are estimated to be 85 dB at 50 feet from the center of the project site. This would occur during the grading phase. Noise levels at 50 feet for some equipment used during demolition are: 80 dB for bulldozers; 83 dB for cranes; 85 dB for backhoes; and 91 dB for trucks. The impacts from noise would vary according to the activity occurring on any given day and impacts would cease when demolition is completed. The 1998 AICUZ shows that approximately 95 percent of the base is within the 65 dB runway noise contour. The air traffic control tower site is within the 75 to 80 dB noise contour. The on-base adjacent receptor is the munitions complex. There are no nearby off-base adjacent receptors to experience noise impacts from demolition and construction activities. The fire station is in the 65 to 70 dB noise contour. There are no sensitive receptors located near the proposed construction site for the air traffic control tower or the fire station. Noise impacts would be short-term and would discontinue after demolition, site grading, and construction are complete. The effects of noise would not be significant and are consistent with acceptable noise levels on an active Air Force Base.

4.9.2 No Action Alternative

Under the No Action Alternative, demolition, site grading, and construction associated with the construction and demolition would not occur. There would be no impacts associated with noise.

4.10 SOCIOECONOMICS

4.10.1 Proposed Action

Construction, demolition, and repair activities associated with the Proposed Action would provide short-term economic benefits to the local economy. Beneficial impacts from short-term construction payrolls and materials purchased, as well as long-term economic benefits realized with the relocation of base personnel to BAFB, would not result in appreciable beneficial impacts to the economy on a regional scale. The addition of construction employees associated with the Proposed Action represents only a minimal fraction of the total workforce in the Denver Primary Metropolitan Statistical Area.

4.10.2 No Action Alternative

Under the No Action Alternative, there would be no change in socioeconomics from the existing conditions, as described in Section 3.12.

4.11 TRANSPORTATION

4.11.1 Proposed Action

The construction, demolition, and repair projects proposed for the base would have minor, temporary impacts on traffic due to increased traffic by construction vehicles and possible temporary road closures.

Continued use of the fire station and air traffic control tower would result in a minimal overall impact to transportation and circulation. Any impact to vehicular traffic would be negligible relative to total on-base traffic levels and trends.

4.11.2 No Action Alternative

Under the No Action Alternative, existing transportation conditions and circulation patterns would remain at present levels and patterns both on and off base.

4.12 UTILITIES (INFRASTRUCTURE)

4.12.1 Proposed Action

Water supply: No significant impacts to the water supply are expected since under normal conditions the city of Aurora has enough water for 80,000 additional residents (City of Aurora, 2000) and BAFB is not typically restricted to the amount of water it can use. In the event regional drought conditions were to persist during the proposed demolition and construction activities the City of Aurora would be consulted to ensure there would be an adequate supply of water for construction and fugitive dust mitigation.

Wastewater Treatment: There would be a minor temporary increase in wastewater during construction, demolition, and repair activities due to an increase in the number of temporary personnel necessary to carry out those tasks. This is not a significant increase in wastewater generation. Construction of the proposed new Air Traffic Control Tower facilities will involve closure and abandonment of the existing septic tank and leach field reducing potential environmental contaminants to surface and groundwater. The new facilities will be connected to the City of Aurora wastewater system involving a minor increase in wastewater. However, this increase is expected to be less than one percent over existing conditions.

Solid Waste: Solid, nonhazardous waste generation and construction debris (e.g., plastics, paper, and concrete) would increase as a result of construction, demolition, and repair events but would represent short-term impacts. Wastes would be collected in

dumpsters and routinely transported to and disposed of at the Denver-Arapahoe Disposal Site located in Arapahoe County adjacent to the base by a private contractor.

Relocation of the air traffic control tower and adding an addition would not involve adding more staff or require the generation of more solid waste. Therefore there would be no increased solid waste generation that would occur once the air traffic control tower and fire station addition are finished therefore there would be no adverse impact on solid waste disposal capabilities.

Electricity: There would be a temporary increase in electrical use during the implementation of the Proposed Action. However, there would not be a significant increase above current use levels.

Natural Gas: It is not expected that there would be an increase in the use of natural gas during the implementation of the Proposed Action.

4.12.2 No Action Alternative

Under the No Action Alternative, no impacts to utilities are anticipated.

4.13 WATER RESOURCES

4.13.1 Proposed Action

Floodplains occur in the southwestern corner of the base and are not associated with the Proposed Action site locations; therefore, no impacts to floodplains would occur on BAFB.

Groundwater would not be adversely affected under the Proposed Action. Construction of the proposed new Air Traffic Control Tower facilities will involve closure and abandonment of the existing septic tank and leach field that currently supports Building 1606 thereby removing a potential source of environmental contaminants to surface and groundwater. Excavation and ground disturbances are planned at Buildings 806 and 1606; however, ground disturbances would not reach the depths that would affect groundwater resources. There would be no ground disturbing activities to sufficient depths to impact groundwater associated with the remaining proposed activities. There would be no impacts to groundwater under the Proposed Action.

Construction of the new air traffic control tower and addition to the fire station would result in a temporary increase in runoff and in total suspended particulates (TSP) in nearby surface waters as a result of site grading. Best management practices such as silt fencing, minimization of site grading, and revegetation of disturbed soils would be implemented to minimize sedimentation and erosion.

The stormwater flow generated by the parking lots, and roof of these facilities would slightly increase the quantity of stormwater runoff. Site design and best management

practices would be used to mitigate any potential adverse impacts on the surrounding soils and drainages.

4.13.2 No Action Alternative

Under the No Action Alternative, renovation to Building 806 would not occur and demolition of Building 1606 would not occur. Therefore, although no impacts to water resources would be anticipated, there would be negligible adverse potential for surface and groundwater contamination to occur should the existing septic tank and leach field serving these existing facilities fail.

4.14 INDIRECT AND CUMULATIVE IMPACTS

There are several other construction projects being considered at BAFB during the same period as the proposed projects. Other activities would potentially include military and civilian training events, renovating and constructing the new Munitions Complex facilities, Wing Headquarters and Civil Engineer Complex. Other planned projects including the dining hall and SBIRS Mission Control Station are listed in Table 4.14-1. Potentially, the construction phase of the Proposed Action would coincide with the construction phase of these facilities.

**TABLE 4.14-1
ON-GOING AND PLANNED CONSTRUCTION PROJECTS
AT BUCKLEY AFB FOR FY 2001 THROUGH 2004**

Planned Projects	
Fitness Center	2002
MACS-23 Improvement Projects	2002
Wing Headquarters Facility	2003
Civil Engineer Complex	2003
Upgrade Base Infrastructure	2003
Add/Alter SBIRS Missions Ctrl Station	2003
Dining Hall	2003
Civil Engineer Complex	2004
Upgrade Base Infrastructure	2004
Wing Headquarters Facility	2004
Small Arms Range, Outdoors	2004
Construct Vehicle Maintenance Facility	2004
Construct Fire Training Facility	2004
Construct Athletic Fields	2004
Construct Communication Center	2004
Construct Chapel	2004
Construct Transportation Complex	2004
Construct Third Dormitory	2004

Source: Buckley AFB, 2001

Site clearing, preparation, and new building construction activities would contribute to air emissions associated with construction of the air traffic control tower, dormitory, and firehouse facilities. Therefore, temporary air emissions could reasonably be anticipated from this overlap of construction projects.

Overall ambient air quality within AQCR 36 would be affected by construction and operation of the Proposed Action but under the proposed action there would be negligible adverse cumulative air impacts. The estimated values for CO, VOC, NO_x, SO_x, and PM₁₀ would be below the USEPA *de minimis* threshold levels and below the 10% criteria for the Arapahoe County Emission Inventory, (see Section 4.1 for emissions calculations and comparison to *de minimis* threshold levels and Arapahoe County Emission Inventory). Although there are other projects ongoing/planned throughout Buckley AFB, the *de minimis* environmental effects from this project, coupled with other ongoing/planned projects, would not create any cumulatively substantial adverse impacts on the environment. Construction of the new crash house and Air Traffic Control Tower would reduce the average daily vehicle miles on the existing access road resulting in a negligible but beneficial, long-term reduction in vehicle emissions and cumulative traffic safety improvements under hazardous winter conditions.

Effects to the prairie dogs and, potentially, burrowing owls, would be moderate, local, and adverse. Cumulative impacts on prairie dogs associated with construction occurring at Buckley AFB are addressed in Section 5 of the Supplement to Environmental Assessment of Proposed Prairie Dog Management Practices at Buckley AFB (USAF, 2001b). This EA states that the possibility exists of a potential adverse, cumulative impact on the area available to support a viable, self-sustaining prairie dog population that can support dependent species such as the burrowing owl. However, the USFWS reported that it does not consider Buckley AFB to be an area essential to maintaining a healthy population of prairie dogs in the United States. Therefore, the impact of the construction project and a reduction in the black-tailed prairie dog population on a local scale, such as proposed for the fire station and air traffic tower, would not represent a major adverse impact. The effect on the burrowing owls within the proposed construction area would be adverse, as potential owl habitat would be destroyed.

The closure and abandonment of the existing septic tank and leach field would provide a negligible beneficial impact on surface waters by removing a potential source of contamination. Effects to surface waters caused by stormwater would be moderate, local, and adverse. The construction of the new air traffic control tower and fire station expansion would change the stormwater flow quantity and quality at the site. Stormwater flow across impermeable surfaces such as parking lots, streets, and roofs will increase the quantity of stormwater runoff entering the adjacent retention pond. This affect would be slightly reduced when the existing facility is demolished the site is stabilized by grading and seeding to prevent erosion, therefore adverse effects would be negligible.

4.15 UNAVOIDABLE ADVERSE IMPACTS

There are no significant unavoidable adverse impacts associated with the Proposed Action at BAFB.

4.16 RELATIONSHIP BETWEEN SHORT-TERM USES AND ENHANCEMENT OF LONG TERM PRODUCTIVITY

Implementation of the Proposed Action would have a positive effect on long-term productivity by providing an air traffic control tower that meets USAF guidelines, by removing unnecessary structures, and consolidating the fire station and crash house.

4.17 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analyses include identification of "...any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action should it be implemented." Demolition and construction of on-base facilities would require the consumption of limited amounts of materials typically associated with (e.g. concrete, and sand) these types of activities. An undetermined amount of energy to conduct demolition, construction, and operation of these facilities would be expended and irreversibly lost. Both the Proposed Action and the No Action Alternative would require fuels used by various civilian and military vehicles. Implementation of the Proposed Action would result in moderate impacts to environmental resources including some prairie grass habitat being converted to concrete and asphalt foundations and parking lots. The removal of black-tailed prairie dogs would result in an irretrievable and/or irreversible impact by removing the prairie dog colony and potential habitat for burrowing owls and other wildlife (e.g., snakes, rabbits, badgers) that may use prairie dog colonies at Buckley AFB. All black-tailed prairie dog issues are addressed in the *Supplement to Environmental Assessment of Proposed Prairie Dog Management Practices* (USAF, 2001b).

SECTION 5.0

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Parsons ES Employees	Degree	Professional Discipline	Years of Experience
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Connie Chitwood	M.S., Environmental Forestry	Environmental Science	20
Jeff Duffy	Ph.D. Environmental Health Science	Risk Assessment - Toxicologist	12
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John C. Martin	M.S., City and Regional Planning	Civil/Environmental Engineer	25

List of Preparers

SECTION 6.0
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**DISTRIBUTION LIST
DRAFT EA**

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Persons Contacted

SECTION 7.0

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References

SECTION 8.0

ACRONYM LIST

°F	Degrees Fahrenheit
μ	Microns
μg/m ³	Micrograms per cubic meter
140 th CES	140 th Civil Engineering Squadron
140 th WG	140 th Wing
AAFES	Army and Air Force Exchange Services
ACM	Asbestos containing material
ADF	Aerospace Data Facility
AFB	Air Force Base
AFFF	Aqueous Fire fighting Foam
AFI	Air Force Instruction
AGE	Aerospace Ground Equipment
AGL	Above Ground Level
AICUZ	Air Installation Compatibility Use Zone
ANG	Air National Guard
ANGB	Air National Guard Base
APE	Area of Potential Effect
APEN	Air Pollution Emission Notice
APZ	Accident Potential Zone
AQCR	Air Quality Control Region
AST	Aboveground storage tank
ATC	Air Traffic Control
BAFB	Buckley Air Force Base
BASH	Bird/Aircraft Strike Hazard
BEE	Bioenvironmental Engineering Technician
BMPs	Best management practices
Btu	British thermal unit
BX	Base Exchange
CAA	Clean Air Act
CAP	Central Accumulation Point
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and the Environment
CDPS	Colorado Discharge Permit System
CE	Civil Engineering
CEQ	Council on Environmental Quality

Acronym List

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CINC	Commander in Chief
CNHP	Colorado National Heritage Program
CO	Carbon monoxide
COANG	Colorado Air National Guard
CRI	Cultural resources Inventory
CWA	Clean Water Act
CY	Calendar year
CZ	Clear Zone
dB	Decibel
DNL	Decibel, night level
DoD	Department of Defense
DoT	Department of Transportation
DRMO	Defense Reutilization and Marketing
DSP	Defense Support Program
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EM	Environmental Manager
EMIS	Environmental Management Information System
EMO	Environmental Management Office
EO	Executive Order
EPCRA	Emergency Planning and Community Right To Know Act
FAA	Federal Aviation Authority
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FIP	Federal Implementation Plan
FONSI	Finding of No Significant Impact
FY	Fiscal Year
GIS	Geographic Information System
gpm	Gallons per Minute
HAP	High Accident Potential
HAPs	Hazardous Air Pollutants
HM	Hazardous material
HQ	Headquarters
HW	Hazardous waste
IAP	Initial Accumulation Point
INRMP	Integrated Natural Resource Management Plan
IPM	Integrated Pest Management
IRP	Installation Restoration Program
kHz	KiloHertz
kV	Kilovolt amperes

Acronym List

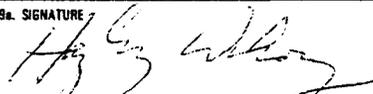
kVh	Kilowatt-hours
kW	Kilowatt
kWCm ²	Kilowatts per square centimeter
L _{AE}	Sound Exposure Level
LBP	Lead-based paint
Lbs	Pounds
MBTA	Migratory bird Treaty Act of 1912
MBtu	Million British thermal units
MCS	Mission Control Station
mg	Milligrams
mgd	Millions of gallons per day
MIL-HDBK	Military Handbook
MOA	Memorandum of Agreement
MSA	Munitions Storage Area
MSDS	Material Safety Data Sheets
MSL	Mean sea level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFRAPDD	No Further Response Action Planned Decision Document
NHPA	National Historic Preservation Act
NO ₂	Nitrogen dioxide
NO _x	Nitrogen oxides
NPDES	National Pollution Elimination Discharge Permit
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O ₃	Ozone
OSHA	Occupational Safety and Health Act
Pb	Lead
PCB	Polychlorinated biphenyl
pCi/L	Picocuries per Liter
PEL	Permissible exposure levels
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to 10 microns
PM _{2.5}	Particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
POL	Petroleum, Oil, and Lubricants
ppm	Parts per million
PSC	Public Service Company of Colorado
PSI	Pounds per Square Inch
QD	Quantity Distance
RAQC	Regional Air Quality Council
RCRA	Resource Conservation and Recovery Act
RF	Radio frequency

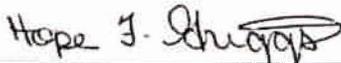
Acronym List

ROI	Region of Influence
SCS	Soil Conservation Service
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO ₂	Sulfur dioxide
SO _x	Sulfur oxides
SPCC	Spill Prevention, Control and Countermeasures
SWS	Space Wing Squadron
TCA	Trichloroethane
tpy	Tons per year
TSCA	Toxic Substance Control Act
TSP	Total Suspended Particulates
U.S.	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USANG	United States Army National Guard
USC	United States Code
USDA	United State Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground storage tank
VFR	Visual Flight Rules
VOC	Volatile organic compound

APPENDIX A

813S

REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS		Report Control Symbol RCS:
INSTRUCTIONS: Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item numbers.		
SECTION I - PROPONENT INFORMATION		
1. TO: (Environmental Planning Function) AGINS/CEV	2. FROM: (Proponent organization and functional address symbol) AGINS/CEP	2a. TELEPHONE NO. 677-6375
3. TITLE OF PROPOSED ACTION REPAIR POL FILL STANDS AND PUMP HOUSE		
4. PURPOSE AND NEED FOR ACTION (Identify decision to be made and need date) ENSURE THAT PUMPS, PIPING, FILTERS, SPILL CONTAINMENT, SECURITY ACCESS ROAD, FIRE PROTECTION, AND CATHODIC PROTECTION ARE UP TO CURRENT STANDARDS.		
5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPAA) (Provide sufficient details for evaluation of the total action.) UPGRADE PUMPS, PIPING, FILTERS, SPILL CONTAINMENT, SECURITY ACCESS ROAD, FIRE PROTECTION, AND CATHODIC PROTECTION SYSTEMS.		
6. PROPONENT APPROVAL (Name and Grade) JOSEPH J. ZAMBO. 0-1	6a. SIGNATURE 	6b. DATE 10 Mar 98
SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. (Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = unknown effect)		+ 0 - U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (Noise, accident potential, encroachment, etc.)		<input checked="" type="checkbox"/>
8. AIR QUALITY (Emissions, attainment status, state implementation plan, etc.)		<input checked="" type="checkbox"/>
9. WATER RESOURCES (Quality, quantity, source, etc.)		<input checked="" type="checkbox"/>
10. SAFETY AND OCCUPATIONAL HEALTH (Asbestos/radiation/chemical exposure, explosives safety quantity-distance, etc.)		<input checked="" type="checkbox"/>
11. HAZARDOUS MATERIALS/WASTE (Use/storage/generation, solid waste, etc.)		<input checked="" type="checkbox"/>
12. BIOLOGGICAL RESOURCES (Wetlands/floodplains, flora, fauna, etc.)		<input checked="" type="checkbox"/>
13. CULTURAL RESOURCES (Native American burial sites, archaeological, historical, etc.)		<input checked="" type="checkbox"/>
14. GEOLOGY AND SOILS (Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)		<input checked="" type="checkbox"/>
15. SOCIOECONOMIC (Employment/population projections, school and local fiscal impacts, etc.)		<input checked="" type="checkbox"/>
16. OTHER (Potential impacts not addressed above.)		<input checked="" type="checkbox"/>
SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION		
17. <input checked="" type="checkbox"/> PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # <u>A2-5-7</u> ; OR <input type="checkbox"/> PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.		
18. REMARKS		
19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade) <u>HAZELEY W. HARRIS</u> GS-11		
19a. SIGNATURE 		19b. DATE 3/17/98

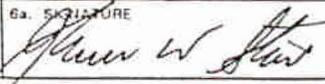
REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS		Report Control Symbol RCS:
INSTRUCTIONS: Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item numbers.		
SECTION I - PROPONENT INFORMATION		
1. TO (Environmental Planning Function) AGINS/CEV	2. FROM (Proponent organization and functional address symbol) 140SPTG/CEP	2a. TELEPHONE NO. 677-6375
3. TITLE OF PROPOSED ACTION PROVIDE POL OPERATIONS BUILDING, PN: CRWU002020		
4. PURPOSE AND NEED FOR ACTION (Identify decision to be made and need date) THE EXISTING POL OPERATIONS BUILDING 300 IS INADEQUATE AND IN POOR CONDITION AND THE TRAILER FOR THE READY ROOM IS ALSO IN POOR CONDITION.		
5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DDPA) (Provide sufficient details for evaluation of the total action.) CONSTRUCT A 2000 SF POL OPERATIONS BUILDING, TO INCLUDE A LAB, READY ROOM, CONTROL ROOM, LOCKER/TOILET ROOM, TRAINING ROOM, AND ADMINISTRATIVE OFFICES. DEMOLITION BLDG 300 AT 1590SF.		
6. PROPONENT APPROVAL (Name and Grade) JOSEPH J. ZAMBO	6a. SIGNATURE 	6b. DATE 5 Aug 99
SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. (Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = unknown effect)		
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (Noise, accident potential, encroachment, etc.)		0
8. AIR QUALITY (Emissions, attainment status, state implementation plan, etc.)		0
9. WATER RESOURCES (Quality, quantity, source, etc.)		0
10. SAFETY AND OCCUPATIONAL HEALTH (Asbestos/radiation/chemical exposure, explosives safety quantity-distance, etc.)		U
11. HAZARDOUS MATERIALS/WASTE (Use/storage/generation, solid waste, etc.)		0
12. BIOLOGICAL RESOURCES (Wetlands/floodplains, flora, fauna, etc.)		0
13. CULTURAL RESOURCES (Native American burial sites, archaeological, historical, etc.)		0
14. GEOLOGY AND SOILS (Topography, minerals, geothermal, installation Restoration Program, seismicity, etc.)		0
15. SOCIOECONOMIC (Employment/population projections, school and local fiscal impacts, etc.)		0
16. OTHER (Potential impacts not addressed above.)		0
SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION		
17. <input checked="" type="checkbox"/> PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # <u>A2.3.8</u> ; OR <input type="checkbox"/> PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.		
18. REMARKS		
19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade) Hope F. Griggs, GS-09	19a. SIGNATURE 	19b. DATE 18 Aug 99

REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

RCS:

INSTRUCTIONS: Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).

SECTION I - PROPONENT INFORMATION

1. TO (Environmental Planning Function) 140 SPTG/EM	2. FROM (Proponent organization and functional address symbol) 140SPTG/CEC	2a. TELEPHONE NO. (303) 360-9902
3. TITLE OF PROPOSED ACTION Replace Control Tower, Buckley Air National Guard Base, CO		
4. PURPOSE AND NEED FOR ACTION (Identify decision to be made and need date) Replace Existing Control Tower due to obsolescence		
5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPAAI) (Provide sufficient details for evaluation of the total action.) Demolish existing control tower. Construct new control tower. Refer to Project Book dated 30 Sep 00 and DD 1391 for detailed scope of the project.		
6. PROPONENT APPROVAL (Name and Grade) THOMAS W. STANLEY, LtC, COANG	6a. SIGNATURE 	6b. DATE 30 Sep 00

SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY (Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = unknown effect)	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (Noise, accident potential, encroachment, etc.)			X	
8. AIR QUALITY (Emissions, attainment status, state implementation plan, etc.)			X	
9. WATER RESOURCES (Quality, quantity, source, etc.)			X	
10. SAFETY AND OCCUPATIONAL HEALTH (Asbestos/radiation/chemical exposure, explosives safety, quantity-distance, etc.)	X			
11. HAZARDOUS MATERIALS/WASTE (Use/storage/generation, solid waste, etc.)			X	
12. BIOLOGICAL RESOURCES (Wetlands/floodplains, flora, fauna, etc.)			X	
13. CULTURAL RESOURCES (Native American burial sites, archaeological, historical, etc.)			X	
14. GEOLOGY AND SOILS (Erosion, sedimentation, Installation Restoration Program, seismicity, etc.)			X	
15. SOCIOECONOMIC (Employment/population projections, school and local fiscal impacts, etc.)			X	
16. OTHER (Potential impacts not addressed above.)				X

SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17. <input type="checkbox"/> PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # _____; OR <input type="checkbox"/> PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.		
18. REMARKS		
19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade) Gerald J. O'Brien, GS-12	19a. SIGNATURE 	19b. DATE 8 Nov 00

APPENDIX B

PROPOSED SITE PHOTOGRAPHS



Existing Fire House – Western View of Building from the Northeast



Existing Fire House – Western View of Building from the East

APPENDIX C

TRANSMITTAL LETTERS

PARSONS

1700 Broadway, Suite 200 • Denver, Colorado 80202 • Tel: 303.831-8100 • Fax: 303.831-8203

March 13, 2003

Denver Public Library
Government Documents Section
10 West Fourteenth Avenue
Denver, CO 80204

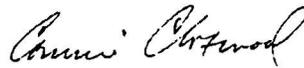
Subject: Draft Environmental Assessment
Air Traffic Control Tower and Fire Station
Buckley AFB, Colorado

Dear Sir/Madame:

On behalf of Buckley Air Force Base, Parsons hereby submits one copy of the Draft Environmental Assessment Buckley Air Force Base Air Traffic Control Tower and Fire Station at Buckley AFB. We would be grateful if you could make this document available for public review.

Sincerely,

PARSONS



Connie E. Chitwood

Enclosures

Draft Environmental Assessment



PARSONS

1700 Broadway, Suite 900 • Denver, Colorado 80202 • Phone: 303.831-8100 • Fax: 303.831-8208

March 13, 2003

Aurora Public Library
Government Documents Section
14949 East Alameda Drive
Aurora, CO 80012

Subject: Draft Environmental Assessment
Air Traffic Control Tower and Fire Station
Buckley AFB, Colorado

Dear Sir/Madame:

On behalf of Buckley Air Force Base, Parsons hereby submits one copy of the Draft Environmental Assessment Buckley Air Force Base Air Traffic Control Tower and Fire Station at Buckley AFB. We would be grateful if you could make this document available for public review.

Sincerely,

PARSONS



Connie E. Chitwood

Enclosures

Draft Environmental Assessment



PARSONS

1700 Broadway, Suite 900 • Denver, Colorado 80290 • (303) 831-8100 • Fax: (303) 831-8208

March 13, 2003

Captain Chris Stoppel
HQ AFCEE/ECA
3207 North Road, Bldg 532
Brooks AFB, TX 78235-5363

Subject: Draft Environmental Assessment
Project 3: Buckley Air Force Base Air Traffic Control Tower and Fire Station
Buckley AFB, Colorado
Contract F41624-00-D-8024, Delivery Order 0026

Dear Captain Stoppel:

Parsons hereby submits one copy of the Draft Environmental Assessment Buckley Air Force Base Air Traffic Control Tower and Fire Station at Buckley AFB. Two hard copies and one electronic copy has also been forwarded to Ms. Elise Sherva at Buckley AFB.

Please contact me at 303/764-8720 if you have any questions.

Sincerely,

PARSONS



Connie E. Chitwood

Enclosures

Draft Environmental Assessment

SEA/FONSI/NOA



PARSONS

1700 Broadway, Suite 900 • Denver, Colorado 80290 • (303) 831-8100 • Fax: (303) 831-8208

March 13, 2003

Ms. Elise Sherva
821 SPTS/CEV
Bldg 1005, Room 254
660 South Aspen, Stop 26
Buckley AFB, CO 80011-9531

Subject: Draft Environmental Assessment
Project 3: Buckley Air Force Base Air Traffic Control Tower and Fire Station
Buckley AFB, Colorado
Contract F41624-00-D-8024, Delivery Order 0026

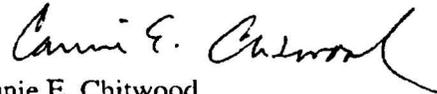
Dear Ms. Sherva:

Parsons hereby submits two copies of the *Draft Environmental Assessment Buckley Air Force Base Air Traffic Control Tower and Fire Station at Buckley AFB*. One additional copy has been forwarded to Capt. Chris Stoppel at HQ AFCEE/ECA.

Please contact me at 303/764-8720 if you have any questions.

Sincerely,

PARSONS



Connie E. Chitwood

Enclosures

Draft Environmental Assessment

SEA/FONSI/NOA





DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

13 Mar 03

Lt Col Alfred C. Scharff
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Denise Balkas
Director of Planning
City of Aurora
1470 South Havana
Aurora CO 80012

Dear Ms. Balkas

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of a new air traffic control tower, demolition of existing structures, and an addition to the existing fire station. The proposed action is required to meet mission requirements and needs. A hard copy and electronic copy of the Draft EA and Draft FONSI are enclosed for your review and comment.

Please provide written comments within 30 calendar days of receipt of this letter to:

460 CES/CEV
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva at (303) 677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade at (303) 677-9977, Email janet.wade@buckley.af.mil.

Sincerely


ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachments:
Draft EA
Draft FONSI (Electronic and Hard copy)



DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

13 Mar 03

Lt Col Alfred C. Scharff
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Ed LaRock
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive, South
Denver CO 80246-1530

Dear Mr. LaRock

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of a new air traffic control tower, demolition of existing structures, and an addition to the existing fire station. The proposed action is required to meet mission requirements and needs. A copy of the Draft EA and Draft FONSI are enclosed for your review and comment.

Please provide written comments within 30 calendar days of receipt of this letter to:

460 CES/CEV
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please contact Ms. Elise Sherva at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade at 303-677-9977, Email janet.wade@buckley.af.mil.

Sincerely


ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachments:
Draft EA
Draft FONSI



DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

13 Mar 03

Lt Col Alfred C. Scharff
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Brad Beckman
Manager Environmental Planning
Colorado Department of Transportation
4201 East Arkansas Ave.
Denver CO 80222

Dear Mr. Beckman

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of a new air traffic control tower, demolition of existing structures, and an addition to the existing fire station. The proposed action is required to meet mission requirements and needs. A copy of the Draft EA and Draft FONSI are enclosed for your review and comment.

Please provide written comments within 30 calendar days of receipt of this letter to:

460 CES/CEV
660 S. Aspen Street, Mail Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade at 303-677-9977, Email janet.wade@buckley.af.mil.

Sincerely


ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachments:
Draft EA
Draft FONSI



DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

13 Mar 03

Lt Col Alfred C. Scharff
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Eliza Moore
Wildlife Manager
Colorado Division of Wildlife
6060 South Broadway
Denver CO 80216

Dear Ms. Moore

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of a new air traffic control tower, demolition of existing structures, and an addition to the existing fire station. The proposed action is required to meet mission requirements and needs. A copy of the Draft EA and Draft FONSI are enclosed for your review and comment.

Please provide written comments within 30 calendar days of receipt of this letter to:

460 CES/CEV
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva at (303) 677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade at 303-677-9977, Email janet.wade@buckley.af.mil.

Sincerely


ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachments:
Draft EA
Draft FONSI



DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

13 Mar 03

Lt Col Alfred C. Scharff
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Cynthia Cody
NEPA Unit Chief
U.S. Environmental Protection Agency, Region 8
999 18th Street, Suite 500
Denver CO 80202

Dear Ms. Cody

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of a new air traffic control tower, demolition of existing structures, and an addition to the existing fire station. The proposed action is required to meet mission requirements and needs. A copy of the Draft EA and Draft FONSI is enclosed for your review and comment.

Please provide written comments within 30 calendar days of receipt of this letter to:

460 CES/CEV
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva at (303) 677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade at (303) 677-9977, Email janet.wade@buckley.af.mil.

Sincerely


ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachments:
Draft EA
Draft FONSI



DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

13 Mar 03

Lt Col Alfred C. Scharff
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Lee Carlson
State Supervisor
755 Parfet Street, Suite 361
Lakewood CO 80215

Dear Mr. Carlson

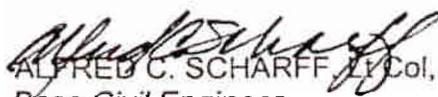
The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of a new air traffic control tower, demolition of existing structures, and an addition to the existing fire station. The proposed action is required to meet mission requirements and needs. A copy of the Draft EA and Draft FONSI are enclosed for your review and comment.

We are submitting the Draft EA and Draft FONSI per Section 7 of the Endangered Species Act and the National Environmental Policy Act. Please review and provide written comments within 30 calendar days of receipt of this letter to:

460 CES/CEV
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please contact Ms. Elise Sherva at (303) 677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade at (303) 677-9977, Email janet.wade@buckley.af.mil.

Sincerely


ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachments:
Draft EA
Draft FONSI



DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

13 Mar 03

Lt Col Alfred C. Scharff
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Georgianna Contiguglia
State Historic Preservation Officer
Colorado History Museum
1300 Broadway
Denver CO 80203-2137

Dear Ms. Contiguglia

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of a new air traffic control tower, demolition of existing structures and an addition to the existing fire station. The proposed action is required to meet mission requirements and needs. A copy of the Draft EA and Draft FONSI are enclosed for your review and comment.

In compliance with Section 106 of the National Historic Preservation Act, Buckley Air Force Base has determined that the proposed action, and alternatives, would not have an adverse affect on historic properties.

- Building 1606: The Air Traffic Control Tower is not eligible for inclusion on the National Register of Historic Places. See attached Architectural Inventory Form.
- Building 806 was constructed in 1996. Therefore, is not eligible for inclusion on the National Register of Historic Places.
- The Traffic Control Tower is near the Proposed Ordnance District, which has been recorded per your recommendation due to the adverse impacts of the munitions construction project. See your letter dated 5 Nov 02. The Traffic Control Tower is not part of the proposed district, therefore, its' demolition would not be considered an adverse impact.

Please provide written comments and/or concurrence within 30 calendar days of receipt of this letter to:

460 CES/CEV
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade at 303-677-9977, Email janet.wade@buckley.af.mil.

Sincerely


ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachments
Draft EA
Draft FONSI
Architectural Inventory Form

APPENDIX D
AGENCY COMMENT LETTERS

STATE OF COLORADO
Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

Russell George, Director
6060 Broadway
Denver, Colorado 80216
Telephone: (303) 297-1192



*For Wildlife-
For People*

April 20, 2003

Lt Col Alfred C. Scharff
Base Civil Engineer
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Re: 460 CES/CEV

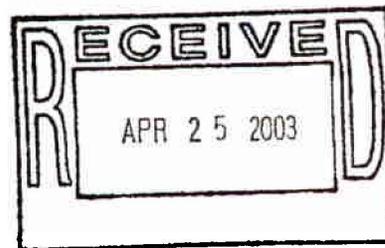
Dear Lt Col Scharff

Thank you for the opportunity to comment on the proposed construction of the new air traffic control tower and fire station at Buckley Air Force Base. Based on the fact that a control tower and fire station currently exist on the site and are being demolished and replaced by new facilities, including an expansion of the existing fire station, I see little concern for significant impact of wildlife resources. The site is limited in its value to wildlife and this demolition and construction, as proposed, should have minimal impacts on local wildlife.

If you have any questions please contact me at (303) 291-7133.

Sincerely,

Travis F. Harris--District Wildlife Manager



STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Acting Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S. Laboratory and Radiation Services Division
Denver, Colorado 80246-1530 8100 Lowry Blvd.
Phone (303) 692-2000 Denver, Colorado 80230-6928
TDD Line (303) 691-7700 (303) 692-3090
Located in Glendale, Colorado

<http://www.cdphe.state.co.us>

March 26, 2003



Colorado Department
of Public Health
and Environment

Ms. Elise Sherva
460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB, CO 80011-9551

RE: "Draft Environmental Assessment (EA) for Buckley Air Force Base Air Traffic Control Tower and Fire Station, Buckley Air Force Base, Colorado"

Dear Ms. Sherva:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (the Division) has reviewed the above referenced document received March 18, 2003. Our comments are attached. These comments require a response from the Air Force before the Division can concur with the EA.

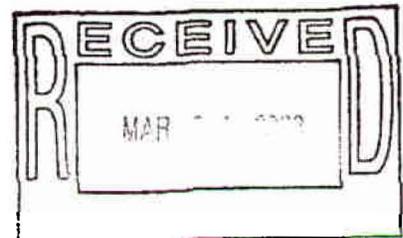
Thank you for the opportunity to comment. Please contact me at 303-692-3324 or ed.larock@state.co.us if there are any questions.

Sincerely,

Ed LaRock, P.G.
Environmental Protection Specialist
Hazardous Materials and Waste
Management Division

Attachment

cc: Jeff Edson, CDPHE
William Allison, AGO
Tom Bain, APCD, CDPHE
Mark Spangler, Buckley Air Force Base
File RD003-1.1



CDPHE comments on Draft EA for Air Traffic Control Tower and Fire Station

Figure 1-1 – What is the “red star” in the middle of the map of Colorado?

Figure 1-2 – This map should include the outlines of the areas covered by Figures 2-2 and 2-3. It is difficult to place these areas in the context of the entire base given the size of Figure 1-2.

Section 3.6.3, page 3-16 – The locations, test methodology and results sheets for the asbestos soil samples collected in January 2003 at the eleven site proposed for construction during FY 2004 to 2007 should be included in the EA and provided for review.

Section 3.6.5, page 3-17 – a) When will the additional testing for PCBs occur? How will the results be made available for review? b) Another potential use of PCBs is an additive to paints for corrosion protection and as a filling material in joints of concrete and window or vent seals. Have these uses been evaluated at Buckley Air Force Base?

Section 4.6.1.1, page 4-8 – The Colorado Division of Oil and Public Safety is investigating a diesel leak from an AST associated with Building 1603. This AST is located midway between Building 1603 and 1606 and should be noted in the EA.

Section 4.6.1.7, page 4-10 – The Air Force has not submitted a “No Further Response Action Planned Decision Document” for IRP Site 1 (Fire Training Area 2) to the State. As noted on page 3-18, IRP Site 1 is “undergoing a supplemental remedial investigation.” Please correct Section 4.6.1.7. As a general note, the IRP sites are now designated ERP (Environmental Restoration Program) sites.

BILL OWENS
Governor
JEFFREY M. WELLS
Executive Director
RICHARD O. PIPER
Director of Oil and Public
Safety



DEPARTMENT OF LABOR AND EMPLOYMENT

Division of Oil and Public Safety
Remediation Section
Tower 3, Suite 610
1515 Arapahoe Street
Denver, Colorado 80202-2117
(303) 318-8500; Fax (303) 318-8546
Website: <http://oil.cdle.state.co.us>

February 27, 2003

HOPE GRIGGS
COLORADO AIR NATIONAL GUARD
18860 E BRECKENRIDGE AVE STOP 80
BUCKLEY AFB CO 80111

Re: No Further Action for Building 1603, 545 S. Silver Creek, Buckley AFB, Arapahoe
County, Colorado. (Event ID 9017)

Dear Ms. Griggs:

The Division of Oil and Public Safety (OPS) has reviewed the Site Characterization Report for the above referenced site received November 12, 2002.

Based solely upon the information submitted it appears you have removed the source of contamination and reduced the potential for endangerment to human health, safety, and the environment as a result of the contamination at this property. However, soil contamination exceeding Tier 1 risk-based screening levels (RBSLs) for benzo(a)-pyrene and benzo(a)-anthracene is present onsite at concentrations of 1.1 mg/Kg and 1.17 mg/Kg, respectively. Considering current land use and other site characteristics, OPS views the presence of this soil contamination as an acceptable risk. In light of the remedial action taken at this site, OPS does not require any further investigation or remedial action at this time. If conditions change, OPS reserves the right to determine if any additional actions are necessary. This no further action (NFA) letter is in reference to the release from the 2,000-gallon diesel AST.

OPS cannot release you from any liability that may be associated with any contamination at or from this site.

Please address correspondence regarding this site to me, and if you have any questions call me at (303) 318-8535.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Noel".

Steve Noel, P.G.
Environmental Protection Specialist
Remediation Section

cc: Marilyn Hajicek, P.G., Remediation Section Manager
Enc Pattermore, Pinyon Environmental Engineering Resources, Inc., 9600 W Jewell Ave.,
Ste. 7, Lakewood, CO 80232



COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

24 March 2003

Alfred C. Scharff, Lt. Col., USAF
Base Civil Engineer
Department of the Air Force
460th Civil Engineer Squadron
660 S. Aspen St., Stop 86
Buckley AFB, CO 80011-9551

RE: Air Traffic Control Tower and Fire Station, Buckley Air Force Base, Arapahoe County

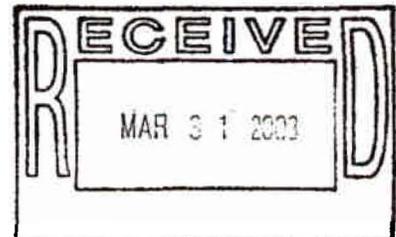
Dear Lt. Col. Scharff:

Thank you for your recent correspondence dated 13 March 2003, concerning the proposed construction of a new air traffic control tower at Buckley Air Force Base. The project also involves the expansion of an existing fire station, as well as the demolition of the existing air traffic control tower. Our office has reviewed the submitted materials. We concur with your assessment that no historic properties will be affected by this project.

If you have any questions, please feel free to contact Joseph Saldibar, Architectural Services Coordinator, at (303) 866-3741. We look forward to hearing from you.

Sincerely,

For 
Georgianna Contiguglia
State Historic Preservation Officer, and
President, Colorado Historical Society





City of Aurora

Planning Department

1515 E. Alameda Parkway

Aurora, Colorado 80012

Phone: 303-739-7250

Fax: 303-739-7268

www.aurora.gov.org

May 15, 2003

Alfred C. Scharff, Base Civil Engineer
460 Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB, CO 80011-9551

Dear Mr. Scharff,

RE: EA comments for car wash, air traffic control tower, demolition of existing structures, fire station addition, construction of new base wing headquarters, fuel storage facility and medical pharmacy.

Staff has reviewed all of the above and have no comments except in reference to the car wash facility. Due to the drought, staff has been looking at potential regulations to require that car washes recycle a major portion of their water through the use of a reclamation system. While the legislation has not been finalized, water conservation measures are considered critical at such facilities due to their heavy consumption of this resource. For instance, car washes where a hand wand is used by the owners can utilize up to 16 gallons per wash; automatic washers where the driver remains in the vehicle can use 30-40 gallons per wash; and conveyor type systems where the driver is not in the car can utilize as much as 60+ gallons per wash.

The base is encouraged to work with the city's water conservation specialist, Natalie Brower-Kirton at 303-739-7381 who has been researching this topic. Thank you in advance for consideration of this suggestion and for forwarding the EA's for our review.

Sincerely,

A handwritten signature in cursive script that reads "Denise M. Balkas".

Denise M. Balkas, A.I.C.P.
Director of Planning

Dmb/seh

APPENDIX E

NOTICE OF AVAILABILITY

THE Denver Newspaper Agency
DENVER, CO

PUBLISHER'S AFFIDAVIT

City and County of Denver,
STATE OF COLORADO, SS.

Collene Curran

..... being of lawful
age and being first duly sworn upon oath, deposes and says:

Legal Advertising Reviewer

That he/she is the
Of The Denver Newspaper Agency, publisher of the Denver Post and
Rocky Mountain News, daily newspapers of general Circulation published
and printed in whole or in part in Denver, in the County of Denver and
State of Colorado, and that said newspaper was Prior to and during
all the time hereinafter mentioned duly qualified For the publication of
legal notices and advertisements within the meaning of an Act of the
General Assembly of the State of Colorado,
Approved April 7, 1921, as amended and approved March 30, 1923;
And as amended and approved March 5, 1935, entitled "An Act
Concerning Legal Notices, Advertisements and Publications and the
Fees of printers and publishers thereof, and to repeal all acts and parts
Of acts in conflict with the provision of this Act" and amendments
Thereof;

That the notice, of which the annexed is a true copy, was published in
The said newspaper to wit: (dates of publication)

.....
March 16, 2003
.....
Signature

Subscribed and sworn to before me this 17th day

OF MARCH A.D. 2003.
.....
Notary Public.
My commission expires 12/18/05

Public Notice
U.S. Air Force
Notice of Availability

Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for Buckley Air Force Base phased construction and demolition of the Air Traffic Control Tower, Crash house, and Fire Station at Buckley Air Force Base, Colorado. The Proposed Action is to provide the USAF with an adequate and properly configured air traffic control tower and consolidated fire station/crash house to support BAFB mission objectives. The Air Traffic Control Tower and Fire Station Environmental Assessment (EA) dated November 2002 is incorporated by reference.

This EA evaluates the potential environmental impacts at Buckley Air Force Base, Colorado. The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The United States Air Force (USAF) has prepared this EA to assess the potential environmental effects resulting from military activities at Buckley Air Force Base (BAFB) which are required to continue support of base mission objectives.

Comments must be received by April 17, 2003.

Copies of the respective EA and FONSI may be found at the following public libraries: Aurora Public Library, Government Document section, 14949 East Alameda Drive, Aurora, CO 80012, 303-739-6600 or Denver Public Library, Government Document section, 10 West Fourteenth Ave., Denver, CO 80204, 303-640-6200.

Copies of the respective SEA and FONSI may be found at the following public libraries: Aurora Public Library, Government Document section, 14949 East Alameda Drive, Aurora, CO 80012, 303-739-6600 or Denver Public Library, Government Document section, 10 West Fourteenth Ave., Denver, CO 80204, 303-640-6200.

Interested parties should address their comments, questions, or concerns to: Chief, Environmental Management, 460 CES/CEV, Stop 84, 460 South Aspen Street, Buckley AFB, CO 80011-9551, 303-677-9077.