FINAL
ENVIRONMENTAL ASSESSMENT

FOR

YOUTH CENTER

and

RECREATIONAL VEHICLE PARKING LOT EXPANSION PROJECT

BUCKLEY AIR FORCE BASE, COLORADO

December 2005

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FINDING OF NO SIGNIFICANT IMPACT
YOUTH CENTER AND RV PARKING LOT EXPANSION PROJECT

BUCKLEY AIR FORCE BASE, COLORADO

AGENCY: United States Air Force (USAF), 460th Space Wing (SW).

BACKGROUND: Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, Council on Environmental Quality NEPA implementing regulations (40 Code of Federal Regulations [CFR] parts 1500-1508), and Air Force NEPA implementing regulations (32 CFR 989), the USAF 460th SW conducted an assessment of the potential consequences of implementing proposed Youth Center and Recreation Vehicle (RV) Expansion Lot projects at Buckley Air Force Base (AFB) that are described below in the Proposed Action.

PROPOSED ACTION: The USAF proposes to construct a Youth Center and to expand an existing RV parking lot at Buckley AFB. The Youth Center and RV Expansion Lot projects would include construction encompassing approximately 8.2 acres of land at two locations within the boundaries of Buckley AFB. The Youth Center project would include construction of a building and landscaped area with a playground. The RV Expansion Lot would include sufficient space to provide storage of large-size RVs.

FACTORS CONSIDERED IN DETERMINING THAT NO ENVIRONMENTAL IMPACT STATEMENT IS REQUIRED: The Environmental Assessment (EA) analyzed the environmental impacts of alternatives to the proposed action taking into account all relevant environmental resource areas and conditions. The USAF has examined the following resource areas and conditions and found that the proposed action would either have no or inconsequential impact: air quality; expansive soils, hazardous materials, hazardous wastes, socioeconomics, utilities, biological resources, traffic/transportation, water resources, radon, safety and pollution prevention. The proposed action would not have any significant effect on contaminated sites. The Final EA for the proposed Youth Center and RV Expansion Lot projects at Buckley AFB, Colorado, dated December, 2005, is incorporated by reference.

PUBLIC NOTICE: NEPA, 40 CFR 1500-1508, and 32 CFR 989 require public review of the EA before approval of the FONSI and implementation of the Proposed Action. The public review period ended on September 27, 2005

FINDING OF NO SIGNIFICANT IMPACT: Based on the requirements of NEPA, 40 CFR 1500-1508, and 32 CFR 989, I conclude the environmental effects of the proposed action are not significant and, therefore, an environmental impact statement will not be prepared. A notice of availability for public review was published in the Denver Post on Sunday, August 28, 2005 and in the Aurora Sentinel on Thursday, August 25, 2005 indicating a 30-day review period. A hard copy of the Draft EA and Draft FONSI was placed in the Denver, Aurora, and Boulder, Colorado public libraries for dissemination. The signing of this FONSI completes the USAF Environmental Impact Analysis Process (32 CFR 989).

David W. Ziegler

DAVID W. ZIEGLER, Colonel, USAF
Commander

FEB 2 1 2006

Date

COVER SHEET
ENVIRONMENTAL ASSESSMENT
FOR PROPOSED YOUTH CENTER CONSTRUCTION AND RECREATIONAL VEHICLE PARKING LOT EXPANSION PROJECTS
AT BUCKLEY AIR FORCE BASE (AFB), COLORADO

Prepared by
Headquarters Air Force Center for Environmental Excellence
Project Execution Division
Brooks Air Force Base, Texas 78235-5122

a. **Responsible Agency**: United States Air Force (USAF), 460th Space Wing (SW), Buckley Air Force Base (AFB), Colorado

b. **Proposed Action**: The USAF proposes to construct a Youth Center and to expand an existing Recreation Vehicle (RV) parking lot at Buckley AFB. The Youth Center and RV Expansion Lot projects would include construction encompassing approximately 8.2 acres of land at two locations within the boundaries of Buckley AFB. The Youth project would include construction of a building and landscaped area with a playground. The RV Expansion Lot would include sufficient space to provide storage of large-size RVs.

c. **Inquiries regarding this document should be directed to**: Capt Anthony Fontanetta, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551; telephone (720)-847-9187.

d. **Privacy Advisory:** Your written or oral inquiries may be published and made available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meeting or hearings or to fulfill requests for copies of the Final EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the name of individuals making comments and specific comments and specific comments will be disclosed. Personal home addresses and phone numbers have not been published in the Final EA.

e. **Designation**: Final Environmental Assessment (EA)

f. **Abstract**: The USAF has prepared this EA to evaluate the potential environmental impacts from the construction of a new Youth Center and expansion of an existing RV Parking Lot at Buckley AFB (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center and RV Parking Lot Expansion Projects are required to support the 460th SW mission and improve quality of life for on-site, off-site, and retired personnel.

The environmental resources potentially affected by the proposed action and alternatives include: air quality; expansive soils; hazardous materials; hazardous wastes; socioeconomics; utilities; biological resources; traffic/transportation; water resources; radon, safety and pollution prevention. Based on the nature of the activities that would occur during the construction and operation of the Youth Center and RV Parking Lot Projects, the USAF has determined that insignificant or no adverse impacts to the above resources are anticipated.

g. **A 30-day public comment period ending To Be Determined (TBD) was provided.** Comments were received from the following agencies and organizations:

- The Colorado Department of Public Health and Environment (CDPHE), Hazardous Materials and Waste Management and Air Pollution Control Divisions
- Colorado Historical Society, State Historic Preservation Officer
- Prairie Preservation Alliance

The comments are contained in Appendix C of the EA. The comments submitted by the CDPHE Hazardous Materials and Waste Management Division provided concurrence with the EA. Comments submitted by the CDPHE Air Pollution Control Division, the Colorado Historical Society and the Prairie Preservation Alliance required responses. The response letters, which document the revisions made to the EA resulting from the comments (where necessary), are also included in Appendix C of the EA.

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ACRONYMS AND ABBREVIATIONS

ACAM	Air Conformity Applicability Model
ACP	Application for Construction Permit
ACZ	Airfield Clear Zone
ADP	Area Development Plan
AFB	Air Force Base
AFI	Air Force Instruction
AFPD	Air Force Policy Directive
AFSPCH	Air Force Space Command Handbook
am	morning
APEN	Air Pollution Emission Notice
APZs	Accident Potential Zones
AQCR	Air Quality Control Region
ASTs	Aboveground Storage Tanks
BANGB	Buckley Air National Guard Base
BMPs	Best Management Practices
CAA	Clean Air Act
CAQCC	Colorado Air Quality Control Commission
CCR	Colorado Code of Regulations
CDA	Colorado Department of Agriculture
CDC	Child Development Center
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and the Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CDHS	Colorado Department of Human Services
CDLE	Colorado Department of Labor and Employment
CDOW	Colorado Department of Wildlife
CFR	Code of Federal Regulations
CGP	Construction General Permit

CIP	Capital Improvement Program
CMSA	consolidated statistical metropolitan area
CNHP	Colorado Natural Heritage Program
COANG	Colorado Air National Guard
CWA	Clean Water Act
dB	decibels
DOD	Department of Defense
DNL	Day-Night Sound Level
DRCOG	Denver Regional Council of Government's
EA	Environmental Assessment
EAC	Early Action Compact
ELU	Existing Land Use
ELUA	Existing Land Use Area
EOs	Executive Orders
EPCRA	Emergency Planning and Community Right to Know Act
ERP	environmental restoration program
ESA	Endangered Species Act of 1973
ETL	Engineering Technical Letter
FAMC	Fitzsimons Army Medical Center
FIP	Federal Implementation Plan
ft	feet or foot
ft^2	square foot
FY	fiscal year
GP	General Plan
HAPs	Hazardous Air Pollutants
HAZMATs	hazardous materials
ITE's	Institute of Transportation Engineer's
lbs	pounds
LRT	Light Rail Transit
MBTA	Migratory Bird Treaty Act

MFH	Military Family Housing
mgd	million gallons per day
mgy	million gallons per year
mmBTU/hr	million British Thermal Units per hour
$mmft^3$	million cubic feet
MS4	Municipal Separate Storm Sewer Systems
MWRS	Morale, Welfare, Recreation and Services
NAAQS	National Ambient Air Quality Standards
NDIS	Natural Diversity Information Source
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
ODS	ozone depleting substances
Pb	Lead
PBFH&U	Parsons Brinckerhoff/Felsburg Holt and Ullevig
pCi/L	picocuries per liter
PCBs	Polychlorinated Byphenysl
pm	night
ppm	parts per million
PSD	Prevention of Significant Deterioration
QD	Quantity Distance
RAQC	Air Quality Council
RCRA	Resource Conservation and Recovery Act
RMA	Rocky Mountain Arsenal
ROI	region(s) of influence
RTD	Regional Transportation District
RVIA	Recreation Vehicle Industry Association
RV lot	recreation vehicle storage lot
SAP	School Age Program

SO_2	sulfur dioxide
SO_x	sulfur oxides
SW	Space Wing
SWPPP	stormwater pollution prevention plan
tpy	tons per year
TSCA	Toxic Substances Control Act
TSDF	Treatment Storage and Disposal Facilities
U.S.	United States
USCB	United States Census Bureau
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VMT	vehicle miles traveled
VOC	volatile organic compounds
VQ/TLF	Visitor's Quarters/Temporary Lodging Facility
YMCAs	Young Men's Christian Association

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SECTION 1

PURPOSE AND NEED FOR THE PROPOSED ACTION

This environmental assessment (EA) analyzes the potential environmental impacts that may result from constructing a Youth Center and expanding an existing recreational vehicle storage lot (RV lot) at Buckley Air Force Base (AFB), Colorado. This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, the NEPA implementing regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and United States Air Force (USAF) NEPA implementing regulations (32 CFR 989).

1.1 PURPOSE AND NEED

The 460th Space Wing (SW) proposes to construct a 32,291 square foot (ft^2) Youth Center and expand the existing RV lot by 162,000 ft^2 at Buckley AFB. This section presents the purpose and need for these actions.

1.1.1 Youth Center Facility

The purpose of this action is to provide a permanent Youth Center dedicated to youth service programs on Buckley AFB. The current youth center program is located in a building leased from the Lowry Redevelopment Authority at the former Lowry AFB. Redevelopment of the building by the Lowry Redevelopment Authority in accordance with the Lowry Community Reuse Plan, will displace the existing youth services program.

Although there is no Military Family Housing (MFH) on Buckley AFB at this time, the construction of 351 housing units is currently underway. The new MFH is being constructed on a 71-acre development site, and is located on the west-central boundary of the installation (Buckley AFB 2002c). The new MFH would be located approximately one-quarter mile from the Proposed Action Youth Center site and is scheduled to be completed in fiscal year (FY) 06.

Air Force Policy Directive 34-8, Youth Programs, and Air Force Instruction (AFI) 34-249 authorize installation commanders to establish the youth programs to provide opportunities for military and Department of Defense (DOD) civilian dependents to develop their physical, social, emotional, and cognitive abilities (USAF, 2000a). In accordance with AFI 34-249, Buckley AFB is developing a daily and year-round program of activities in the five core program areas: character and leadership development; the arts; youth sports, fitness, and recreation; health and life skills; and education and career development (USAF, 2000b).

The July 2003 Needs Assessment Study for the Youth Center, Buckley AFB (PFK Consulting, 2003) identified a youth services requirement at the base in accordance with AFI 34-249 Section 1.4.1.4, therefore establishing the need for construction of a Youth Center (USAF 2000b). School age programs (before and after school programs and all-day camps) during school vacations and summer holidays would be offered to assist working parents at Buckley AFB.

Community commercial, community service, and other community facilities needed to support the increased full-time military population were provided at Buckley AFB without support for youth programs when Lowry AFB and Fitzsimons Army Medical Center (FAMC) were closed.

The USAF mission requirements from the realignment of Buckley Air National Guard Base (BANGB) to Buckley AFB have increased the need for expansion of military family services. To provide adequate family services to key and essential personnel, a permanent Youth Center facility would be required to accommodate any increase in demand for youth services. The need for a permanent Youth Center became more acute when redevelopment of the former Lowry AFB displaced the current Youth Services Program.

The proposed Buckley AFB Youth Center would provide various services to the youth population supported by Buckley AFB. The project objectives include:

- Meet requirements for Youth Centers as specified in Air Force Space Command Handbook (AFSPCH) 32-1004 and Air Force Services Design Guide for Youth/School Age Centers and Unified Facilities Criteria 4-740-06 Design: Youth Centers (USAF 2003; DOD 2004).

- Provide a convenient location that will improve youth safety and security and encourage pedestrian access.

- Locate the Youth Center in close proximity to family housing, chapel, and other community service facilities such as the chapel and Child Development Centers.

- Design the center to provide multiple uses, increased utilization, and an expanded community profile.

1.1.2 RV Lot Expansion

Air Force Policy Directive (AFPD) 34-1 – Morale, Welfare, Recreation and Services (MWRS) Programs provides guidance for the establishment of outdoor recreation programs and mission sustaining community support and business activities at Buckley AFB. Outdoor recreation activities include RV lots and other MWRS services that are sufficiently broad and varied to serve active duty and retiree's and their dependents. RV lot operations must be managed in accordance with AFPD 34-2 to ensure sound management and operations contributing to MWRS mission (USAF, 1994).

The purpose of expanding the existing RV lot is to provide a secure storage facility to accommodate the increased demand for RV parking on Buckley AFB. An extensive waiting list for RV storage (averaging 85 to 100 RVs) emphasizes the need for additional RV storage for military personnel. The project objective would be to provide sufficient space to accommodate the increased demand for RV storage space resulting from realignment to a full functioning AFB.

The RV lot expansion is needed to accommodate growth of current and planned military missions and community support requirements at Buckley AFB. This facility

would contribute to the security of vehicular storage and meet community support requirements for increased personnel. Health, safety, and security risks would be minimized by placing the RV lot on-base in close proximity to the existing RV lot and outdoor recreation areas. These facilities would conform to the Buckley AFB GP by consolidating the Youth Center with other family services facilities, such as the Chapel Center and the CDC (Buckley AFB, 2002a).

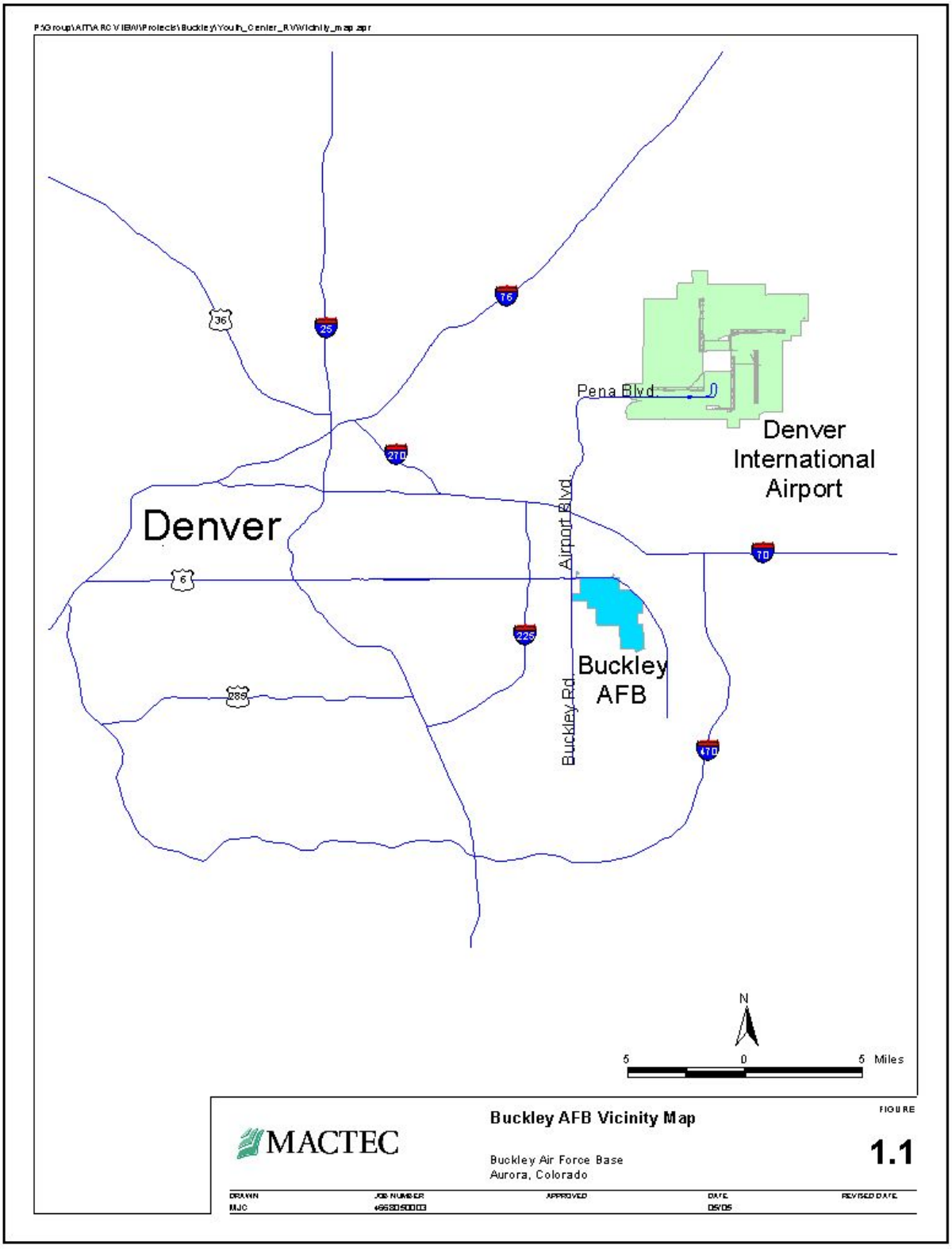
Consistent with the realignment of BANGB to Buckley AFB, the Proposed Action would allow the 460th SW to fulfill its mission as the host at Buckley AFB and provide services which enhance the quality of life.

1.2 LOCATION AND DESCRIPTION OF BUCKLEY AFB

Buckley AFB is located on the northeast side of the City of Aurora in Arapahoe County, Colorado (Figure 1.1).

460th SW is the host for Buckley AFB. The mission of the 460th SW is to provide combatant commanders with superior global surveillance, worldwide missile warning, expeditionary forces and support to homeland defense.

Buckley AFB is host to diverse missions, military services, and components. These include active-duty, National Guard and Reserve personnel from the USAF, Army, Navy, and Marine Corps to accomplish satellite support operations, fighter operations, installation support, and other important missions.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Buckley AFB Vicinity Map
Buckley Air Force Base
Aurora, Colorado
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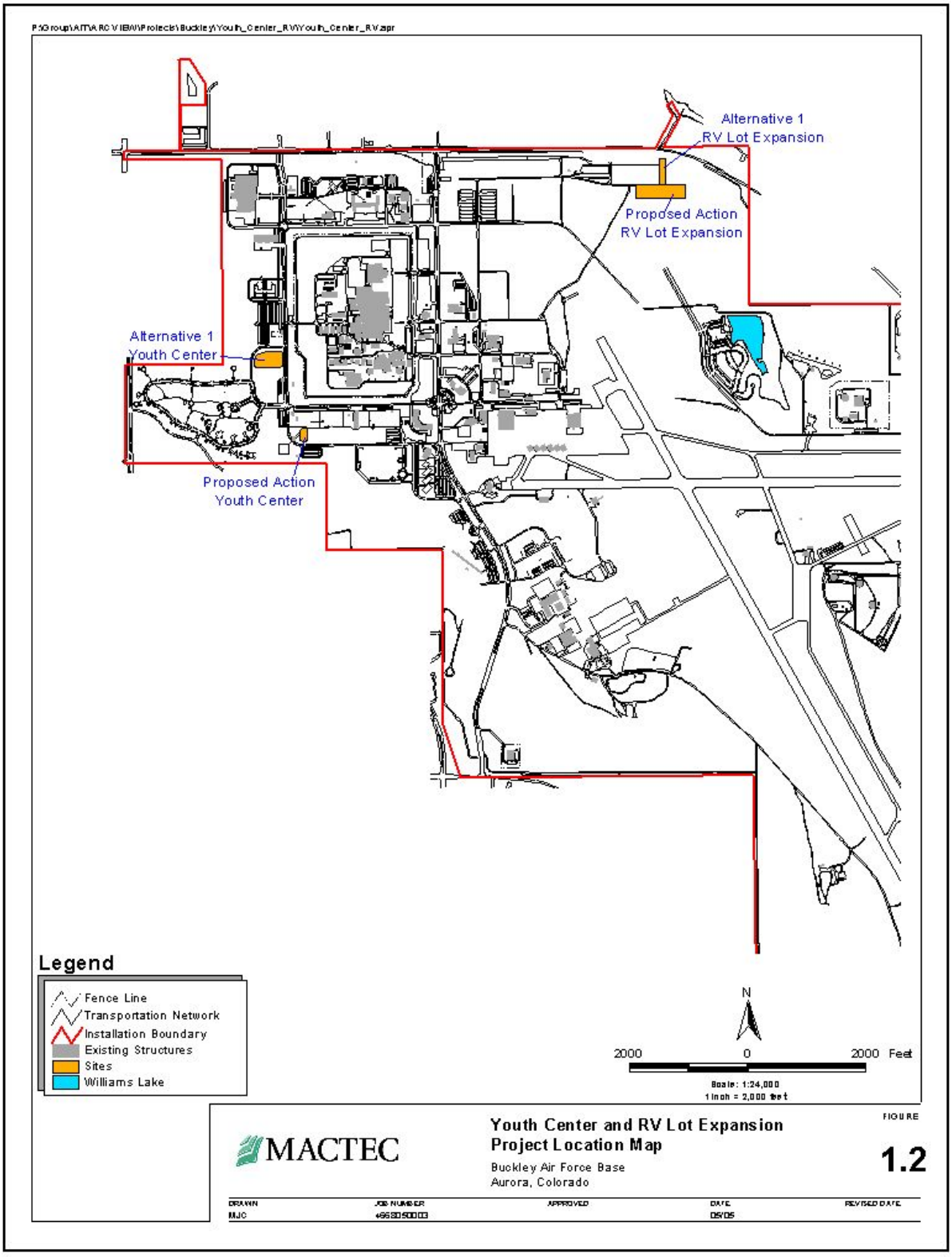
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Alternative 1
RV Lot Expansion
Proposed Action
RV Lot Expansion
Alternative 1
Youth Center
Proposed Action
Youth Center
Legend
Fence Line
Transportation Network
Installation Boundary
Existing Structures
Sites
Williams Lake
N
2000
0
2000 Feet
Scale: 1:24,000
1 inch = 2,000 feet
MACTEC
Youth Center and RV Lot Expansion
Project Location Map
Buckley Air Force Base
Aurora, Colorado
FIGURE
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SCOPE OF THE ENVIRONMENTAL REVIEW

This environmental analysis has been conducted in accordance with the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4321, et seq., and AFI 32-7061, The Environmental Impact Analysis Process, as promulgated in 32 CFR Part 989. 32 CFR 989 addresses implementation of NEPA and directs the USAF to consider environmental consequences as part of the planning and decision-making process. While the EA provides information with which to make better decisions about proposed actions, it does not impart project approval or authorization which is obtained through the 460th Facilities Board.

This EA encompasses the development and construction of a 32,291 square foot (ft^2) Youth Center and an expansion of the existing RV lot. The land area considered within this EA totals approximately 19.3 acres of land surface within the 3,283-acres Buckley AFB that will be graded and disturbed to facilitate construction of the Youth Center and expansion of the RV lot. The two development projects included in the Proposed Action are presented in Table 1.1. Figure 1.2 shows the potential project sites (Proposed Action, Alternative 1, and Alternative 2) for the proposed Youth Center and RV lot within the base boundaries.

Table 1.1: Project Site Plan Description

Development Projects	Development Footprint* (Acres)
Youth Center	0.79
Expansion of RV Lot	7.41
Total	8.20

* Total development footprint is defined as post development build-out which includes all structures, parking lots and any corresponding sidewalks.

The direct impacts of constructing the Youth Center and expanding the RV lot are addressed in Section 4, Environmental Consequences, of this EA.

Cumulative impacts include past, present, and reasonably foreseeable future actions at Buckley AFB, as well as private, commercial, and governmental (city, state, and federal)

developments that have or may occur in the surrounding areas. The following factors were taken into consideration when assessing the cumulative impacts of this project:

- Integration of the proposed site plan development with surrounding development plans, such as the City of Aurora's Comprehensive Plan (City of Aurora 2003).
- Effects on traffic around the base, such as possible increases in traffic and associated air emissions.
- Consideration of City of Aurora drought management plans and watering restrictions resulting from drought conditions occurring during and prior to 2002.
- Impacts of increased stormwater discharges due to increased impervious areas.
- Consideration of species of concern, including the black-tailed prairie dog (*Cynomys ludovicianus*), bald eagle (*Haliaeetus leucocephalus*), ferruginous hawk (*Buteo regalis*), and the burrowing owl (*Athene cunicularia*).
- Noxious weed eradication and conservation of shortgrass prairie stands.
- Consideration of general land use and potential off-base black-tailed prairie dog migrations that may result due to excavation and construction activities.
- Effects of potential asbestos removal from buried World War II era building foundations that may be disturbed by excavation and construction.

Cumulative impacts are fully analyzed in relation to potentially affected environmental resources in Section 4, Environmental Consequences. The region of influence for cumulative impacts of each potentially affected environmental resource is delineated in Section 3, Affected Environment.

Mission requirements for Buckley AFB define minimum facility and assigned military personnel needs. The General Plan (GP) and the Capital Improvement Program (CIP) are designed to provide the required infrastructure and facilities, and are intended to

culminate in orderly construction of necessary infrastructure and facilities (Buckley AFB, 2002a; Buckley AFB, 2002b). Consideration of other sites was facilitated during earlier stages of planning at the major command level. Layout and design options were considered during development of the GP. This process included relevant users, planners, designers, and engineers from 460th SW and tenant organizations. The process also considered existing and planned land uses, consolidating and collocating facilities with like or compatible land uses, access routes, and availability of existing infrastructure and utilities. The Buckley AFB GP established a comprehensive and systematic development plan for the base through the year 2020. The siting of the proposed projects under this EA is compatible with the GP.

1.4 ORGANIZATION OF THE EA

This EA is divided into seven sections. Section 1 of the EA describes the purpose and need for the Proposed Action. Section 2 of the EA describes the Proposed Action, No Action and other action alternatives. Section 3 describes the affected environment and scope of environmental review. Section 4 presents the environmental consequences of the Proposed Action, Alternative Action 1, Alternative Action 2, and the No Action Alternative, including cumulative impacts. The cumulative impact methodology (including type of environmental issue, degree of potential impact, and best management procedures which may reduce the impact) and their application to resources are also presented in Section 4. Section 5 presents the list of preparers, and Section 6 presents a list of agencies, organizations, and persons to whom the EA was sent. Section 7 provides references.

1.5 APPLICABLE REGULATORY REQUIREMENTS

NEPA requires decision-makers to understand major permitting requirements of the Proposed Action so that early planning is carried out effectively and potentially impeding issues, as well as other state and federal requirements, are clearly understood. All applicable regulatory requirements related to the Proposed Action discussed in this EA will be followed. A brief description of the regulatory requirements is provided below.

Stormwater Permit Requirements. A stormwater Construction General Permit (CGP) issued under the United States Environmental Protection Agency's (USEPA) National Pollutant Discharge Elimination System (NPDES) would be required for CIP projects on sites greater than one acre. The CGP and construction activities would be reviewed by the Buckley AFB per their Municipal Separate Storm Sewer Systems (MS4) permit. Both the CGP and the MS4 Permit require post-construction stormwater management measures.

Clean Air Act Requirements. Site-grading and construction activities for the Proposed Action could require a Land Development Air Pollution Emission Notice (APEN) from the Colorado Department of Public Health and the Environment (CDPHE) if either project would exceed the six-month ground disturbance time threshold.

SECTION 2

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Four alternatives are analyzed for two proposed construction projects in this EA: (1) the Proposed Action for the proposed construction projects; (2) the Alternative Action 1; (3) the Alternative Action 2; and (3) the No Action Alternative, as described in Sections 2.1 through 2.2, below. Alternatives considered but eliminated from further analysis are described in Section 2.6.

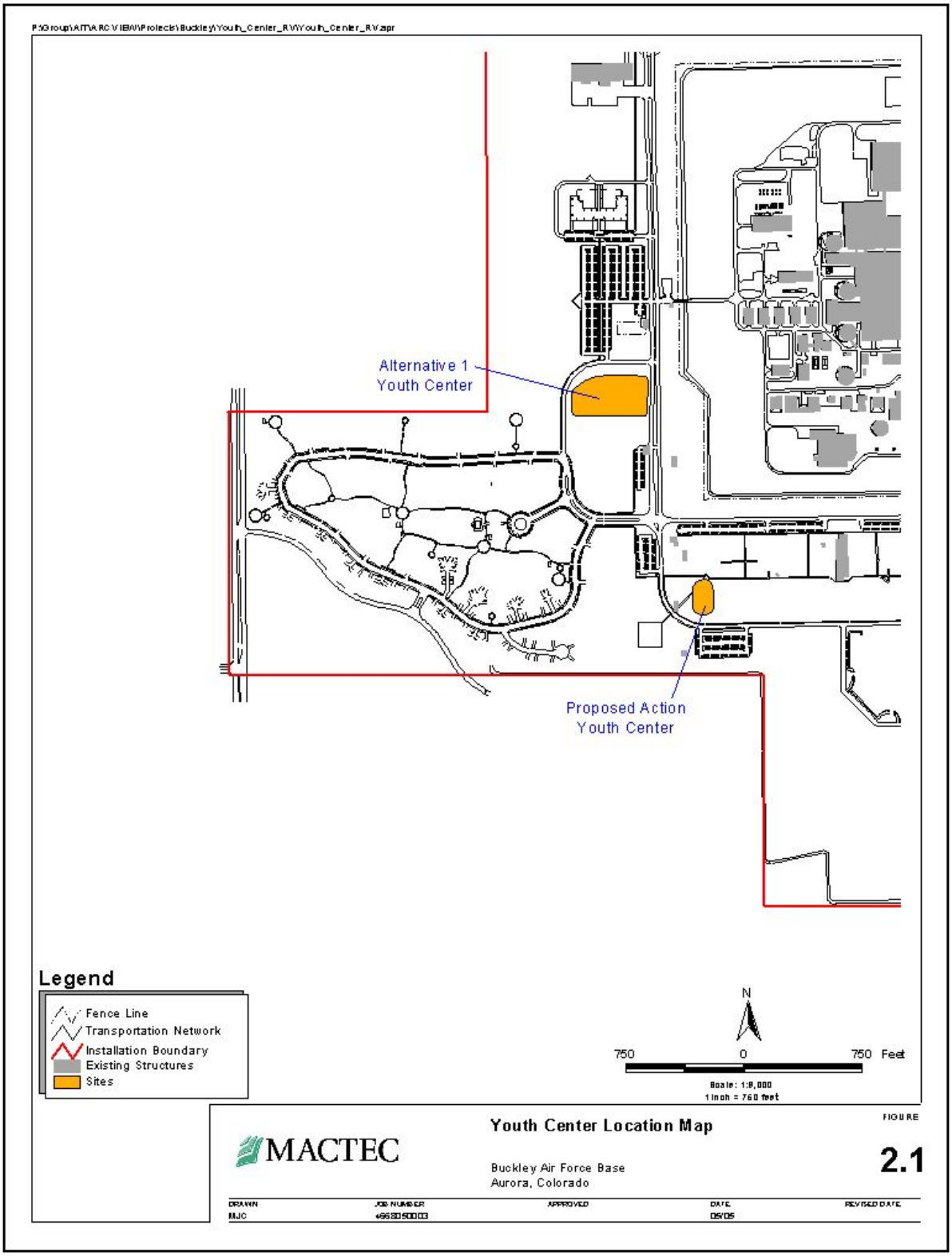
2.1 YOUTH CENTER ALTERNATIVES

2.1.1 Proposed Action

The Proposed Action includes the construction and operation of a new 32,291 ft^2 Youth Center on Buckley AFB. Selection and location of the Youth Center was based on the existing location of similar community service facilities in accordance with the Community Center Area Development Plan (ADP) as incorporated in the installation GP (Buckley AFB, 2002a) and its development component, the CIP (Buckley AFB 2002a). The location of the proposed Youth Center in relationship to other community service structures is shown in Figure 2.1.

The GP is a guide used to establish a pattern of future land uses and uses ADPs that provide written and graphic images of the future planned development pattern. The ADPs present an installation development map that depicts how development will fit together to establish an integrated community development plan.

The Youth Center would be centrally located and convenient to both the future MFH and other community facilities between Breckenridge and A-Basin Avenues (see Figure 2.1). This also places the Youth Center close to the youth outdoor recreation areas to be developed along Telluride Street.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Youth Center
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MACTEC
Youth Center Location Map
Buckley Air Force Base
Aurora, Colorado
FIGURE
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The Youth Center would be a single-story frame structure with reinforced concrete foundation and slab, split-face masonry exterior and standing seam metal roof. Facility designs would provide sidewalk and landscaping with emphasis on creating linkages to pedestrian walkways in close proximity to residential and outdoor recreation areas. Access to facility entrances would be designed to support efficient movement in and around the community service facilities. Parking requirements would be met through co-use of the parking facilities at the new Child Development Center (CDC) and on the north side of the project using an existing hard-surfaced parking area that is currently being used by 140 WG for fuel truck parking. Therefore, the development footprint would include just the building (approximately 32,291 ft^2), landscaping, and walkways for a total of approximately 0.79 acres.

The build-out of walkways and paths and landscaping is included as a component of the project. Utilities are available to support this project, but may require upgrading. No demolitions are planned as part of the construction of the Youth Center.

The development of the Youth Center would provide a variety of services vital to Buckley AFB's youth population. Facilities provided at the Youth Center are listed in Table 2.1.

Table 2.1: Youth Center Facilities

Operational Area	Facility
Youth Activity	General Use Game Room
	Television Area
	Gymnasium
	Music Room
	Teen Room
	Outdoor Hardcourt Area
	Outdoor Playground/Open Space
	School Age Program (SAP) Rooms
	Computer Lab/Homework Room
Services	Multipurpose/Instructional Room
	Resource/Training Room
	Snack Bar Counter

Table 2.1: Youth Center Facilities	
	Kitchen
Administration	Offices
	Front Desk/Control/Equipment Issue
	Break Room
	Isolation Room

Other important social and educational facilities including the youth outdoor recreation areas, Chapel, and Temporary Lodging Facility (VQ/TLF) would be within close proximity once constructed. The construction envelope, or area of disturbance for construction, totals approximately 4.5 acres, assuming that an area six times the size of the finished Youth Center will be required to accommodate contractor staging areas and positioning of construction trailers.

2.1.2 Alternative 1

Under Alternative 1 the new Youth Center would be located east of Telluride and north of Breckenridge Streets. This would place the facility adjacent to the youth outdoor recreation area. The location of the Youth Center in relationship to other community services under Alternative 1 is shown in Figure 2.1.

The facility would add the same amount of building space (approximately 32,291 ft^2) but adds 50 vehicle parking spaces to the installation as compared to the Proposed Action. The requirement for additional parking under this alternative would double the size of the approximate development footprint when compared to the Proposed Action. Except for construction of a new 50 space parking lot, the time of construction, construction materials used, and type of construction for the Youth Center would remain the same as described for the Proposed Action. Alternative 1 would reduce the size and eliminate at least one of the two ballfields in the youth outdoor recreation area.

2.1.3 Alternative 2

Under Alternative 2 Buckley AFB proposes to construct and operate the new 32,291 ft^2 Youth Center at a site located southeast of Aspen Avenue across from the Wing Headquarters. This would place the facility on the east side of Aspen Avenue across from the 460th Wing Headquarters. The location of the proposed Youth Center in relationship to other community services is shown in Figure 2.1. The facility would add the same amount of building space (approximately 32,291 ft^2) but adds 50 vehicle parking spaces to the installation as compared to the Proposed Action. The requirement for additional parking under this alternative would double the size of the approximate development footprint when compared to the Proposed Action. Except for construction of a new 50 space parking lot, the time of construction, construction materials used, and type of construction for the Youth Center would remain the same as described for the Proposed Action.

2.1.4 No Action Alternative

Under the No Action Alternative, only the Facility Development Plan projects already authorized and currently under construction within Buckley AFB would be developed. Some existing youth programs could accommodate limited growth but would not maximize opportunities for development of new youth service programs. Key mission requirements and housing needs would be met, but desirable community service facilities such as the Youth Center would not be developed.

The No Action Alternative would leave the existing Youth Center Program without dedicated space and location. Lack of adequate dedicated space would prevent the Youth Center Program from supporting increased demand for youth services.

Since its establishment in 2000, Youth Center Program participation has grown despite being operated from a variety of on-base and off-base locations (PKF Consulting, 2003). The Youth Center no longer occupies part of a permanent facility but is using temporary space in a modular building scheduled for demolition in two years leaving the existing Youth Center Program without adequate space. Although existing facilities may

meet some youth service mission requirements, an increase in the installation youth population would not be accommodated due to the lack of sufficient space for youth services on the installation.

Further reductions in youth service programs would lower the standard and potentially eliminate several Buckley AFB family and community services. Active duty families would resort to off-base youth programs during duty hours. Some families could incur financial hardships which would adversely affect their quality of life.

2.2 RV LOT EXPANSION ALTERNATIVES

The USAF proposes to expand and reconfigure the current RV lot located on the northeast side of Winterpark Avenue. The project objective would be to provide sufficient space to accommodate the increased demand for RV storage space resulting from realignment to a full functioning AFB. Recreational vehicles are defined as motorhomes, travel trailers, folding camping trailers, van conversions and truck bed campers (Recreation Vehicle Industry Association [RVIA], no date).

The existing RV lot is located on the eastern terminus of Winterpark Avenue, northeast of Steamboat Avenue. The lot is 810 ft long x 330 ft wide, totals 267,300 sf^2, and accommodates approximately 160 RVs.

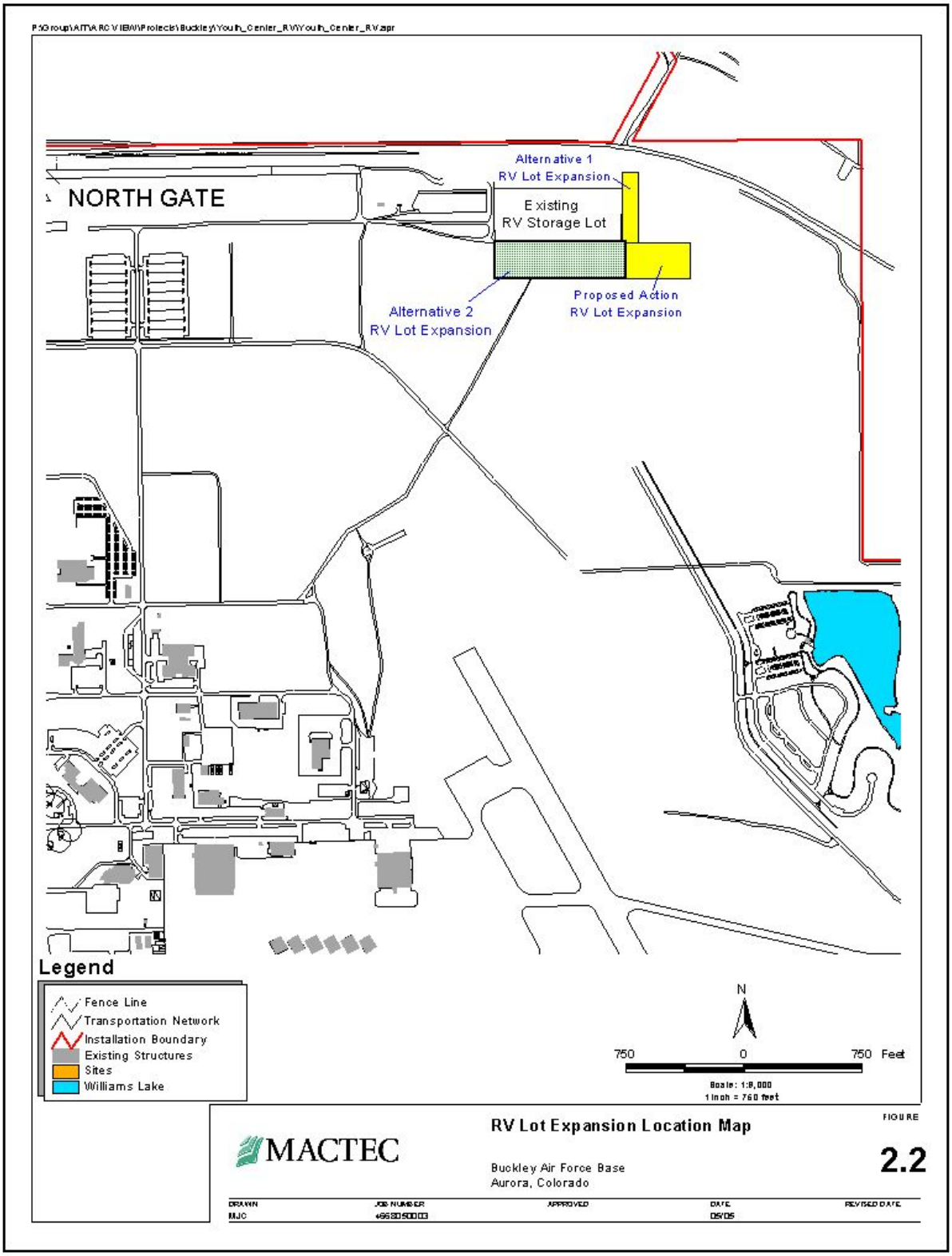
The Proposed Action, Alternative Action 1, Alternative Action 2, and the No Action Alternative are described below. The location of the proposed RV lot expansion projects are shown on Figure 2.2.

2.2.1 Proposed Action

The Proposed Action would expand and reconfigure the current RV lot located on the northeast side of Winterpark Avenue. The location of the proposed RV lot expansion projects is shown on Figure 2.2. This facility would add 100 new RV parking spaces to the installation.

The existing RV lot would be expanded from 267,300 ft^2 to a total of 429,300 ft^2, (an increase of approximately 162,000 ft^2), and would increase available storage for large

RVs (30 ft in length and greater) by approximately 100 spaces, from 160 to 260 spaces. The new lot would be approximately 200 feet wide by 810 feet long, slightly offset and extending from the southeast corner of the existing lot. The lot would be constructed as a compacted gravel surface with concrete curb-foundation. A chain-link fence and new access gate would be installed around the perimeter. The new RV lot would incorporate and utilize the existing lot south fence as the north boundary of the new construction. A dirt or gravel road would be constructed around the perimeter of the entire lot for use by


P:\Group\ARTWORK\BW\Projects\Buckley\Youth_Center_RV\Youth_Center_RV.apr
NORTH GATE
Alternative 1
RV Lot Expansion
Existing
RV Storage Lot
Alternative 2
RV Lot Expansion
Proposed Action
RV Lot Expansion
Legend
Fence Line
Transportation Network
Installation Boundary
Existing Structures
Sites
Williams Lake
N
750 0 750 Feet
Scale: 1:9,000
1 inch = 750 feet
MACTEC
RV Lot Expansion Location Map
Buckley Air Force Base
Aurora, Colorado
FIGURE
2.2
DRAWN MJC
JOB NUMBER 4663050003
APPROVED
DATE 05/05
REVISED DATE

security patrols. The dirt/gravel road (security road) would be approximately 161,000 square feet (50 feet wide and 3,220 linear feet). The construction envelope, or area of disturbance for construction, includes the contractor staging area and construction trailers, and totals approximately 14.8 acres (assuming 2 times the size of the finished new RV lot and security road). The development footprint would be the size of the RV lot and the security road and would total approximately 7.4 acres.

The new RV lot would be convenient and accessible to Lake Williams and other outdoor recreation areas near Winterpark and Steamboat Avenues.

2.2.2 Alternative 1

Under Alternative 1, the orientation of the new RV lot with respect to the existing RV lot differs from the Proposed Action. The existing RV lot would be expanded from 267,300 ft^2 to a total of 301,300 ft^2, (an increase of approximately 34,000 ft^2 or 0.78 acres), and would increase available storage for large RVs (30 ft in length and greater) by approximately 20 spaces, from 160 to 180 spaces. The new RV lot would be approximately 100 feet wide by 340 feet long, parallel and extending 100 feet north from the eastern side of the existing lot. The security road would be approximately 79,500 square feet (50 feet wide and 1,590 linear feet). The construction envelope, or area of disturbance for construction, includes the contractor staging area and construction trailers, and totals approximately 5.2 acres (assuming 2 times the size of the finished new RV lot and security road). The development footprint would be the size of the RV lot and the security road and would total approximately 2.6 acres.

The time of construction, construction materials used, and type of construction would remain the same as described for the Proposed Action. This facility would add 34,000 ft^2 and 20 parking spaces for RV storage. The total square footage for the RV lot would be lower (301,300 ft^2 as compared to 429,300 ft^2 under the Proposed Action), and the layout provided under Alternative 1 would not allow effective use because there would be insufficient room to maneuver large RVs as compared to the rectangular area provided under the Proposed Action.

The new RV lot would be as convenient and accessible to Lake Williams and other outdoor recreation areas near Winterpark and Steamboat Avenues as the location of the Proposed Action. Figure 2.2 shows the location of the proposed expansion of the RV lot abutting the eastern side of the existing RV lot.

2.2.3 Alternative 2

Under this option, the RV lot expansion would be parallel with and south of the existing RV lot. The existing RV lot would be expanded from 267,300 ft^2 to a total of 429,300 ft^2 (an increase of approximately 162,000 ft^2 or 3.7 acres) The new RV lot would be approximately 200 feet wide by 810 feet long, parallel and extending 200 feet south from the southern boundary side of the existing lot. The security road would be approximately 134,000 square feet (50 feet wide and 2,680 linear feet). The construction envelope, or area of disturbance for construction, includes the contractor staging area and construction trailers, and totals approximately 13.6 acres (assuming 2 times the size of the finished new RV lot and security road). The development footprint would be the size of the RV lot and the security road and would total approximately 6.8 acres.

Figure 2.2 shows the location of the expansion of the RV lot abutting the southern side of the existing RV lot. The time of construction, construction materials used, and type of construction would remain the same as described for the Proposed Action. Similar to the Proposed Action, this facility adds 162,000 ft^2 and 100 parking spaces for RV storage for large RVs (30 ft and greater in length).

2.2.4 No Action Alternative

Under the No Action Alternative, the RV lot would not be expanded. Key mission requirements and housing needs would be met, but desirable community service facilities such as the expanded RV lot would not be developed.

This alternative would leave the existing RV lot as the only available military personnel RV storage area. The No Action Alternative would not address the existing or future demand for RV storage facilities. An increase in the number of RVs parked on off-base residential streets and other parking lots could occur, reducing total parking

capacity for other land uses and creating potential safety issues. A majority of military personnel working at Buckley AFB live off-base and without adequate RV storage on-base, RVs are often parked at residential areas. This reduces parking capacity on residential streets and could be a hazard for residential traffic.

2.3 CONSTRUCTION

Construction of each facility would follow the standard USAF site preparation and construction process. No demolitions are planned as part of the construction of the Youth Center or expansion of the RV lot. Site preparation consists of ground clearing to remove vegetation and debris followed by soil grading and compaction to achieve appropriate load-ratings.

Erosion control and structures, such as erosion fencing, temporary drop structures, and retention basins, would be implemented as Best Management Practices (BMPs) to control runoff flow rates and volumes as well as minimize erosion and sedimentation. Next, utilities would be channeled into the subsurface and building materials and equipment would be stockpiled at designated storage sites at or adjacent to the proposed location of the new facilities. The structures would be erected and paving and landscaping would be added.

2.4 COMPARISON OF PROJECT SITE PLAN DEVELOPMENT ALTERNATIVES

Table 2.2 provides a comparison of the project site plan development for each alternative within the base boundaries. Figure 1.2 shows the project locations for the Proposed Action and each of the alternatives.

Table 2.2 Comparison of Project Site Plan Development				
Development Projects	**Proposed Action (square feet)**	**Alternative 1 (square feet)**	**Alternative 2 (square feet)**	**No Action (square feet)**
Youth Center	32,291	32,291	32,291	0
Parking Lot, Sidewalks	2,100(1)	17,100	17,100	0
RV Lot Expansion	323,000	113,500	296,000	0
Total	357,391	162,891	345,391	0
Development Footprint(2) (Acres)	8.20	3.74	7.93	0.00

(1) Under the Proposed Action no parking lot would be constructed.
(2) Total development footprint is defined as post development build-out which includes all structures, parking lots and any corresponding sidewalks.

2.5 COMPARISON OF ANTICIPATED ENVIRONMENTAL CONSEQUENCES

Table 2.3 provides a comparison of the Proposed Action, Alternative Action 1, Alternative Action 2, and No Action Alternative as related to potential environmental consequences. The table indicates if the environmental consequence would be adverse or beneficial and quantifies each consequence (as minor, moderate, or major) that would be anticipated to occur in the short-term (during the phases of ground disturbance and construction) and long-term (occupation and operation of completed facilities and structures). Environmental consequences of the Proposed Action, Alternative Action 1 and No Action Alternatives are discussed in further detail in Section 4 of this EA.

Table 2.3: Comparison of Environmental Consequences				
Impact Topic	**Proposed Action**	**Alternative Action 1**	**Alternative Action 2**	**No Action Alternative**
Air Quality	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts
Expansive Soils	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts
Hazardous Materials	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – No Impacts	Long-term – No Impacts	Long-term – No Impacts	Long-term – No Impacts
Hazardous and Solid Wastes	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts
Socioeconomics	Short-term – Minor Beneficial Impacts	Short-term – Minor Beneficial Impacts	Short-term – Minor Beneficial Impacts	Short-term – Minor Beneficial Impacts
	Long-term – Moderate Beneficial Impacts	Long-term – Moderate Beneficial Impacts	Long-term – Moderate Beneficial Impacts	Long-term – Moderate Beneficial Impacts
Utilities	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Moderate Adverse Impacts	Long-term – Moderate Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Moderate Adverse Impacts
Biological Resources	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Moderate Adverse Impacts	Long-term – Moderate Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Moderate Adverse Impacts

Table 2.3: Comparison of Environmental Consequences				
Impact Topic	**Proposed Action**	**Alternative Action 1**	**Alternative Action 2**	**No Action Alternative**
Traffic/ Transportation	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts
Water Resources	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Mod. Adverse Impacts	Long-term – Mod. Adverse Impacts	Long-term – Mod. Adverse Impacts	Long-term – Mod. Adverse Impacts
Radon	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts	Long-term – Minor Adverse Impacts
Asbestos	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – No Impacts	Long-term – No Impacts	Long-term – No Impacts	Long-term – No Impacts
Safety	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Major Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Minor Beneficial Impacts	Long-term – Minor Beneficial Impacts	Long-term – Major Adverse Impacts	Long-term – Minor Beneficial Impacts
Pollution Prevention	Short-term – Minor Adverse Impacts	Short-term – Minor Adverse Impacts	Short-term – Major Adverse Impacts	Short-term – Minor Adverse Impacts
	Long-term – Minor Beneficial Impacts	Long-term – Minor Beneficial Impacts	Long-term – Major Adverse Impacts	Long-term – Minor Beneficial Impacts

2.6 ALTERNATIVE CONSIDERED BUT ELIMINATED FROM FURTHER STUDY

2.6.1 Youth Center

A number of options were evaluated by Buckley AFB for establishing a permanent Youth Center to meet existing and expanded service requirements. This section describes

actions or alternatives that were eliminated and the reasons why they were eliminated from further study.

Adaptive Reuse of Building 667. Adaptive reuse of an existing building as a Youth Center was eliminated from further study for the following reasons:

- The building previously used as the Youth Center (Building 667) is located at the Lowry Redevelopment project (formerly Lowry AFB) and is not in close proximity to Buckley AFB. Building 667 is located approximately 6 miles west of Buckley AFB.
- Buckley AFB has been asked to vacate Building 667.
- The use of non-standard designs would be contrary to USAF design standards for youth service facilities.
- Building 667 would not sufficiently serve future expansion of the Buckley AFB youth population.
- Building 667 does not meet current health and safety regulations.
- Buckley AFB does not have any excess on-site buildings or buildings with sufficient space for youth programs. Limited existing infrastructure would increase the cost of providing youth service programs.

Establishment of a Public-Private Partnership. Under this approach, youth service programs would be jointly operated and involve partial privatization of the program. Privatization actions have been most effective through creative use of existing infrastructure. Without a Youth Center, sufficient financial incentive, and sustainable revenues, a public-private venture would be unlikely to attract an appropriate operating investor. Other obstacles such as tax, labor, and loan constraints reduce the likelihood of successful public-private partnerships (Feldman, 2004). This option would have also been inconsistent with the objectives of the GP, creating a circumstance where the Youth

Center would not be located in close proximity to family housing, chapel, and other community service facilities such as the chapel and Child Development Centers.

2.6.2 RV Lot

A number of options were evaluated by Buckley AFB for establishing additional RV storage to meet existing and expanded service requirements. These are discussed in Sections 2.2.2 through 2.2.4. There were no alternatives that were eliminated from further study.

SECTION 3

AFFECTED ENVIRONMENT

Buckley AFB is located on a 3,283-acre parcel located on the northeast side of the City of Aurora in Arapahoe County, Colorado. Aurora is the second largest city in the Denver Metropolitan Area (DMA) and is approximately five miles east of Denver (Buckley AFB, 2002a). The 460th SW became the host organization at Buckley AFB in October 2001 and supports many civilian and DOD tenants.

Construction and operation of the Youth Center and expansion of the RV lot involves the potential disturbance of approximately 19.3 acres of land within the 3,283 acre parcel, Buckley AFB. Resources that may be impacted and are analyzed in more detail in this EA are:

- Air Quality
- Expansive Soils
- Hazardous Materials (HAZMATs)
- Hazardous and Solid Wastes
- Socioeconomics
- Utilities (water supply, wastewater treatment, electricity and natural gas)
- Biological Resources
- Traffic/Transportation
- Water Resources
- Floodplains and Wetlands
- Asbestos
- Radon
- Safety and Pollution Prevention

The region(s) of influence (ROI) related to the resources potentially impacted and analyzed in this EA are shown below on Table 3.1.

Table 3.1: Environmental Resource Regions of Influence	
Environmental Resource	**Region of Influence**
Air Quality	DMA Air Shed.
Expansive Soils	19.3-acre construction and operation sites.
Hazardous Materials	19.3-acre construction and operation sites.
Hazardous and Solid Wastes	19.3-acre construction and operation sites, hazardous waste treatment storage and disposal facilities (TSDF), off-base local landfills.
Socioeconomics	Primarily Buckley AFB and Arapahoe County; DMA is used for comparison with regional economic trends.
Utilities	19.3-acre construction and operation sites, electricity suppliers, natural gas suppliers, water suppliers, and off-base wastewater treatment facilities.
Biological Resources	Buckley AFB and western Adams and Arapahoe Counties.
Traffic/Transportation	All on-base parking areas and roadways within Buckley AFB, major off-base corridors located near access points, including 6th Avenue, Mississippi Avenue, Airport Boulevard, and State Highway 30.
Water Resources	South Platte River drainage basin, including East Toll Gate Creek, Sand Creek and Murphy Creek.
Floodplains and Wetlands	South Platte River drainage basin, including East Toll Gate Creek, Sand Creek and Murphy Creek.
Asbestos	19.3-acre construction and operation sites.
Radon	19.3-acre construction and operation sites.
Safety	Primarily Buckley AFB.
Pollution Prevention	Primarily Buckley AFB.

3.1 RESOURCES NOT EXPECTED TO BE IMPACTED

Resources not expected to be impacted by the Proposed Action, and therefore, not analyzed in this EA are described below. A brief explanation of why the resource is not expected to be impacted is also provided.

3.1.1 Historic Archaeological and Cultural Resources

The base has been broadly surveyed for historic resources, and no archaeological or prehistoric cultural resources are known or expected in the project areas. The construction areas have been previously disturbed and archaeological surveys indicate that it would be unlikely to find intact artifacts in the project areas. In the unlikely event that artifacts were discovered during construction, all activities would cease, and 460th

Civil Engineering Squadron/Environmental Flight (CES/CEV) would be contacted. Since previously conducted surveys for archaeological and prehistoric cultural resources yielded no significant findings, historic, archaeological and cultural resources will not be further evaluated under this EA.

3.1.2 Geology and Topography

Buckley AFB is located within the Denver Basin, a 60,000 square mile sedimentary rock depression east of the Front Range of the Rocky Mountains in east-central Colorado (Chronic, 1980; Buckley AFB, 2002d). The Denver Basin consists of several sedimentary formations containing shales, sandstones, and arkosic rocks up to approximately 300 million years old (Chronic, 1980). These rocks are covered with a veneer of Holocene loess, eolian sand and colluvium, as well as Pleistocene alluviums consisting of unconsolidated materials including alluvial gravels, sands, and clays up to 3 million years old (Chase and McConaghy, 1972).

No economically valuable minerals are anticipated in the project areas. In addition, the regions of proposed construction are not within areas of known or suspected seismic instability.

The majority of the installation is developed on deep silt loam soils of the Fondis-Weld association. Soils at the proposed project construction sites are of this association and are generally on well-drained uplands. Construction sites are relatively flat with little sloping and would require limited cut and fill excavation for installation of footers, foundations, and other flat features (sidewalks, parking lots, landscaped areas, etc.). There are some terrace escarpment soils along East Tollgate Creek where expandable soil types could pose a constraint to construction. For this reason only expandable soils are to be evaluated under this EA.

3.1.3 Airspace

The Proposed Action would not involve any change in current flying missions at Buckley AFB or any other airspace. According to the Metro Vision 2025 Interim Regional Transportation Plan, most of the air transport growth is to occur in the

commercial service industry, the air cargo and corporate aviation sectors; therefore, effects on air space are not expected and are not analyzed in this EA.

3.1.4 Land Use and Aesthetics

The vision for Buckley AFB is to transform the former Air National Guard installation into a full-fledged AFB providing a quality work environment and a full range of military personnel support services. Most developed areas of the base are industrial in nature, dominated by the large radomes within the fenced area (Buckley AFB 2002a). Other buildings, particularly newly constructed buildings, are attractive and blend in with the plains landscape. Approximately 80 percent of the base currently exists as unimproved/undeveloped land (Buckley AFB, 2002d).

The base consists of ADPs and Existing Land Use Areas (ELUAs). Tables 3.2a and 3.2b show the ADPs and ELUAs, describes the uses of the areas, provides approximate boundaries, and for the ADPs, shows total areas respectively.

Table 3.2a: Area Development Plan Boundaries and Areas

Area Development Plan	Area Development Plan Boundaries	Total Area Development Plan Size (Acres)*
1. Military Family Housing (Privatized Housing)	Northern Boundary - Installation Boundary Eastern Boundary - Telluride Street Southern Boundary - Installation Boundary Western Boundary - Airport Boulevard	85
2.North Gate	Northern Boundary - 6th Avenue Eastern Boundary - Aspen Street Southern Boundary - Keystone Avenue Western Boundary - Between Copper Mountain and Creed Streets	60
3. Dormitory	North Section: Northern Boundary - 6th Avenue Eastern Boundary - Creede Street Southern Boundary - Steamboat Avenue Western Boundary - Telluride Street South Section: Northern Boundary - New Dormitory Access Road Eastern Boundary - Telluride Street Southern Boundary - Telluride Street Western Boundary - Installation Boundary	123
4. Aspen Corridor	North Section: Northern Boundary - Keystone Avenue Eastern Boundary - Vail Street	120

Table 3.2a: Area Development Plan Boundaries and Areas		
Area Development Plan	**Area Development Plan Boundaries**	**Total Area Development Plan Size (Acres)***
	Southern Boundary - Breckenridge Avenue Western Boundary - Eastern Edge of Aerospace Data Facility Security Fence South Section: Northern Boundary - Breckenridge Avenue Eastern Boundary - East of Aspen Street Southern Boundary - Beaver Creek Street Western Boundary - West of Aspen Street	
5. Community Center	Northern Boundary - Southern Edge of Aerospace Data Facility Security Fence Eastern Boundary - Aspen Street Southern Boundary - South of A-Basin Avenue Western Boundary - West of Telluride Street	57
6. Installation Support	Northern Boundary - Line between existing Fire Station and Hush House (Buildings 806 and 1001) Eastern Boundary - Western edge of Landing Strip Southern Boundary - Civil Engineering Complex Western Boundary - Aspen Street	74
7. 460th SW Headquarters	Northern Boundary - Beaver Creek Street Eastern Boundary - Aspen Street Southern Boundary - Civil Engineering Complex Western Boundary - Installation Boundary/Open Space	36
8. Williams Lake	Northern Boundary - Pedestrian/Bike Trial Eastern Boundary - Pedestrian/Bike Trail Southern Boundary - Open Space Western Boundary - Steamboat Avenue	94

Table 3.2b: Existing Land Use Areas and Approximate Locations	
Existing Land Use Area	**Existing Land Use Area Approximate Boundaries**
1. Open Space	Acreage distributed throughout the installation.
2. Aircraft Operations and Maintenance	Acreage located in the northwest and west-central portions of the Airfield.
3. Airfield/Aircraft Pavement	Acreage centered on the Buckley AFB Airfield, located in the central portion of the installation.
4. Mission Operations and Maintenance	Acreage located north of Breckenridge Avenue and south of Steamboat Avenue in the northwest portion of the installation.
5. Industrial	Acreage currently located northwest of the airfield and on the eastern side of Aspen Street, extending to the Airfield. Area will be consolidated entirely to the eastern side of Aspen Street.
6. 6th Avenue	Acreage located along the north boundary of the installation and includes the adjacent 6th Avenue roadway

Table 3.2b: Existing Land Use Areas and Approximate Locations	
Existing Land Use Area	**Existing Land Use Area Approximate Boundaries**
7. Special Categories	Acreage is dispersed in five separate locations throughout the installation.

Integral to the development of Buckley AFB is that appropriated fund service facilities are provided to ensure the installation is in compliance with the Air Force Facilities Excellence Plan. The proposed Youth Center and the expansion of the RV lot are compatible with and are being developed to fulfill expanding population and mission requirements in accordance with the General Plan (Buckley AFB, 2002a).

Land use and aesthetics were evaluated for their compatibility during the comprehensive review process for the GP (Buckley AFB, 2002a). The Youth Center would be located within (and is a component of) the Community Center ADP and adjacent to the MFH ADP. The RV lot expansion is located within the Open Space ELUA. The locations selected for the Youth Center and RV lot expansion are consistent with delineated land use area designations. In addition, these facilities were not found to adversely affect off-base land use patterns or aesthetic values and therefore are not analyzed further in this EA.

3.1.5 Floodplains and Wetlands

Floodplains and wetlands occur in the southwestern and northeastern corners of the base with some isolated wetlands scattered throughout. None of the project sites are directly associated with these floodplains and wetland areas; therefore, no direct impacts would occur within the floodplains or wetlands that occur in the southwestern and northeastern corners of the base.

Site design and BMPs such as parking lot infiltration trenches, landscaped open space, and vegetated filter strips and existing extended detention ponds, would be used to minimize any potential indirect adverse effects from increased flows, erosion, or

sedimentation within the Sand Creek and the East Tollgate Creek 100-year floodplains and associated wetlands.

3.1.6 Lead Based Paint

No existing buildings or facilities are to be demolished under this EA, therefore no lead based paint impacts are not expected and are not analyzed in this EA.

3.1.7 Noise

Construction and operation of the Youth Center and RV lot would not have an adverse impact on noise. Construction-related noise, which averages approximately 85 decibels (dB), would not affect sensitive receptors (such as schools, day cares, hospitals, and nursing homes). Base activities that have the highest potential source for noise impacts are the aircraft/airspace operations. Most of the base is within the 65 dB contour (Colorado Air National Guard [COANG], 1998). It can be assumed that the activities associated with the Youth Center or the RV lot projects would not produce noise above 65 dB Day-Night Sound Level (DNL) at sensitive receptors on a regular basis. In addition all of the alternative locations for the Youth Center are within noise contours below 65 dB, therefore long-term impacts on noise are not expected and are not analyzed in this EA.

3.1.8 Environmental Restoration Projects

The USAF established the environmental restoration program (ERP) 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 the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requirements. A base-wide preliminary ERP assessment is currently being conducted, which may discover other environmental concerns not previously identified at the base. These assessments may potentially identify concerns within areas proposed for construction.

A review of the locations of ERP sites currently listed on Buckley AFB revealed that they would not affect or be affected by either of these projects. However, a base-wide preliminary ERP assessment is currently being conducted, which may discover other environmental concerns not previously identified at the base. These ERP assessments may potentially identify concerns within areas proposed for construction, and if so, appropriate actions would be taken to contain and remediate the sites. Therefore, effects from the ERP are not analyzed in this EA.

3.1.9 Polychlorinated Byphenyls (PCBs)

The disposal of PCBs is regulated by 40 CFR Part 761, under the Toxic Substances Control Act (TSCA), which banned the manufacture and distribution of Polychlorinated Byphenysl (PCBs), with the exception of PCBs used in enclosed systems. By federal definition, "PCB equipment" contains 500 parts per million (ppm) PCBs or greater; whereas "PCB-contaminated equipment" contains PCB concentrations equal to or greater than 50 ppm, but less than 500 ppm; and "PCB items" contain from 5 to 49 ppm PCBs. The electrical system at Buckley AFB is considered PCB-free (USAF, 2000c). All transformers with PCB concentrations over 500 ppm have been removed, replaced, or retrofitted to below 50 ppm (USAF, 2000c). In addition, the Proposed Action does not involve any additional equipment or other items containing PCBs, therefore, environmental impacts from PCBs are not expected and are not analyzed further in this EA.

3.1.10 Environmental Justice

Construction and operation of the Youth Center and RV lot would not have an adverse impact on the environmental or human health effect for the surrounding minority or low-income population. Therefore there would be no disproportionate environmental impacts on minority or low-income populations, and environmental justice is not analyzed in this EA.

3.2 AIR QUALITY

The ROI for air quality is the Denver Metropolitan Air Shed. The Clean Air Act (CAA) of 1970 directed the USEPA to develop, implement, and enforce environmental regulations to ensure cleaner air. To do so, the USEPA developed concentration-based standards called National Ambient Air Quality Standards (NAAQS). The USEPA established both primary and secondary NAAQS under the provisions of the CAA.

NAAQS are currently established for six air pollutants (known as "criteria air pollutants") including carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulfur oxides (SO_x, measured as sulfur dioxide [SO_2]), lead (Pb), and particulate matter (PM_{10}).

Air quality is measured by the concentration of various pollutants in the atmosphere, typically expressed in ppm or micrograms per cubic meter ($\mu g/m^3$) (equivalent to parts per billion). The concentrations measured are compared to the NAAQS to assess compliance and determine attainment status of each Air Quality Control Region (AQCR).

Table 3.3 National and State Ambient Air Quality Standards

Criteria Pollutant	Averaging Time	Primary NAAQS[1],[3],[4],[5]	Secondary NAAQS[1],[3],[6]	Colorado Standards[3],[4]
Carbon Monoxide	8-hour 1-hour	9 ppm (10,000 μg/m^3) 35 ppm (40,000 μg/m^3)	No standard No standard	9 ppm (10,000 μg/m^3) 35 ppm (40,000 μg/m^3)
Nitrogen Dioxide	Annual	0.0543 ppm (100 μg/m^3)	No standard	0.0543 ppm (100 μg/m^3)
Ozone	8-hour[7] 1-hour	0.08 ppm (157 μg/m^3) 0.12 ppm (235 μg/m^3)	0.08 ppm (157 μg/m^3) 0.12 ppm (235 μg/m^3)	 0.12 ppm (235 μg/m^3)
Lead (Pb)	Quarterly	1.5 μg/m^3	1.5 μg/m^3	1.5 μg/m^3
PM_{10}[2]	Annual 24-hour	50 μg/m^3 150 μg/m^3	No standard No standard	50 μg/m^3 150 μg/m^3
$PM_{2.5}$	Annual[7] 24-hour[7]	15 μg/m^3 65 μg/m^3	No standard No standard	No standard No standard
Sulfur Oxides (measured as SO_2)	Annual 24-hour 3-hour	0.03 ppm (80 μg/m^3) 0.14 ppm (365 μg/m^3) No standard	No standard No standard 0.50 ppm (1,300 μ/m^3)	15 μg/m^3 100 μg/m^3 700 μg/m^3

(1) 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.

(2) PM_{10} Particles with aerodynamic diameters less than or equal to a nominal 10 micrometers.

(3) 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.

(4) The NAAQS and Colorado standards are based on standard temperature and pressure of 25 degrees Celsius and 760 millimeters of mercury.

(5) 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.

(6) 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.

(7) USEPA has not promulgated final implementation rules for the 8-hour ozone standard and the PM2.5 standards.

3.2.1 Meteorology

Buckley AFB and the surrounding area experience a semiarid climate characteristic of the high plains. Climatic conditions are typified by low humidity, abundant sunshine, low precipitation, and wide diurnal temperature fluctuations. The average annual

temperature in 2004 was 52.0 degrees Fahrenheit (°F). The 2004 annual temperature ranged from -4 °F to 100.0 °F. The annual precipitation in 2004 was 15.24 inches, with approximately 46.6 inches of snowfall (120 WG Weather Flight, 2004). The prevailing winds within the local area are predominantly from the south, averaging 8.6 miles per hour (COANG, 1999).

3.2.2 Regional Air Quality

The CAA requires each state to promulgate a State Implementation Plan (SIP) that provides for implementation, attainment and maintenance of the NAAQS in each AQCR in the state. The fundamental method by which USEPA tracks air quality compliance is the designation of a particular AQCR as "attainment" or "non-attainment" with established NAAQS. If an AQCR achieves attainment with the NAAQS it seeks to maintain that status. The DMA, which includes a portion of Arapahoe County and Buckley AFB, is presently designated by the USEPA as an attainment/maintenance area for air pollutants of primary concern. Attainment/maintenance status for ozone emissions was achieved on 11 October 2001, for CO on 14 January 2002, and for PM_{10} on 16 October 2002. However, ozone measurements during July 2003 exceeded the new 8-hour NAAQS at monitoring stations in the DMA. These circumstances have caused the area to defer its current attainment designation for ozone, as it is in danger of violating the standard.

3.2.3 Existing Conditions

Buckley AFB is in the Denver Metropolitan Intrastate AQCR 36. The 2004 Air Point and Fugitive Stationary Source Emissions Inventory summary for Buckley AFB is presented in Table 3.4. Mobile Emissions from 2003 are also presented (Mobile Emissions were not assessed for 2004) on Table 3.4. The inventory data include mobile and stationary sources and provides totals for these two components. An air emissions inventory is an estimate of the total mass emission of pollutants generated from a source over a period of time.

Table 3.4 Buckley AFB Mobile and Stationary Air Emissions Inventory[1]

Pollutant Emission Sources	CO (tpy)[2]	VOC (tpy)[3][5]	SO_X (tpy)	NO_X (tpy)[4][5]	PM_{10} (tpy)
Buckley AFB 2003 Mobile Emissions[6]	204.5	56.9	2.1	40.6	5.0
Buckley AFB 2004 Point and Fugitive Stationary Source Emissions[7]	22.44	28.15	1.67	63.12	5.53
AQCR 36 Emission Inventory[8]	678,170	167,900	69,350	112,785	32,156
Conformity Rule De Minimus Threshold[9]	100	100	100	100	100
10 percent of AQCR 36 Emission Inventory (Significant Threshold Values)	67,817	16,790	6,935	11,278	3,215

(1) The Buckley AFB 2003 Air Emission Inventory did not assess lead or $PM_{2.5}$ emissions.
(2) tpy – tons per year.
(3) VOC - volatile organic compounds.
(4) NO_x - nitrogen oxides.
(5) VOCs and NO_x contribute to the formation of ground-level ozone.
(6) Source: URS Group, 2004. Mobile emission inventories are not conducted annually.
(7) Source: Golder Associates, 2005. Air Emissions Inventory, Buckley AFB CY 2004.
(8) Colorado Air Quality Control Commission (CAQCC), 2003 (CO – 2006 Interim Year Inventory), 2001a, (VOC and NO_x 2006 Inventory), and 2001b. (PM_{10},and SO_x 2005 Maintenance Inventory).
(9) 40 CFR 93.153(b) - These limits are applicable to non-attainment and maintenance areas, and therefore, apply to Buckley AFB.

Buckley AFB falls under CDPHE jurisdiction, which is tasked with issuing, renewing and enforcing the CAA Title V Air Operating Permit (Permit No. 950PAR118). The Buckley AFB Title V Air Operating Permit was originally issued August 28, 1997, while the current permit became effective on 1 July 2002, and will expire 30 June 2007. The permit documents stationary sources of regulated emissions at Buckley AFB, including natural gas-fired boilers, gasoline-fired boilers, dual-fired boilers that primarily use natural gas but have fuel oil back-up, fuel oil generators, gasoline-fired arresting barrier engines, regulated aboveground storage tanks (ASTs), degreasing stations, and abrasive paint removal stations. The fuel storage tanks are included in the Title V Air Operating Permit as emission sources of VOC created through evaporation, tank filling and breathing losses.

Mobile sources at Buckley AFB include on and off-road vehicles and equipment, aerospace ground equipment, and aircraft operations. Mobile sources are not considered under the CAA Title V operating permit or the Colorado operating permit program, but are considerable components of total base emissions.

Buckley AFB is a minor source for CO and VOCs (potential to emit less than 250 tons per year). The base is a synthetic minor source for NO_x and SO_2 emissions under the Prevention of Significant Deterioration (PSD) provisions because the base accepted permit limits that establish the potential to emit for these emissions at less than 250 tons per year. For CO, PM_{10}, and VOCs, Buckley AFB is a synthetic minor source under the Title V provisions because the base accepted permit limits that establish the potential to emit for these emissions at less than 100 tons per year.

Buckley AFB has developed its own operational restrictions as an internal strategy for compliance. The 2003 inventory shows Buckley AFB to be well below permit limits for all pollutants (URS Group, 2004). On a cumulative basis, development of commercial establishments, such as dry cleaning operations, would result in emissions of VOCs and potentially Hazardous Air Pollutants (HAPs).

3.2.4 Ozone Depleting Substances

Buckley AFB currently has many air conditioning units and refrigerators containing ozone depleting substances (ODS). ODS containing equipment at Buckley AFB is currently serviced and maintained in accordance with all local, state, and federal regulations by certified HVAC personnel or contractors.

3.3 EXPANSIVE SOILS

The ROI for expansive soils are the project sites located within Buckley AFB boundaries. Generally, soils at the project sites are of the deep silt loam soils of the Fondis-Weld association and are typically well-drained. The project sites are mostly flat with little visible sloping.

No geotechnical investigations of these construction sites have been conducted. Along the northeastern portion of the installation a narrow band of terrace escarpment soils exists in the vicinity of the proposed RV lot construction site. A higher proportion of expansive soil could be present and could constrain construction in or around the project site.

3.4 HAZARDOUS MATERIALS

The ROI for HAZMATs are the project sites located within Buckley AFB boundaries. HAZMATs are those substances defined as hazardous by CERCLA (42 United States Code [U.S.C.] Sections 9601-9675), TSCA (15 U.S.C. Sections 2601-2671), and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) (42 U.S.C. Sections 6901-6992) (USEPA, Waste). In general, this includes substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare, or to the environment when released into the environment. In addition, HAZMATs are regulated by the Emergency Planning and Community Right to Know Act (EPCRA) (42 U.S.C. Sections 11001-110505) (USEPA, Emergency Planning/Right to Know). Transportation of HAZMATs is regulated by the U.S. Department of Transportation (DOT) and Colorado Department of Transportation (CDOT) regulations within 49 CFR (U.S. DOT).

3.5 SOLID AND HAZARDOUS WASTES

The ROI for solid and hazardous wastes are the project sites located within Buckley AFB boundaries, hazardous waste TSDFs, and off-base local landfills. Hazardous wastes are those substances defined as hazardous by the Colorado Code of Regulations for Hazardous Wastes (Title 6 Colorado Code of Regulations [CCR] 1007-3 Part 261) (CDPHE, Wastes). In general, this includes substances that, because of their characteristics, may present substantial danger to public health or to the environment. Hazardous waste from construction and operation activities must be managed in accordance with the following:

- RCRA regulations (as adopted and implemented under corresponding regulations found at Title 6 CCR 1007-3)
- The Buckley AFB Facilities Excellence Plan (dumpsters)
- Executive Orders (EOs) 13101 Greening The Government Through Waste Prevention, Recycling, And Federal Acquisition (USAF, 1998) and 13148 Greening the Government Through Leadership in Environmental Management (USAF, 2000d)
- The Affirmative Procurement Plan (purchasing recycling materials, including recovered material-content concrete such as concrete with fly ash) (USAF 2000d).

Hazardous wastes generated through the use and subsequent need for disposal of HAZMATs used during construction activities. However, the potential quantity and the exact nature of the materials or wastes generated are unknown. Contractors would not be permitted to leave any HAZMATs on-base that could become wastes requiring disposal when projects are completed. All unused materials would be removed from the site by contractors at project completion. Hazardous wastes would not be expected to be generated through operation of the proposed Youth Center and expanded RV lot.

A private contractor manages solid waste collection and disposal services at Buckley AFB. Waste is collected from dumpsters located throughout the base and routinely transported to the Denver-Arapahoe Disposal Site, in Arapahoe County**.** The Denver-Arapahoe Disposal Site is owned by the City and County of Denver, but is operated under long-term contract by Waste Management. The permitted portion of the landfill occupies 2,680 acres with an estimated design life of 40 to 50 years. The landfill receives approximately 2,280,000 tons of solid waste per year (MACTEC, 2004).

Buckley AFB generated approximately 2,950 tons of non-hazardous waste in FY 04, with 1,531 tons of this waste being construction derived wastes (Buckley AFB, 2004a). These values equal approximately 0.13 and 0.07 percent of the total waste received by the Denver-Arapahoe Disposal Site landfill for non-hazardous and construction derived wastes, respectively. These values do not include 909 tons of non-hazardous solid waste and 1,105 tons of construction debris that were diverted and recycled in FY04. Buckley AFB also generated and disposed of approximately 12,051 pounds (lbs) of hazardous

waste in FY04 (Buckley AFB, 2004a). No biohazardous waste generation values are available.

3.6 SOCIOECONOMICS

The ROI for socioeconomics is primarily Buckley AFB and Arapahoe County. Areas adjacent to Buckley AFB are located within the DMA. Regional demographic and employment data from the DMA are used to evaluate and compare local changes with regional socioeconomic trends.

3.6.1 Population and Age

The urban and rural population of Arapahoe County increased by 96,456 persons or 24.6 percent between 1990 and 2000 to 487,967 people (United States Census Bureau [USCB], 2003).

The population profile for Buckley AFB is indicated in Table 3.5. Current active duty on and off-base residents of Buckley AFB represent less than 1 percent of the countywide population.

Table 3.5: Buckley AFB Population Growth(1)

Category	2001(2)	2009(3)
Active Duty	4,173	4,173
MFH(4)	0	1,125
Subtotal	**4,173**	**5,298**
Air National Guard/Air Force Reserve	2,298	2,298
Army/Navy/Marine Reserves	3,592	3,592
Appropriated Fund civilians	4,591	4,591
Civilian Non-appropriated/BX	253	253
Contract/Private	2,561	2,561
Subtotal	**13,295**	**13,295**
Military Dependents Off-base	22,903	22,903
USAF Retirees	22,000	22,000
Subtotal	**44,903**	**44,903**
Total	**62,371**	**63,496**

(1) Assumptions: Reserve forces, retirees and dependents living off-base would increase by 30% but the remaining population is expected to double.
(2) Source: Economic Impact Analysis, Buckley AFB, CO 30 September 2004 as Referenced in GP

(Buckley AFB, 2002a).
(3) Source: Buckley AFB, 2002a.
(4) Source: Buckley AFB, 2002b.

Arapahoe County and the City of Aurora are one of the fastest-growing communities in Colorado. While the age of the county's population has remained relatively stable, only 26.7 percent of the population is under 18 (USCB, 2003). The median age of people residing on Buckley AFB and in Arapahoe County in 2003 was 35 years old. This means that approximately half of the people were younger and the remaining half were older than 35. Similar to regional and state trends, the population is aging.

3.6.2 Income and Employment

Median income (household, family, and non-family) increased by greater than 40 percent between 1990 and 2000 in Arapahoe County (USCB, 2003). Per capita personal income increased by approximately $9,370 to $28,147 (USCB, 2003). Personal income in Arapahoe County between 1990 and 2000 increased 124 percent (Bureau of Economic Analysis [BEA], 2003). Nonfarm and farm personal income increased 124 percent to approximately $21.6 billion, and 447 percent to approximately $1.7 million, respectively, in 2000 (BEA, 2003). The categories with the highest percent increase in earnings between 1990 and 2000 were state government (325 percent); transportation and public utilities (297 percent); finance, insurance, and real estate (264 percent); and agricultural services (211 percent) (BEA, 2003). The mining industry lost earnings between 1990 and 2000 (-19.1 percent) (BEA, 2003).

Total full-time and part-time employment increased 62 percent to 389,723 jobs in Arapahoe County between 1990 and 2000 (BEA, 2003). The largest percentage employment gains between 1990 and 2000 were in Construction (163 percent); Transportation and Public Utilities (130 percent); State Government (123 percent); and Agricultural Services (108 percent) (BEA, 2003). Job loss was reported for Mining (-41 percent) and Farms (-15 percent) (BEA, 2003).

Average Metropolitan Denver Employment (MDE) figures for the third quarter of 2003 indicate a total of 1,134,489 jobs in the DMA (Table 3.6). Compared to the Average MDE in 2000, employment decreased by 30,864 jobs between 2000 and the third quarter of 2003 or 3 percent. The largest decreases occurred in the sectors of Agriculture, Forestry, and Fishing (-81 percent), retail trade (-42 percent), and manufacturing (-22 percent). The largest increases in employment were the service, government, and finance, insurance, and real estate industries at +25 percent, +6 percent, and +8 percent respectively.

Table 3.6: Metropolitan Denver Employment Trends by Category

Industry	2000 Average MDE Employment	2003 3rd Quarter Average MDE Employment	Proportion of 2003 Jobs (%)	Change 2000-2003 (%)
Services	351,896	438,665	39	+25
Retail Trade	204,633	119,561	11	-42
Government	149,953	158,590	14	+6
Transportation, Communication, and Public Utilities	99,095	99,958	9	+1
Manufacturing	90,485	70,351	6	-22
Finance, Insurance, and Real Estate	89,442	96,264	8	+8
Construction	87,748	81,492	7	-7
Wholesale Trade	74,137	62,339	5	-16
Agriculture, Forestry, and Fishing	12,215	2,266	0.5	-81
Mining	5,749	5,003	0.5	-13
Totals	**1,165,353**	**1,134,489**	**100**	**-0.03**

(1) Source: MDEDC, 2004, BEA, 2003.

Colorado Department of Labor and Employment (CDLE) data for Arapahoe County was used to determine job numbers for the local community (Table 3.7) (BEA 2003). Jobs in the local area for 2003 indicate a total of 261,702, representing 23 percent of jobs in the DMA (Table 3.7). The largest job sectors are in the retail trade (26 percent), finance, insurance, and real estate (at 36 percent) and Construction (25 percent).

Table 3.7: Proportion of Local Employment as Compared to Average MDE 2003			
Industry	**MDE Employment(1)**	**Local Employment(2)**	**Proportion of DMA (%)**
Services	438,665	99,077	23
Retail Trade	119,561	30,498	26
Government	158,590	30,790	19
Transportation, Communication, and Public Utilities	99,958	23,648	24
Manufacturing	70,351	8,668	12
Finance, Insurance, and Real Estate	96,264	34,390	36
Construction	81,492	19,986	25
Wholesale Trade	62,339	13,956	22
Agriculture, Forestry, and Fishing	2,266	130	6
Mining	5,003	559	11
Totals	**1,134,489**	**261,702**	**23**

(1) Represents average quarterly employment, 3rd Quarter 2003 for MDE.
(2) Represents average quarterly employment 3rd Quarter 2003 for Arapahoe County.
(3) Source: MDEDC, 2004; BEA, 2003.

3.6.3 Family Service Demographics: Area Youth Services

The existing Buckley AFB youth center is temporarily housed in T-12, a modular facility on Buckley AFB.

The Youth Center has operated from several on-Base locations since its founding in 2000, but continues to have no permanent on-Base location. In Colorado, enjoyment, convenient location, and affordability play a key role in selection of an after-school program (Afterschool Alliance, 2004). The number of users of the Youth Center has grown over the years and demand for on-Base youth services is anticipated to increase when the new MFH area is constructed.

A range of youth programs are available in the vicinity of Buckley AFB. Activity, sport, and recreation programs for area youth and teen population are provided at the facilities listed in Table 3.8. Potential demand for after-school programs (as represented

by current non-participants) if available and accessible may range from 18 percent to 27 percent in Colorado (Afterschool Alliance, 2004).

Table 3.8: Distance of Youth Organizations and Proximity to Buckley AFB(1)

Youth Organizations	5-Miles	15-Miles
City of Aurora Moorhead Center	●	
Boys & Girls Clubs of Metro Denver Boettcher Branch	●	
Boys & Girls Clubs of Metro Denver Broncos Boys & Girls Club	●	
Campfire Council of Colorado Inc		●
Colorado Counsel for Urban Youth Development	●	
Denver Area Youth for Christ Urban Ministry Center	●	
Denver Area Youth Services		●

(1) Information is not all-inclusive and may not provide a complete picture of afterschool programs provided by all formal or informal school clubs, groups or community based programs in the area.
(2) Source: Google, 2005.

Nationally, families on average pay a weekly rate of approximately $22.00 per child for after-school programs (Afterschool Alliance, 2004). According to the 2003 Market Rate Survey the median weekly rate for after school programs in urban areas of Colorado like Adams and Arapahoe Counties ranges from $51.10 to $65.00 for each participant (Colorado Department of Human Services [CDHS], 2003). The Federal Child Care and Development Fund regulations (45 CFR 98.43) (U.S. Department of Justice) require states to conduct local market rate survey on cost of child care every two years. The market rate survey of before and after school programs includes evaluation of weekly rates for school age child care facilities. It should be noted that many other local youth programs such as informal care settings, school clubs, youth clubs or faith and community based programs are not captured in this data.

There is no standard methodology of analyzing the cost associated with after-school programs (Halpern et. al., 2000). The top five providers of after-school programs in Colorado include public schools, Young Men's Christian Association (YMCAs), religious organizations, Boys and Girls Clubs and private schools (Afterschool Alliance,

2004). Little is known about total or program specific costs of various after-school programs for youth. Similarities in goals, activities and provision of services for after-schoool programs and the variation in the types of programs influences financing efforts needed for expanding youth program services (Halpern et. al., 2000).

3.6.4 RV Storage Services

According to the Recreational Vehicle Industry Association (RVIA), one in ten U.S. households owned an RV in 1997 (Media Central Inc., 1998). RV ownership was slightly higher (e.g. 16 percent) for people aged 55 to 64 (Affinity Group Inc., 2005). Using RVIA's demographics for household ownership, it is assumed that each of the current 22,000 retirees and 50 percent (or approximately 2,087) of the 4,173 Active Military Duty personnel are over 35 and represent a single household, therefore approximately 2,400 military households served by Buckley AFB currently own an RV. By 2010 RV ownership is projected to increase to 2,440 owners as a result of the slight increase in military personnel and retirees. Although RV ownership is rising, the average RV owner spends an average of 28-35 days each year traveling (Affinity Group Inc., 2005). The RV is stored between 321 – 328 days the remainder of the year.

The two main categories of RVs include (1) motorized motorhomes; and (2) towables, which are towed behind a car, van or pickup (Affinity Group Inc., 2005). RV categories are further classified into the following:

- Class A motorhomes are the largest,
- Class B motorhomes or van campers are the smallest; and
- Class C cabover motorhomes fall in the middle.

Large-sized RVs such as motor homes account for the largest sector with travel trailers advancing to the second largest type of RV ownership.

The existing RV lot is located on the eastern terminus of Winterpark Avenue, northeast of Steamboat Avenue on Buckley AFB. The lot is 810 ft long x 330 ft wide,

totals 267,300 sf^2, and accommodates approximately 160 RVs. There are approximately six other commercial storage facilities within 5-miles of Buckley AFB providing RV storage. The cost of storage depends on the size of the vehicle but generally ranges from $38.00 – 75.00 per month for an uncovered, 10 by 20 foot to 10 by 30 foot storage lot (Public Storage Inc., 2005). The rental rate varies in accordance with other storage requirements or service charges.

Other self-storage facilities may exist in close proximity, but in large metropolitan areas where land costs are high fewer facilities offer on-site storage for large-sized RVs (Affinity Group Inc., 2005).

3.7 UTILITIES

The ROI for utilities is the approximately 19.3 acres scheduled for construction and operations associated with the Proposed Action, electricity suppliers, natural gas suppliers, water suppliers, off-base wastewater treatment facilities, and local landfills.

3.7.1 Water Supply

Buckley AFB obtains potable water from the City of Aurora. The City of Aurora distributed a total of 13,399 million gallons per year (mgy) in 2004 (MACTEC, 2005a). Water use limitations can be imposed on the base by the City of Aurora under emergency drought water use restrictions. Water is distributed to facilities on-base for domestic use, process use, and fire protection. Buckley AFB used approximately 115.719 million gallons of water during FY04 (Buckley AFB, 2004a).

3.7.2 Wastewater Treatment

Buckley AFB generates both domestic and industrial wastewater. The industrial wastewater consists of water from oil/water separators (BANGB, 2000a). The wastewater discharge from Buckley AFB is regulated under a Wastewater Contribution Permit that was issued by the Metro Wastewater Reclamation District. The permit was issued on February 1, 2003 and expires on January 31, 2008. The Metro Wastewater Reclamation District treatment plant was designed to meet population growth estimates

through 2010, with a hydraulic capacity of 185 million gallons per day (mgd). No definitive wastewater discharge data is available at this time, however the annual average discharges metered at the discharge designated as MP001 was 1.4 mgd (or 511 million gallons per year) for calendar year 2003.

3.7.3 Electricity

Xcel Energy of Colorado (Xcel) provides electricity. The Xcel 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. In FY04, the facilities at Buckley AFB used approximately 111,509,120 kilowatt-hours (kWh) of electricity (Buckley AFB, 2004a).

3.7.4 Natural Gas

Natural gas is provided to Buckley AFB through a gas main beneath 6th Avenue. The regional natural gas system has a capacity of 130 billion cubic ft (ft^3) (BANGB, 2000a). In FY04, Buckley AFB used approximately 152.0389 million ft^3 ($mmft^3$) of natural gas (Buckley AFB, 2004a).

3.8 BIOLOGICAL RESOURCES

Buckley AFB is located within the short-grass Steppe portion of the western Great Plains (Simms, et. al., 2000). The ROI for biological resources is Buckley AFB and western Adams and Arapahoe Counties. Buckley AFB is situated on the eastern edge of the City of Aurora and much of the surrounding landscape consists of urbanizing mixed grass prairie, agricultural range, and cropland. A significant riparian habitat area exists 0.5 miles northeast of the installation along the Sand Creek floodplain.

3.8.1 Plant Communities

Plant communities on the installation are comprised of native and introduced plants, wetlands, and noxious weeds. Landscaped surfaces at Buckley AFB including lawns, xeriscaped and graveled areas, and planted shrubs and trees are established throughout developed sites. The remainder of the base consists of a mixture of native and alien

mixed-grass prairie habitat, and in areas of consistently higher ground water table, native shrubs and trees.

The dominant plant communities at Buckley AFB are the introduced crested wheatgrass (*Agropyron cristatum*) community and the native mixed grass prairie community, comprising approximately 2,344 acres of the installation (Table 3.9). A smaller portion of the installation, approximately 713 acres, or 21.7 percent, located in the southern quarter, and northwest and northeast fringes, contain a mixed grass prairie community. Other less predominant woodland, shrub, and herbaceous plant communities are also present. Table 3.9 lists the acreage and percentage of the installation occupied by each plant community.

Table 3.9: Buckley Air Force Base Plant Communities[1]

Plant Community	Total Acres[2]	Percent of Installation
Bottomland Meadow	76	2.3
Cottonwood/Willow (*Populus deltoides/Salix* spp.)	28	0.9
Crested Wheatgrass (*Agropyron cristatum*)	1,631	49.7
Mixed Grass Prairie	713	21.7
Crested Wheatgrass (*Agropyron cristatum*)	19	0.6
Mixed Grass Prairie	4	0.1
Ornamental Trees	33	1.0
Rabbitbrush (*Ericameria nauseosa*)	4	0.1
Weedy Forb	775	23.6
Yucca (*Yucca* spp.)	3,283	**100.0**

(1) Source: Buckley AFB 2002d.
(2) Includes Buckley AFB facilities (approximately 412 acres) and water (ranging from 8 to 10 acres).

3.8.2 Site-specific Plant Communities

The dominant plant communities occurring in the project areas are listed in Table 3.10.

Table 3.10 Plant Communities Observed or Characteristic Of the Project Areas[(1)(2)]

Project Site	General Location	Total Disturbance Resulting from Construction (acres)	Existing Plant Community/Habitat	Dominant Plant Species
Youth Center	North of A Basin Avenue	1.75	Crested Wheatgrass Weedy Forbs	Crested Wheatgrass, Western Wheatgrass Cheat Grass (*Anisantha sp, tectorum*), Prairie Sunflower
RV Lot Expansion	Northeast of Steamboat Avenue	14.8	Crested Wheatgrass	Crested Wheatgrass, Golden Aster
Total	Not Applicable	16.55	Not Applicable	Not Applicable

(1) Source: Buckley AFB, 2002a, b.
(2) Table 3.10 lists the estimated size of the construction envelope and the estimated acreage of each affected plant community that would be impacted or lost due to construction.

3.8.3 Noxious Weeds

Noxious weeds are invasive, alien plant species that are very aggressive invaders, and are hard to decrease once they have established themselves. Buckley AFB has identified a number of invasive noxious weeds on the base which are classified by the state of Colorado and Arapahoe County as noxious weeds. Air Force Instruction (AFI) 32-1053 Pest Management specifies that noxious weeds must be managed at USAF installations and the Colorado Weed Management Act requires counties to control noxious weeds (Colorado Department of Agriculture (CDA), 2001). Invasive and noxious weed species occurring at Buckley AFB are listed in Table 3.11 and include, in decreasing order of abundance: thistles (several species, including Canada thistle (*Breea arvensis*), musk thistle (*Carduus nutans*), and Scotch thistle, (*Onopordum acanthium*), Dalmatian toadflax (*Linaria dalmatica*), Dalmatian toadflax/thistle mixture, and leafy spurge (*Euphorbia usula*) (Buckley AFB, 2002d). One invasive weed, kochia (*Bassia seversiana*) is evident at several of the proposed project sites as shown in Table 3.11.

Table 3.11: Noxious Weeds Found at Buckley AFB*		
Scientific Name	**Common Name**	**Project Sites Where Observed**
Acosta diffusa	Diffuse knapweed	Not Reported at project sites
Aegilops cylindrical	Jointed goatgrass	Not Reported at project sites
Anisantha tectorum	Cheatgrass	Not Reported at project sites
Bassia seversiana	Kochia	Youth Center
Breea arvensis	Canada thistle	Youth Center, RV lot expansion
Carduus nutans	Musk thistle	Youth Center
Convolulus arvensis	Bindweed	Youth Center
Descurania Sophia	Tansy mustard	Not Reported at project sites
Euphorbia esula	Leafy spurge	Not Reported at project sites
Linaria dalmatica	Dalmatian toadflax	Youth Center
Linaria vulgaris	Yellow toadflax	Not Reported at project sites
Onopordum acanthium	Scotch thistle	Youth Center, RV lot expansion
Salsola australis	Russian thistle	Not Reported at project sites
Tamarisk ramosissima	Saltcedar	Not Reported at project sites
Verbascum thapsus	Mullein	Not Reported at project sites

* Source: Buckley AFB, 2004c; 2002d.

3.8.4 General Wildlife

Buckley AFB provides habitat for a variety of small animals, including the desert cottontail (*Sylvilagus audubonii*), and black-tailed jackrabbit (*Lepus californicus*), and a few larger mammals, such as the coyote (*Canis latrans*), pronghorn (*Antilocapra americana*), and mule deer (*Odocoileus hemionus*). However, since a perimeter fence was erected in the early 1990s, no pronghorn or mule deer reside within the Buckley AFB boundaries. Several species of mice, including the deer mouse (*Peromyscus maniculatus*), hispid pocket mouse (*Chaetodipus hispidus*) and western harvest mouse (*Reithrodontomys megalotis*) are likely the most abundant vertebrates at the installation, but the most conspicuous is a burrowing squirrel, the black-tailed prairie dog (*Cynomys ludovicianus*). Black-tailed prairie dogs inhabited an average of 15 percent of the installation land surface during 2001-2003 (Buckley AFB, 2003b). In addition, several reptiles and amphibians, including the plains garter snake (*Thamnophis radix*), the prairie

rattlesnake (*Crotalus viridis*), the plains toad (*Bufo cognatus*), the bullfrog (*Rana catesbiana*), the northern leopard frog (*Rana pipiens*), the bullsnake (*Pituophis catenifer*). A variety of birds, including visiting and nesting raptors (hawks, eagles and owls), western kingbird (*Tyrannus verticalis*), western meadowlark (*Sturnella neglecta*), killdeer (*Charadrius vociferus*), Bullock's Oriole (*Icterus galbula*), and the grasshopper sparrow (*Ammodramus savannarum*) also inhabit the base (Colorado Natural Heritage Program (CNHP), 2000). Vertebrates known or potentially inhabiting Buckley AFB are listed in Table 3.12. Rare and protected species are discussed in Section 3.8.6, Threatened/Endangered Species and Species of Special Concern.

Table 3.12: Vertebrates Found Or Likely Occurring At Buckley AFB*

Scientific Name	Common Name
Birds	
Aimophila cassinii	Cassin's sparrow
Ammodramus savannarum	Grasshopper sparrow
Aquila chrysaetos	Golden eagle
Ardea herodias	Great Blue heron
Athene cunicularia	Burrowing owl
Bubo virginianus	Great horned owl
Buteo jamaicensis	Red-tailed hawk
Buteo swainsoni	Swainson's hawk
Buteo regalis	Ferruginous hawk
Calamospiza melanocorys	Lark bunting
Carpodacus mexicanus	House finch
Cathres aura	Turkey vulture
Charadrius vociferous	Killdeer
Chordeiles minor	Common nighthawk
Colaptes auratus	Northern flicker
Columba livia	Rock dove
Delartes arcta	Northern Flicker
Dendroica petechia	Yellow warbler
Euphagus cyanocephalus	Brewer's blackbird
Falco sparverius	American kestrel
Haliaeetus leucocephalus	Bald eagle
Icterus galbula	Bullock's oriole
Turdus migratorius	Robin
Lanius ludovicianus	Loggerhead shrike
Mimus polyglottos	Northern Mockingbird
Molothrus ater	Brown-headed cowbird
Passer domesticus	House sparrow
Pica pica	Black-billed Magpie
Pooecetes gramineus	Vesper sparrow
Sturnus vulgaris	Starling

Table 3.12: Vertebrates Found Or Likely Occurring At Buckley AFB*	
Scientific Name	**Common Name**
Sturnella neglecta	Western meadowlark
Tyrannus tyrannus	Eastern Kingbird
Tyrannus verticalis	Western Kingbird
Zenaida macroura	Mourning dove
Mammals	
Canis latrans	Coyote
Cynomys ludovicianus	Black-tailed prairie dog
Chaetodipus hispidus	Hispid pocket mouse
Lepus californicus	Black-tailed Jack rabbit
Mephitis mephitis	Striped skunk
Microtus pennsylvanicus	Meadow vole
Mustela frenata	Long-tailed weasel
Peromyscus maniculatus	Deer mouse
Procyon lotor	Raccoon
Taxidea taxus	Badger
Vulpes vulpes	Red fox
Urocyon cinereoargenteus	Gray fox
Reithrodontomys megalotis	Western harvest mouse
Spermophilus tridecemlineatus	Thirteen-lined ground squirrel
Sylvilagus audubonii	Desert cottontail
Sylvilagus floridanus	Eastern cottontail
Reptiles	
Crotalus viridis	Plains Rattlesnake
Heterodon nasicus	Western Hognose Snake
Pituophis catenifer	Bullsnake
Sceloporas undulates	Northern Prairie Lizard
Spea bombi frons	Plains Spadefoot
Thamnophis radix	Plains Ribbon Snake
Amphibians	
Bufo cognatus	Plains Toad
Rana catesbiana	Bullfrog
Rana pipiens	Northern Leopard Frog

* Source: Buckley AFB, 2004c; 2002d

In addition to vertebrate populations, many invertebrates exist at Buckley AFB. Most conspicuous are pest species such as social wasps (yellow jackets), ants, and flies; and esthetic species such as butterflies. A few rare insects may occur at the installation, and are discussed in Section 3.8.6, Threatened/Endangered Species and Species of Special Concern.

Vertebrate diversity at Buckley AFB is likely somewhat lower in comparison with the surrounding landscape due to the boundary fence which limits the occurrence of medium sized mammalian predators such as bobcat, red fox, coyote and badger; eliminates the occurrence of ungulates (pronghorn, white-tailed deer and mule deer); and the prevalence of introduced grasses, particularly crested wheatgrass. The black-tailed prairie dog is a year-round resident at the installation. Plague coupled with recent control measures used to insure that black-tailed prairie dogs do not interfere with mission objectives have reduced colony acreage to approximately 296 acres (ERO Resources, 2004).

Several laws require management or protection of wildlife at USAF installations. Wildlife in Colorado is the property of the state. States, including Colorado, also have laws protecting rare species (see Section 3.8.6, Threatened/Endangered Species and Species of Special Concern). In addition, migratory birds, which include the majority of bird species in Colorado, are protected from unpermitted taking by the Migratory Bird Treaty Act (MBTA).

3.8.5 Site-Specific Wildlife

Site specific wildlife observations were made during one site visit to the project sites. Table 3.13 below lists wildlife observed, and/or characteristic of, each project location-based on observations and existing habitat. Of note is the presence of black-tailed prairie dogs and direct observation of burrowing owls at the project areas.

The black-tailed prairie dog is abundant throughout Buckley AFB, and in addition, their presence at project sites creates habitat for the burrowing owl that is present during the non-winter months. Site-specific surveys for burrowing owls have not been conducted for these project sites, however field surveys of selected black-tailed prairie dog wards at Buckley AFB have located this species at or near the RV lot sites.

Table 3.13: Wildlife Observed or Characteristic Of the Project Sites				
Project Site	**General Location**	**Total Disturbance Resulting from Construction (acres)**	**Characteristic (Expected) Wildlife**	**Observed Wildlife**
Youth Center	North of A-Basin Avenue	1.75	Swaison's Hawk Red-tailed Hawk Black-tailed prairie dog Burrowing owl Horned lark Desert Cottontail	Black-tailed Prairie Dog
RV Lot Expansion	North central quadrant	14.8	Black-billed Magpie Black-tailed Prairie Dog Starling American Crow Deer Mouse	Black-tailed Prairie Dog Burrowing Owl

3.8.6 Threatened/Endangered Species and Species of Special Concern

Rare animals (including insects and other invertebrates) and plants are species whose numbers are small, declining, and/or threatened by changing habitat conditions or direct mortality. Often human activities are the main source of reduced numbers of a species, either through activities that cause direct mortality or more often, by reducing and altering habitat to an extent that it does not support a viable species population. The Endangered Species Act (ESA) is the primary federal law protecting rare organisms and their habitat. Species listed under the ESA cannot be adversely affected by USAF activities without a permit from the United States Fish and Wildlife Service (USFWS), including habitat disturbance or removal. Similarly, wildlife in Colorado belongs to, and is managed by the state of Colorado. The state of Colorado designates and protects from taking rare species that are listed under the Colorado Nongame, Endangered, or Threatened Species Conservation Act (CONETSCA). However, Colorado law does not prohibit habitat alteration or destruction. The ESA prohibits the USAF from taking actions that jeopardize the continued existence of any species (or subspecies) listed as a threatened or endangered species.

AFI 32-7064, Integrated Natural Resources Management, instructs USAF installations to protect and conserve federally listed threatened/endangered plants and animals and their habitats. AFI 32-7064 also suggests that, if practical, protection can be afforded to federal and state candidate species (USAF, 1997). Several species that are protected or candidates for protection under the ESA and/or CONETSCA exist at Buckley AFB. These species are listed in Appendix A along with rare, but unprotected species that are known to occur, and species that have habitat and could occur, at Buckley AFB.

Of the 29 species listed in Appendix A, six animal species and two plant communities are known to exist at Buckley AFB. The six animal species are the black-tailed prairie dog, the burrowing owl, the loggerhead shrike, the Northern leopard frog, the bald eagle, and the Ferruginous Hawk. The two plant communities are the Plains Cottonwood Riparian Woodland and mixed grass prairie. The black-tailed prairie dog, the burrowing owl, the loggerhead shrike, and the Northern leopard frog are known to reside at the installation. The bald eagle is known to reside at or seasonally visit the installation, but are not known to roost or nest at or near any of the proposed project sites. Although potential habitat for the Preble's meadow jumping mouse occurs at Buckley AFB, field trapping in these areas did not locate the mouse and the USFWS has concurred that this species is not likely to occur at Buckley AFB (USFWS, 2002). Similarly, the USFWS does not view AFB activities conducted during occasional visits by wintering bald eagles as a source of jeopardy for this species (USFWS, 2003). In addition, a petition to remove the Preble's meadow jumping mouse from the federal list of endangered species was found to be warranted by USFWS and this species is proposed to be delisted (Federal Register, 2 February 2004).

Of the two plant communities, only the mixed grass prairie exists at project sites. None of the project sites contain the Plains Cottonwood Riparian Woodland.

Of the six species mentioned above, the black-tailed prairie dog is the most wide-spread state species of concern residing year round at Buckley AFB. Although the black-tailed prairie dog is not currently protected or designated as a federally-listed species, it was previously listed as a candidate species. The USFWS delisted the black-tailed prairie

dog from candidate species status in 2004. Black-tailed prairie dogs inhabited an average of 15 percent of the installation land surface during 2001-2003 (Buckley AFB, 2003b). Plague coupled with recent control measures used to insure that black-tailed prairie dogs do not interfere with mission objectives have reduced colony acreage to approximately 296 acres (ERO Resources, 2004). Prairie dogs are managed in accordance with the Prairie Dog Management Plan.

The burrowing owl, a state species of concern, is a migratory owl that is listed as threatened by Colorado Department of Wildlife (CDOW) and is protected under the MBTA, but is not designated as a federally listed species. The burrowing owl generally breeds and nests on the installation from March through October, then migrates south of Colorado for the winter. The Buckley AFB 2004 burrowing owl survey identified 18 burrowing owl nests holding 33 adults and 17 juveniles (ERO Resources, 2004).

The loggerhead shrike and ferruginous hawk are predatory birds that inhabit the Great Plains. The loggerhead shrike is known to nest east and southeast of the installation (Carter, 1998). Intermittent reports of these species at the installation suggest that either migrating individuals use Buckley AFB as a migratory stop-over, or occupy territories nearby, but are not known to roost or nest at any of the project sites.

The Northern leopard frog is a small amphibian listed as a state species of concern due to population declines. Once common except in the southeast corner of the state, this spotted green frog has suffered from competition with the more aggressive bull frog and water development (Hammerson, 1999). Although populations have declined, it may occur in perennial waters such as Williams Lake at Buckley AFB. In addition there is potential habitat for the olive-backed pocket mouse and host plants for the Colorado blue butterfly. However, the olive-backed pocket mouse has not been observed at Buckley AFB.

3.9 TRAFFIC/TRANSPORTATION

The ROI for traffic/transportation is all on-base parking areas and roadways within Buckley AFB and major off-base corridors located near access points, including 6th

Avenue, Mississippi Avenue, Airport Boulevard, and State Highway 30. This section identifies the existing transportation network and conditions in the vicinity of the project area. Buckley AFB is located in the DMA, along the Front Range of the Rocky Mountains. Major vehicle routes traverse through Denver including Interstate (I)-70, I-25, and I-76. Branching off I-70 to the west of the base is I-225, which runs north-south through the City of Aurora. Intersecting with I-225 in the City of Aurora and running east-west are two major arteries, 6th Avenue and Mississippi Avenue. These two roads serve as the main routes into Buckley AFB through the North and South gates. In addition, Extension-470 Toll Highway (E-470) provides an alternative beltway route around the eastern half of the DMA, and is located to the east of Buckley AFB. 470 extends in a north to south direction in the vicinity of Buckley AFB, and is located approximately 0.75 miles from the eastern boundary of the base. These local and regional transportation systems provide future requirements for movement of Buckley AFB personnel and operations (Buckley AFB, 2002a).

3.9.1 Alternative Transportation Systems

The Regional Transportation District (RTD) bus system provides daily service from the base exchange (BX) and Commissary (Building 1) at Buckley AFB to various locations throughout the DMA. There are currently no Light Rail Transit (LRT) systems that service the project areas. The proposed future expansion of the LRT would supplement transit service, and increase transit alternatives to downtown Denver, the Denver International Airport (DIA), and other regional transit options. Two future LRT stations are planned near the base. One would be located approximately four miles from the North Gate at 40th and Pena Boulevard, and the other would be located at the Aurora City Center approximately three miles from the South Gate.

Walking and bicycling are important elements of the transportation network. Both provide alternative forms of transportation and assists in the effort to reduce motorized traffic. There are a few pedestrian trails for employees or residents of Buckley AFB to use, however, there are no designated on-street bicycle lanes within the project areas. An existing off-base bicycle path paralleling a portion of 6th Avenue does not connect to any

other City of Aurora trails at the present time. Proposed future off-street bicycle lanes would be linked to this existing off-street bike path (City of Aurora, 2003).

3.9.2 Installation Traffic

Traffic on the installation uses a single primary street, Aspen Avenue, which feeds traffic to two secondary streets that distribute traffic to the industrial and flight line areas. All other streets on the installation are classified as tertiary streets serving individual areas on the installation. Vehicular traffic accesses the installation through three entry control points, the North, Telluride, and South Gates.

3.9.2.1 North, Telluride and South Gates

Off-Base Traffic

There are two primary entrance gates to Buckley AFB along the northern boundary, the North and Telluride Gates. The North Gate is located to the south of a primary artery, 6th Avenue, which runs adjacent to the northern boundary of the base. The North Gate is open 24 hours per day and provides access to Aspen Avenue on-base. The Telluride Gate is located east of the North Gate on 6th Avenue and provides access to dormitories and the Base Exchange/Commissary. The Telluride Gate operates between 8:00 am and 8:00 night (pm) Monday through Saturday and 8:00 am and 6:00 pm on Sundays (hours are subject to change). Results of a gate design and traffic study conducted in January 2003, revealed that the daily average number of vehicles entering the base during the peak hour through the North Gate is 655 (averaging 135 vehicles per hour) (Buckley AFB, 2003d). The traffic study estimated that the daily average number of vehicles entering the base during the peak hour through the Telluride Gate is 250 (Buckley AFB, 2003d).

Table 3.14: Peak Morning (am) Vehicle Trips at Entrance Gates(1)

Entrance Gate	Inbound Vehicle Trips Peak am (5:30 to 7:30 am)
North Gate	665

Telluride Gate	250[(2)]
South Gate	780

(1) Source: Buckley AFB, 2003a
(2) Operated between 8:00 am and 8:00 night (pm) Monday through Saturday and 8:00 am and 6:00 pm on Sundays (hours are subject to change). Inbound vehicle data was estimated.

The South Gate is located to the north of Mississippi Avenue, which runs adjacent to the southern boundary of the base. This gate provides access to Aspen Avenue at the southern boundary of the base and is open from 5:30 am to 7:30 pm. Results of a study performed at the South Gate 8-11 March 2004 revealed that the daily average number of vehicles entering the base through the South Gate is 3,000 (averaging 195 vehicles per hour) (Aurora Police Department Traffic Unit, 2004). The South Gate receives all commercial vehicles (e.g., construction vehicles and delivery trucks). West of the South Gate, Mississippi Avenue is a four-lane divided boulevard with 700 vehicles per hour on the road during peak traffic hours (Buckley AFB, 2003a). Traffic accessing the South Gate via E-470 would exit at exit number 16, Jewell Avenue. Current traffic flow exiting E-470 at exit 16 averages 2,900 vehicles per day (Parsons Brinckerhoff/Felsburg Holt and Ullevig [PBFH&U], 2002).

On-Base Traffic

At the North Gate, 6th Avenue intersects with Aspen Avenue, the most heavily traveled road on-base. Aspen Avenue has average daily traffic ranging from 3,000 vehicles per day in the central base area to 500 vehicles per day in the less traveled areas of the base (Buckley AFB, 2003a). The Telluride Gate provides access to Telluride Street on-base, and is designed primarily as a limited use gate for accessing the BX and Commissary. Traffic volumes at the North Gate may have decreased in the recent past, due to the opening of the Telluride Gate.

At the South Gate, Mississippi intersects with Aspen Avenue. The on-base traffic impacts of the proposed Youth Center and RV lot expansion construction projects and operation of completed Youth Center and expanded RV lot. will be assessed in Section 4, Environmental Consequences.

3.10 WATER RESOURCES

The ROI for water resources is the South Platte River drainage basin, including East Toll Gate Creek, Sand Creek and Murphy Creek (and incorporates Williams Lake within the base boundaries). 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 Clean Water Act (CWA) of 1972 is the primary federal law that protects the nation's waters (USEPA, Water). 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 Buckley AFB, which is located within the South Platte River drainage basin. East Toll Gate Creek, Sand Creek, and Murphy Creek drain the installation. Williams Lake, located in the northeast portion of the installation, is the largest body of surface water at Buckley AFB. The proposed Youth Center and RV lot project sites are relatively flat with little noticeable slope in any direction. The proposed project sites are bounded by existing roadways. The roadways provide stormwater drainage through natural overland surface runoff, and man-made engineered drains, culverts and above and underground piping systems. Stormwater runoff from Buckley AFB drains to one of three streams adjacent to the base. Details of stormwater runoff and management are provided in subsequent sections pertaining to stormwater.

3.10.1 Surface Water

Buckley AFB is located within the South Platte River drainage basin. Buckley AFB generally is divided into two watershed regions. The Eastern Watershed, on the eastern side of the base, contains three drainage basins (A, B and E). The Western Watershed, on the western side of the base, contains two drainage basins (C and D). The watersheds,

drainage basins and corresponding pervious and impervious areas are shown below in Table 3.15.

Table 3.15: Surface Water Drainage Watershed and Basin Information*

Watershed	Drainage Basin	Approximate Impervious Area (acres)	Approximate Pervious Area (acres)	Approximate Total Area (acres)
Eastern	Basin A	44	339	383
	Basin B	42	542	584
	Basin E	14	323	337
Western	Basin C	170	1,139	1,309
	Basin D	142	372	514
Totals	**Not Applicable**	**412**	**2,860**	**3,272**

* Source: Buckley AFB 2002d.

There are a total of approximately 3,272 acres of drainage area at Buckley AFB, of which approximately 412 acres (12.6 percent) are impervious surface (Buckley AFB 2002d). The base has extensive natural and man-made surface drainage as well as underground storm drainage lines.

East Toll Gate Creek, Sand Creek, and Murphy Creek are intermittent streams in the vicinity of the base and flow predominately in the spring and summer. Sand Creek is perennial downstream from the base. The streams are tributaries to the South Platte River, which 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 body on Buckley AFB, is located in the northeast portion of the base and was created by damming a minor tributary to Murphy Creek. It occupies approximately 8-10 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 and recreational purposes (COANG, 1999; Buckley AFB 2002d).

3.10.2 Stormwater

Stormwater runoff from Buckley AFB drains into one of the three streams adjacent to the base. East Toll Gate Creek receives flow from the western side of the base, while

Sand Creek and Murphy Creek receive flows from the eastern side of the base. Potential environmental stormwater consequences of the proposed alternatives will be assessed in Section 4, Environmental Consequences.

The USEPA has jurisdiction over stormwater permitting at federal facilities in Colorado. Stormwater throughout Buckley AFB is regulated under the USEPA NPDES Stormwater Multi-Sector General Permit for Industrial Activities (COR05A13F, 12/1/2003). This permit considers all of Buckley AFB an industrial site, with the storage of HAZMATs occurring in all four drainage areas. Buckley AFB has prepared and implemented a stormwater pollution prevention plan (SWPPP) as required by the permit to insure that stormwater conveyance devices and structures are maintained in good condition and that runoff is not contaminated by coming into contact with HAZMATs stored on-site. The SWPPP requires stormwater conveyance devices and structures, and HAZMATs storage areas to be properly designed, maintained, and inspected on a periodic basis. Buckley also obtained coverage under the NPDES General Permit for Storm Water Discharges from Federal Facility Small MS4 in Colorado on April 9, 2004. The MS4 permit requires Buckley AFB to review or coordinate all stormwater permitting activities and ensure controls are included in the design of all facilities.

3.10.3 Groundwater

There are four major bedrock aquifers that underlie Buckley AFB within the Denver Basin. These are the Denver, Upper Arapahoe, Lower Arapahoe, and Laramie-Fox Hills aquifers. The aquifers are separated by beds of shale with low permeability and are located in zones of sandstones and siltstones.

There are alluvial aquifers in the area surrounding Buckley AFB. They are the result of alluvial deposition from erosion and are associated with East Toll Gate Creek and Sand Creek. Groundwater recharges to this aquifer through direct infiltration of precipitation and irrigation water (Buckley AFB, 2002d).

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 Buckley AFB by the City of Aurora.

3.11 ASBESTOS

The ROI for asbestos is the approximately 19.3 acres scheduled for construction and operations associated with the Proposed Action, No Action and action alternatives. Infrastructure, including asbestos lined pipes, was left in place during some 1950's-1960's era demolition projects. Therefore, the potential exists for either finding asbestos lined pipes or asbestos contaminated soil during construction and/or utilities trenching activities. In particular, this may be the case for the proposed sites scheduled for the Youth Center, and the expansion of the RV lot. In addition, buried historical ACM may be encountered during excavation and trenching activities.

A revised base-wide asbestos survey is currently under way, and sampling has been conducted on many facilities. In addition, soil samples were taken from eleven proposed FY04 through FY 07 construction sites and analyzed for asbestos in January 2003. The results were negative for asbestos.

Emissions of asbestos fibers into the ambient air are regulated in accordance with Section 112 of the CAA, which established the National Emissions Standards for Hazardous Air Pollutants. Buckley AFB will notify any contractor, vendor, or other outside parties about the presence of Asbestos containing material (ACM) prior to any work that could disturb the ACM, and ensure that they are qualified to conduct work that may involve ACM disturbance.

3.12 RADON

The ROI for radon is the approximately 19.3 acres scheduled for construction and operations associated with the proposed project sites. Radon is an odorless, tasteless radioactive gas released by the breakdown of uranium-bearing deposits. Soil gas entering structures through basements, crawl spaces, cracks, and openings in slab-on-grade floors, as well as below-grade walls and floors, is the primary source of elevated radon levels.

Radon moves into a building due to lower indoor air pressure resulting from heated air rising, wind, air used by fireplaces and wood stoves, or air vented to the outside by clothes dryers and exhaust fans in bathrooms, kitchens, or attics. TSCA Title III, "Indoor Radon Abatement," states indoor air in buildings of the United States should be as free of radon as the outside ambient air. Federal agencies are required to conduct studies on the extent of radon contamination in buildings they own. Overexposure to radon can cause lung cancer.

Building materials (e.g. cement or concrete containing fly-ash) 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 reduction measures is 4 picocuries per liter (pCi/L). The USAF requires that buildings be tested for radon if the structure is occupied by personnel for more than 8 hours per day. USEPA lists Buckley AFB in an area of highest potential for radon decay (greater than 4 pCi/L) (USEPA, 2003). An on-site radon assessment was conducted for every building at Buckley AFB from 16 – 19 August 2004. Results ranged from 0.0 to 8.4 pCi/l; all locations but two were below the EPA standard of 4 pCi/l, Building 40 (6.0 pCi/l) and room 113 of Building1500 (8.4 pCi/l) (Buckley AFB 2005).

Depending on the location, type of soils, and construction, radon issues could result. Therefore radon levels may need to be considered and potential consequences will be further analyzed in Section 4, Environmental Consequences.

3.13 SAFETY

The ROI for safety is Buckley AFB. The evaluation area for safety is Buckley AFB. Aircraft mishaps are the primary concern for safety with regard to military training flights. Mishaps are classified from Class A (can include fatality, costs greater than $1 million, or destruction of military aircraft) to Class D or less (total damages less than $1,000). Two Class A mishaps affected Buckley AFB in 1993 and 1994. Buckley AFB has reported no additional aircraft mishaps since those occurring in 1993 and 1994. The Accident Potential Zones (APZs) and Airfield Clear Zones (ACZ) at Buckley AFB

extend 15,000 feet from both ends of the runway. Buckley AFB has developed a Bird Aircraft Strike Hazard (BASH) plan to minimize the threat and occurrence of bird strikes and wildlife hazards.

3.14 POLLUTION PREVENTION

In FY04, Buckley AFB diverted 2,014 tons of solid waste from landfill disposal via recycling. Additional resource conservation activities on Buckley AFB include building "green" for many of the recent building construction projects.

Project sites and operations would be subject to all pollution prevention programs at Buckley AFB, including the RCRA program's hazardous waste minimization plan. Relative to federal facilities compliance with RCRA Section 6002, opportunities for use of designated and other recycled content products would be identified. Environmentally beneficial landscaping would also be implemented as part of the development. Additional opportunities for building "green" for the project sites would be identified during the design phase. In accordance with 40 CFR 989.31, potential pollution prevention measures, including resource conservation and recycling opportunities, would be identified during the project design phase, and prior to initiation of construction and/or completed facility operation activities.

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SECTION 4

ENVIRONMENTAL CONSEQUENCES

The environmental effects of the Proposed Action, Alternative Action 1, and the No Action Alternative are discussed in this section.

4.1 IMPACT TOPICS CONSIDERED

Table 4.1 lists all impact topics that could be affected by the range of alternatives. Impact topics were used to focus the evaluation of the potential environmental consequences of the alternatives. The table includes which impact topics were dismissed or retained for consideration in this EA. Reasoning for consequences that are dismissed was provided in Section 3. Consequences that are retained will be assessed for the Proposed Action, Alternative Action 1, Alternative Action 2, and the No Action Alternative within this section.

Table 4.1: Impact Topics Dismissed or Retained

Impact Topic	Dismissed/Retained (per Section 3 Discussion)*
Air Quality	Retained
Geology and Topography	Dismissed
Expansive Soils	Retained
Hazardous Materials	Retained
Hazardous and Solid Wastes	Retained
Land Use and Aesthetics/Visual	Dismissed
Socioeconomics	Retained
Cultural, Historic and Archaeological Resources	Dismissed

Table 4.1: Impact Topics Dismissed or Retained	
Impact Topic	**Dismissed/Retained (per Section 3 Discussion)***
Utilities	Retained
Biological Resources	Retained
Traffic/ Transportation	Retained
Water Resources	Retained
Floodplains and Wetlands	Dismissed
Asbestos	Retained
Radon	Retained
Lead-Based Paint	Dismissed
Noise	Dismissed
Airspace	Dismissed
Safety	Retained
Pollution Prevention	Retained
Environmental Restoration Sites	Dismissed
PCBs	Dismissed
Environmental Justice	Dismissed

* See Section 3 for discussion of resources not expected to be impacted by the Proposed Action.

The direct and indirect effects associated with the Proposed Action, Alternative Action 1, and the No Action Alternative is further assessed in separate sections below.

4.2 CUMULATIVE EFFECTS OF ALL ALTERNATIVES

The Council on Environmental Quality (1978) regulations for implementing NEPA requires assessment of cumulative effects in the decision-making process for federal actions. Cumulative effects are defined as "the impact on the environment which results

from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative effects are considered for the Proposed, Alternative Action 1, Alternative Action 2 and No Action alternatives.

Cumulative effects were determined by combining the effects of the alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other past, ongoing, or reasonably foreseeable future actions that have the potential to have a cumulative effect in conjunction with this Buckley AFB Proposed Action.

4.2.1 Past, Present and Future Actions

Past actions considered include Buckley AFB's past, dating back to 2000 when it stood up as an AFB, development of DIA, and the former Lowry AFB. Past actions in this analysis include Buckley CIP projects whose construction schedules were projected to occur between 2002 and 2005.

Present and on-going actions include current Buckley AFB projects, the proposed Buckley AFB CIP projects, CIP projects planned by the City of Aurora for the 2003–2005 CIP budget, the Lowry AFB and Fitzsimons Redevelopment Authority developments , and RTD's transportation improvements.

Reasonably foreseeable future actions evaluated include the proposed City of Aurora 2006-2008 CIP, the RTD transportation plan, and Buckley CIP projects whose construction schedules would occur between 2006 and 2009.

Potential cumulative effect issues that were identified and addressed in the cumulative impact analysis include:

- Closure of Lowry AFB and the FAMC and change of facility use from a National Guard Base to an active AFB created a need for expanded facilities on Buckley

AFB. Redevelopment of the FAMC to a new 217-acre Colorado University (CU) Medical Campus is expected to create 34,000 new jobs over six years. It is expected that this complex would attract more health and medical education, service, and supply businesses to the I-225/6th Avenue. The Buckley AFB CIP would add approximately 1.9 million ft^2 of additional community service building areas. The increase in Buckley AFB and CU Medical Campus personnel would require new housing and community service businesses to accommodate the increased population. The overall population increase at Buckley AFB resulting from the Proposed Action would be between 450 and 640 personnel by 2010.

- Current and future development in the City of Aurora is rapidly expanding on the east side of Buckley AFB. Projected residential growth rates are expected to occur at 1.8 percent per year at a density of 3.5 units per acre, or 514 acres on an annual basis. Office and industrial uses are also projected to grow at 1.8 percent per year at a Floor Area Ratio ranging from 0.25 to 0.35, or a total of 210 acres annually. Retail and commercial development would comprise approximately 20 acres per year. Land use development surrounding Buckley AFB would therefore expand at a rate of 744 acres per year totaling 5,952 acres for the entire City by 2002-2010 and (City of Aurora, 1998).

- Transportation corridors such as 6th and Mississippi Avenues, I-225, and E-470 provide access to and from major arterials and interstate highway systems connecting to Buckley AFB. RTD bus systems provide some service connections within the area. Development on Buckley AFB could cause an incremental increase in operational and residential traffic on Buckley AFB and the surrounding arterial and connector roads. Future Transportation Plans such as LRT inter-and multi-modal connections, enhanced interchanges, bikeway and pedestrian paths/connections would improve transportation services in the area.

- The former Air National Guard installation was a minimally developed and landscaped installation suitable to meet the needs of weekend influxes of reserve component personnel. Recent development on Buckley AFB has created quality

employment facilities promoting land use compatibility between the installation and the surrounding civilian community. Future community support facilities such as the Williams Lake ADP, recreation facilities, open space and other quality of life amenities are planned. These community outdoor/recreation services would serve the needs of military personnel both living on and off the base. A future City of Aurora Park to be located on the western side of the base and Airport Boulevard, would serve both the City of Aurora and Buckley AFB residents. Increased use of open space could affect the visitor use and experience.

- Refurbishing existing facilities and development of new facilities using sustainable design/development standards contributes to reductions in energy and other utilities. The Buckley AFB GP and future 2020 Buckley AFB Master Plan would be prepared to ensure sustainable development, and to provide facilities for future operations (Buckley AFB, 2002a). The future planning process would be cooperative.

4.3 AIR QUALITY

This section analyzes the potential for impacts to air quality from the implementation of the Proposed Action and alternatives caused or contributed to a violation of any national or state ambient air quality standard. Analyses of impacts focus on activities that generate air quality impacts.

4.3.1 Proposed Action

The Proposed Action would affect air quality in three ways; (1) the construction activities would produce fugitive dust and pollutants from vehicle and heavy equipment exhaust; (2) the operation of the Youth Center and facilities would increase emissions from furnaces, hot water heaters and/or backup generators; and (3) increased traffic associated with use of new facilities would cause increased automobile emissions. In addition, ODS contained in air conditioning units for climate control would need to be properly managed to prevent releases to the atmosphere. These effects would be

considered direct, as they would occur at the same time and place (i.e. point of emission from vehicle and equipment exhaust; stacks and/or vents for furnaces, hot water heaters and backup generators; and loss of ODS from air conditioning systems). An additional reduction in impacts to air quality could occur if these projects were time-delayed or downsized.

4.3.1.1 Emissions from Construction Activities

Construction activities associated with the Proposed Action would create fugitive dust emissions from site grading and excavation activities as well as vehicle travel on paved and unpaved roads during construction.

Fugitive dust emissions generated from these ground-disturbing activities, as well as combustive emissions from vehicles and heavy equipment, would depend on the extent and duration that the construction activities are performed to complete each project. Fugitive dust emissions would produce elevated particulate concentrations; however, they would be temporary, fall rapidly from the source, and would not result in long-term adverse impacts.

BMPs that would be instituted on-site to minimize fugitive dust emissions, may include the application of water or other chemical stabilizers on exposed earth surfaces, and other preventive techniques. Water may be applied to construction roadways and earth stockpiles to control dust created through vehicle and equipment travel and operations. Experience has shown that utilizing appropriate dust suppression techniques would prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

Additional BMPs and preventive techniques can be employed to reduce dust generation and migration. BMP measures may entail the periodic removal of dust-producing materials, including periodic street and access road sweeping and expeditious clean-up of materials spilled on paved or unpaved travel surfaces. Preventive process modifications and adjusted work practices include gravelling of dirt access roads and work areas, the elimination of mud/dirt carryout on paved roads at construction sites and

vehicle washing. These measures would aid in preventing or reducing the deposition of materials that could become airborne through vehicle and equipment traffic or by wind.

Combustion emissions from vehicles and heavy equipment would be generated while delivering materials to Buckley AFB, as well as from operation of equipment on-base to complete ground disturbance phase of construction projects. Emissions from vehicles used by contractor employees to drive to and from Buckley AFB must also be considered. Pollutants from vehicle and heavy equipment exhaust include NO_x, CO, PM_{10}, and VOCs. Internal combustion engine exhausts would be temporary and would not result in any long-term impacts.

Table 4.2 shows how construction emissions that may result from the two construction projects included in the Proposed Action compares to the average annual estimated pollutant emissions (from prior years 2002-2005 and beyond 2006-2009). Fugitive dust emissions are included in PM_{10} values. The USAF Air Conformity Applicability Model (ACAM) (Version 4.03) was used to make the calculations shown in Table 4.2.

Table 4.2: Average Annual Construction Project Emissions

Year/Action		Emissions Generated from Construction and Demolition Site Disturbance Activities (Tons/Year)				
		VOC	**NO_x**	**SO_2**	**CO**	**PM_{10}**
2002-2005		5.75	15.00	1.50	41.25	27.00
Proposed Action	Youth Center	1.36	6.92	0.66	17.29	25.38
	RV Lot	1.56	6.34	0.59	16.33	13.97
	Total	2.92	13.26	1.25	33.62	39.35
Alternative 1	Youth Center	1.23	6.15	0.61	15.21	26.33
	RV Lot	0.82	3.23	0.28	7.77	4.98
	Total	2.05	9.38	0.89	2298	30.31
Alternative 2	Youth Center	1.23	6.15	0.61	15.21	25.33
	RV Lot	1.09	4.62	0.3	9.30	6.54
	Total	2.32	10.77	0.91	24.51	31.87
2006-2009		2.0	8.50	0.50	19.50	9.00
Cumulative Total		9.29	41.91	3.55	100.61	110.53

The ACAM calculates annual air emissions from individual construction project information that is input into the program (USAF, 2005). The ACAM calculates construction emissions based on algorithms developed by the South Coast and Santa Barbra Air Quality Management Districts of California. The ACAM incorporates the USEPA's Mobil 6 (a regulatory on-road source model) to calculate on-road vehicle emissions (USAF, 2005). Assumptions used in the ACAM model are as follows:

- Total area graded: 2 times the finished structure square footage of the RV parking lot and 6 times the square footage of the Youth Center (based on current construction practices),
- Youth Center Parking lots size: 300 ft^2 per automobile space,
- Grading phase: Assumed to be 90-days. See BMPs listed above for dust control measures to be used during the projects,
- Generators during the construction phase of projects are only used to supply power at the onset of the project. After that, power is provided by temporary electrical service, and gasoline powered equipment is not used. The ACAM model assumes a generator burns 1,000 gallons of fuel duration the construction phase,
- Typical Denver area vehicle mix is assumed for personal vehicles.

4.3.1.2 Emissions from Completed Building and Facility Operation Activities

The only stationary source of emissions would be from furnaces, hot water heaters and/or backup generators that would be installed to operate the Youth Center. The ACAM calculates emissions from furnaces and hot water heaters as combined facility heating. The output from the ACAM model for facility heating and cumulative emission calculations for the operation of these units are shown on Table 4.3.

Mobile emissions would be created through increased traffic associated with additional personnel resulting from the Proposed Action and from turf and landscaping maintenance activities. Emissions created from increased traffic are addressed in Section

4.3.1.3, Increased Traffic. Turf and landscaping maintenance activity sources may include lawn mowers and tractors, turf maintenance equipment (thatchers, aerators, etc.) and gasoline operated pruning equipment. Emissions from these sources would be NO_x, CO, SO_2, PM_{10}, and VOCs, however emission from these sources would be negligible.

Table 4.3 Average Annual Heating and Hot Water Air Emissions

Year/ Action	Emissions Generated from Operation of Heating and Hot Water Units (Tons/Year)									
	Hydrocarbons		NO_x		SO_2		CO		PM_{10}	
	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
2002-2005*	0.05	0.52	0.91	8.85	0.01	0.06	0.39	3.77	0.07	0.72
Youth Center – All Actions	0.01	1.49	0.13	25.50	0.00	0.16	0.10	10.90	0.01	2.06
RV Lot – All Actions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006-2009*	0.01	0.97	0.23	16.52	0.00	0.11	0.10	7.03	0.02	1.34

* Cumulative value represents annual emissions for each alternative + 2002-2005 + 2006-2009 cumulative emissions.

ODS containing equipment at Buckley AFB is currently serviced and maintained in accordance with all local, state, and federal regulations by certified HVAC personnel or contractors. New HVAC equipment containing ODS installed and operated as part of the Proposed Action would be serviced and maintained per the existing practice.

No impacts would be expected from installation and operation of ODS containing equipment, as the equipment installed and operated would be new, and would be inspected and maintained by certified HVAC personnel or contractors.

4.3.1.3 Increased Traffic

The Proposed Action would increase the daily traffic flow in the ROI and on-base. ACAM uses the USEPA's Mobil 6 emissions factors to calculate the potential increase in emissions due to the Proposed Action. The following assumptions were made related to increased traffic and associated emissions:

- Five new individuals would be employed at the Youth Center, would drive themselves to work daily and would not carpool,
- New Youth Center employees would live 20 miles from base and would drive 40 miles roundtrip,
- New Youth Center employees would travel to Buckley AFB 365 days per year,
- Each person drives a 2000 model-year vehicle, and
- Each vehicle has been driven 50,000 miles.
- It is assumed that child pick up and drop off would create insignificant emissions, as under current conditions, individuals would be likely to drive more miles to drop their children off at off-site facilities and create more emissions than under would occur under the Proposed Action.
- Due to extended storage periods and infrequent use within the ROI typically associated with RVs, air emissions created from operation of RVs would be

considered insignificant and are not included in the air emission calculations (RVIA, no date).

Emissions from operation of personal vehicles resulting from the Proposed Action are provided below on Table 4.4. Values are shown for annual and cumulative emissions.

Table 4.4 Average Annual New Personal Vehicle Pollutant Emissions

Year/Action	Emissions Generated from New Personal Vehicles (Tons/Year)					
	Hydrocarbons		NO_x		CO	
	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
2002-2005(1)	0.55	5.41	0.55	5.41	11.63	113.63
Youth Center - All Actions(2)	0.03	15.54	0.03	15.54	0.69	326.35
RV Lot – All Actions(2)	0.00	0.00	0.00	0.00	0.00	0.00
2006-2009(1)	0.14	10.10	0.14	10.10	2.97	212.03

(1) Cumulative value represents average annual emissions (e.g. 4-years from 2002-2005 and 4-years from 2006-2009 for a total of 8-years).
(2) Cumulative value represents annual emissions for each alternative + 2002-2005 + 2006-2009 cumulative emissions.

In addition, the cumulative value would include trips that off-base personnel may make to Buckley AFB to participate in organized events after normal duty hours. However, traffic increases due to off-base personnel traveling to the base after normal duty hours would have a minimal impact, as the number of individuals, and time of day and frequency of trips to the base would be insignificant, and would create minimal impacts on air emissions.

4.3.1.4 Air Conformity Analysis for the Proposed Action

Federal actions must comply with the USEPA Final General Conformity Rule published in 40 CFR 93, Subpart B (for federal agencies) (USEPA, Air). The General Conformity Rule was promulgated on 30 Nov 1993 with an effective date of 31 Jan 1994. The General Conformity Rule was designed to ensure that Federal actions do not impede local efforts to control air pollution. It is called a Conformity Rule because Federal Agencies are required to demonstrate that their actions conform with (i.e., do not

undermine) the approved SIP or Federal Implementation Plan (FIP) for their geographic area. This is demonstrated by conducting a conformity analysis, which is the process used to evaluate and document air pollutant emissions, local air quality impacts and the need for emission mitigation (Dempsey et. al., 2003).

An increase in baseline emissions would be anticipated due to construction of the Proposed Action. For purposes of analysis, it was assumed that the specific details proposed for the Proposed Action construction activities are those specified in Section 4.3.1.1, Emissions from Construction Activities. Sections 4.3.1.2 and 4.3.1.3, Emissions from Completed Building and Facility Operation Activities assessed emissions from completed building operations, and Increased Traffic that would result from the Proposed Action, respectively.

The annual emissions are presented in Table 4.5 and include the estimated annual emissions created through construction activities, operation of the Youth Center building and increased traffic. Values are included for annual and cumulative emissions. Cumulative emissions are presented for informational purposes and to assess cumulative impacts, but are not considered in conformity determinations, as conformity is assessed on an annual emissions basis only. Cumulative emissions may decrease from year to year because emissions from short-term construction activities would occur on an annual basis and would not be additive, while long-term emissions created from operation of buildings and increased traffic would be additive. The estimated values for CO, VOC, NO_x, SO_x, and PM_{10} were determined to be less than the USEPA de minimus values and less than 10 percent of the AQCR 36 Emission inventory (see Table 4.5) on an annual basis throughout the period required to complete the Proposed Action projects. 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 would increase by less than 10 percent, and, 2) the Proposed Action estimated emissions are below *de minimus* values as stated in 40 CFR 93.153(b). Because the Proposed Action's emissions do not exceed 10 percent of the AQCR 36 emissions or the *de minimus* values as stated in 40 CFR 93.153(b), the Proposed Action would conform to the SIP and would not have a significant impact on air quality.

Table 4.5: Average Annual Air Emission Totals

Year/Action		Emissions (Tons/Year)									
		Hydrocarbons		NO_x		SO_2		CO		PM_{10}	
		Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
2002-2005[1]		6.36	42.93	16.46	139.26	1.51	13.06	53.26	459.40	27.07	190.72
Proposed Action[2]	Youth Center	1.4	171.39	7.08	503.95	0.66	43.83	17.08	1,562.46	25.39	725.45
	RV Lot	1.56	171.55	6.34	503.21	0.59	43.76	16.33	1,562.46	13.97	714.03
	Total	2.96	172.95	13.42	510.29	1.25	44.42	34.41	1,562.46	39.36	739.42
Alternative 1[2]	Youth Center	1.27	171.26	6.31	503.18	0.61	43.78	16	1,562.46	26.34	726.4
	RV Lot	0.82	170.81	3.23	500.1	0.28	43.45	7.77	1,562.46	4.98	705.04
	Total	2.09	172.08	9.54	506.41	0.89	44.06	23.77	1,562.46	31.32	731.38
Alternative 2[2]	Youth Center	1.27	171.26	6.31	503.18	0.61	43.78	16	1,562.46	25.34	725.4
	RV Lot	1.09	171.08	4.62	501.49	0.3	43.47	9.3	1,562.46	6.54	706.6
	Total	2.36	172.35	10.93	507.8	0.91	44.08	25.3	1,562.46	31.88	731.94
2006-2009[1]		2.16	127.06	8.87	357.61	0.50	30.11	22.57	1,103.06	9.02	509.34
AQCR 36 Emission Inventory[3]		167,900		112,785		69,350		678,170		32,156	
10 Percent of AQCR 36 Emissions[3]		16,790		11,278		6,935		67,817		3,215	
De minimus		100		100		100		100		100	

Table 4.5: Average Annual Air Emission Totals

Year/Action	Emissions (Tons/Year)									
	Hydrocarbons		NO_x		SO_2		CO		PM_{10}	
	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
Values [5]										
Above/ Below De minimus	Below		Below		Below		Below		Below	

(1) Cumulative value represents average annual emissions (e.g. 4-years from 2002-2005 and 4-years from 2006-2009 for a total of 8-years).
(2) Cumulative value represents annual emissions for each alternative + 2002-2005 + 2006-2009 cumulative emissions.
(3) Colorado Air Quality Control Commission (CAQCC), 2003 (CO – 2006 Interim Year Inventory), 2001a, (VOC and NO_x 2006 Inventory), and 2001b. ($PM_{10,}$and SO_x 2005 Maintenance Inventory).

The amount of VOCs and NO_x that would contribute to the formation of ground-level ozone created through implementation of the Proposed Action are estimated to be 2.96 and 13.42 tpy, respectively.

4.3.2 Alternative Action 1

If Alternative Action 1 were followed it is likely that impacts on air quality would be diminished by a negligible amount. Although a parking lot to accommodate 50 vehicles would be constructed for the Youth Center under Alternative 1, a reduction in air quality impacts would result due to the smaller RV Expansion Lot and security road that would be constructed under this alternative. When compared to the Proposed Action, the reduced scale of the RV lot and security road proposed under this Alternative 1 would decrease the construction time and reduce construction equipment operating time, resulting in a decrease in the amount of VOCs and NO_x emissions that would contribute to the formation of ground-level ozone. An additional reduction in impacts to air quality could occur if these projects were time-delayed or downsized. Air quality impacts would remain insignificant under Alternative Action 1.

4.3.3 Alternative Action 2

If Alternative Action 2 were followed it is likely that impacts on air quality would decrease. Although the Youth Center would still be provided with a parking lot under Alternative 2, and the size of the RV lot would be identical to that of the Proposed Action, the area of the security road would be reduced by 27,000 ft^2, decreasing the impacts on emissions when compared to the Proposed Action.. The amount of VOCs and NO_x that would contribute to the formation of ground-level ozone created through Alternative Action 2 would decreased slightly when compared to the Proposed Action due to decreased construction and associated construction equipment operating time. However, a reduction in impacts to air quality could occur if these projects were time-delayed or downsized. Air quality impacts would remain minor under Alternative Action 2.

4.3.4 No Action

Under the No Action Alternative, there would be no construction-related ground-disturbing activities. Average daily vehicle miles traveled from the main base to the existing Youth Center and RV lot from off-base would remain consistent with current conditions. There would be no change in the consumption of ODS. No impacts would be expected as a result of the No action Alternative.

4.3.5 Cumulative Impacts

The area evaluated for cumulative impacts includes the "*area of applicability*" and includes county air emission inventories that may ultimately be excluded from the non-attainment boundaries designated by the USEPA, and therefore, from the scope of Colorado's Early Action Compact (EAC) Ozone Action Plan (CAQCC, 2004). Colorado's air quality analysis uses emission inventories from most of the western United States. The "*area of applicability*", or ROI used for analysis in this EA is not considered a geographic area. The cumulative impacts are based on this analysis; therefore the area evaluated for cumulative impacts is consistent with EAC.

As with development and construction of buildings and facilities at Buckley AFB, development of areas within the ROI would create air emissions from construction activities, the operation of new buildings, and facilities and increased traffic associated with use of new facilities. While emissions from operation of buildings and facilities at Buckley AFB would generally be created by use and occupation of the structures (personal vehicle travel, HVAC and hot water heating), emissions created through development within the ROI would likely encompass a larger number of source-types. Although a significant portion of development within the ROI would consist of residential development, light industrial, commercial and retail development would also occur. While some emissions from non-residential sources would be similar to those created by residential building operations, greater emission types, concentrations, and volumes are likely to result from light industrial, commercial and retail development. For example, light industrial development may result in increased combustion emissions if

facilities require heating and cooling to operate production processes. Likewise, development of commercial establishments, such as dry cleaning operations, would result in emissions of VOCs and potentially HAPs.

Management of emissions on a cumulative basis throughout the ROI would be accomplished through existing source permitting, monitoring and reporting requirements. All new sources would be subject to existing applicable permitting requirements. Air emission permit requirements and mechanisms incorporated in the EAC to insure proper management of existing and anticipated new source emissions are discussed below for criteria pollutants and ozone precursors.

4.3.5.1 Criteria Pollutants

Air pollution and poor visibility are persistent concerns in the DMA. Cumulative emissions of criteria pollutant are regulated through the CDPHE's Application for Construction Permit (ACP) and APEN application and approval process. Through this system ACP and APEN permit requirements are triggered by uncontrolled actual emission rates.

A construction permit is required for a facility with uncontrolled actual emissions of any criteria pollutant equal to or greater than the amounts listed in Table 4.6 below.

Table 4.6: CDPHE New or Modified Source Construction Permit Emission Thresholds

Criteria Pollutant	Uncontrolled Actual Emissions in Tons Per Year	
	Attainment/Maintenance Areas	Non-Attainment Areas
VOCs	5	2
PM_{10}	5	1
Total Suspended Particulates	10	5
Carbon Monoxide	10	5
Sulfur Dioxide	10	5
Nitrogen Oxides	10	5
Lead	200 lbs per year	200 lbs per year

Permits are issued for the level of production/operation requested on the APEN. For criteria pollutants, APEN requirements differ for Colorado's attainment/maintenance and non-attainment areas. In general, an APEN is required for an emission point with uncontrolled actual emissions of any criteria pollutant equal to or greater than the quantity listed in the Table 4.7 below:

Table 4.7: CDPHE APEN Criteria Pollutant Emission Thresholds

Area	Uncontrolled Actual Emissions
Attainment/Maintenance	2 Tons per Year
Non-Attainment	1 Ton per Year
All Areas	Lead Emissions: 100 lbs per year

Sources of non-criteria reportable air pollutants have different reporting levels depending on the pollutant, release point height and distance to property line. Cumulative emissions of SO_2, CO and PM_{10} would be adequately controlled and monitored through the existing CDPHE ACP and APEN permitting systems. If current permitting requirements are met, cumulative impacts from existing and anticipated new sources of criteria emissions would be considered moderate and would not be considered significant.

4.3.5.2 Ozone Precursors

On a cumulative basis the control of emissions that contribute to the formation of ground-level ozone (VOCs and NO_x) is regulated through the CDPHE's ACP and APEN application and approval process, as described above. The EAC also contains several mechanisms intended to insure that the commitments to meeting the compliance milestones and deadlines are met.

Baseline and control case modeling VOCs and NO_x inventories were assessed for all of the eight counties in the Denver/Boulder/Greeley consolidated statistical metropolitan area (CMSA), including Denver, Jefferson, Douglas, Broomfield, Boulder, Adams, Arapahoe, and Weld, counties. The emission estimates were developed based on the most recent demographic data and vehicle miles traveled (VMT) estimates contained in

1) Denver Regional Council of Government's (DRCOG) conformity analysis for the updated fiscally constrained element of the 2025 Regional Transportation Plan, and 2) North Front Range Transportation and Air Quality Planning Council's 2025 Regional Transportation Plan. The inventories are presented in Table 4.8.

Table 4.8: Air Emissions Modeling ROI*

Source Category	Emissions in Tons Per Year			
	2002 VOCs	2007 VOCs	2002 NO_x	2007 NO_x
Point sources	192.8	204.1	105.2	107.1
On-road motor vehicles	152.8	117.5	157.8	119.3
Non-road vehicles	73.1	53.7	88.0	85.2
Area sources	96.9	104.1	25.6	27.6
Total	515.6	479.4	376.6	336.5

* Source: CAQCC, 2004.

The EAC lists the additional control measures, above and beyond those assumed in the 2007 base case inventory that are incorporated into the SIP to demonstrate attainment/maintenance of the 8-hour ozone NAAQS by 2007 and maintenance of such standard through 2012.

The EAC includes an amendment to Title 5 CCR 1001-9 Regulation Number 7 (Emissions of VOCs) that may be applicable at Buckley AFB (CDPHE, Air). The amendment would require the installation of controls on new and existing rich burn and lean burn natural gas fired stationary reciprocating internal combustion engines (RICE) larger than 500 horsepower located in the 8-hour ozone control area. However, Buckley AFB does not currently and does not expect to install and/or operate any equipment utilizing RICE in the future.

The regions aircraft activity contributes an estimated 4.4 percent of the region's total NO_x emissions (DRCOG, 2000). To meet regional aviation demands through the year 2020, the *2020 Regional Aviation System Plan* projects capacity improvements to existing public airports and the addition of at least one new airport. Improved engine designs would continue to improve emissions for smoke and hydrocarbons and reduce the proportion of CO and NO_x from aircraft emissions in the future. According to the GP,

there are no plans to expand the Airfield-Industrial Complex (i.e. Airfield, Mission Operations and Maintenance, and Industrial Existing Land Use Areas), (Buckley AFB, 2002a). Future development would provide flexibility related to mission changes that may occur in the future. Mission changes may entail types of aircraft, taxiway or aircraft hanger expansions and relocations.

Completion of CIP projects proposed in the GP, would provide new and increased pedestrian and bicycle routes on-base, reducing the dependence on single occupant vehicles (Buckley AFB 2002a). The long-term cumulative effects on air quality related values and human health from particulate matter emissions would be adverse and range from minor to moderate.

Cumulative ozone precursor emissions would be adequately controlled and monitored through the existing CDPHE ACP and APEN permitting systems and provisions contained within the EAC. Since Buckley AFB does not currently and does not expect to install and/or operate any equipment utilizing RICE in the future, the Title 5 CCR 1001-9 Regulation Number 7 requirements would not apply (CDPHE, Air). If current permitting and EAC requirements are met, cumulative impacts from existing and anticipated new sources of ozone precursor emissions would be considered moderate and would not be considered significant.

4.4 EXPANSIVE SOILS

This section analyzes the potential for impacts from expansive soils from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on activities that generate or that may be affected by expansive soil conditions.

4.4.1 Proposed Action

Most of the area designated for the Youth Center and RV lot expansion projects is on previously disturbed soils. These and other soils throughout the area are well-drained although some Alluvial Land-Nunn soils located in the vicinity of the RV lot expansion project area have higher water holding capacity with moderate to slow permeability.

Since these soils are well-drained soil erosion impacts resulting from construction activities would be minimal if proper BMPs are practiced. The types of BMPs that could be used to minimize soil erosion and sedimentation during construction are described in Section 4.4.5.

Construction excavations could expose small areas of expansive soils. These soils are not typically found outside of the drainages on Buckley AFB. Expansive soils such as clay, claystone, and shale would "swell" in volume when wetted and would shrink when dried. Clay properties control the degree to which the clay minerals swell.

Soils in Colorado that are subject to subsurface swelling, tend to remain at constant moisture content in their natural state, and are usually relatively dry during construction. Exposure to natural or man-caused water sources during or after development results in swelling. In many instances the soils do not regain their original dryness after construction, but remain somewhat moist and expanded due to the changed environment. This volumetric expansion and contraction can cause houses, buildings, and other structures to heave, settle, and shift unevenly. However, with the implementation of BMPs (primarily moisture control) for potential expansive soils, there would be no long-term or major short-term, impacts to soils from the Proposed Action.

4.4.2 Alternative Action 1

The Alternative Action 1 is not likely to have any adverse effects from expansive soils. Similar to the Proposed Action, most of the construction activity under Alternative 1 would take place on previously disturbed soils. Site grading and trenching would disturb proportionately less expansive soil types. There is less total soil disturbance under this alternative. Similar to the Proposed Action, there would be little to no impacts due to construction within expansive soils under Alternative 1.

4.4.3 Alternative Action 2

Similar to the Proposed Action, most of the construction activity under Alternative 2 would take place on previously disturbed soils. Site grading and trenching

could disturb proportionately more expansive soil types. This alternative has the most total soil disturbance. However, similar to the Proposed Action, there would be little to no impacts due to construction within expansive soils under Alternative 2.

4.4.4 No Action Alternative

Under the No Action Alternative, there would be no construction and therefore no impacts due to expansive soils.

4.4.5 Best Management Practices

With the use of best management practices, such as geotechnical surveys and drainage improvement designs, the effects from expansive soils would be reduced or minimized. BMP measures may include establishing limits of clearing and grading to protect and preserve riparian corridors, native grasslands, and implementing landscape plans that would stabilize soils.

Implementation of geotechnical surveys, appropriate structural designs, and appropriate building and grounds maintenance may help to minimize the risk of structural damage. The following BMP measures would be implemented in areas where there is potential for expansive soils.

- Geotechnical Survey: Geotechnical engineering methods would be used to identify expansive soil problems prior to construction.

- Foundation Design: Structural foundation designs would be used to withstand the "worst possible" changing soil conditions as indicated by testing.

- Building and Grounds Maintenance: Building maintenance crews would be educated about the soil situation and its potential significance, especially relative to the role of water and drainage. Efforts would be made to prevent water from "ponding" around building foundations. Grass, shrubs, and sprinkler systems would be installed a minimum of 5 feet (ft) from the foundation. Trees and other plants requiring high moisture would be planted no nearer than 15 ft from a building.

4.4.6 Cumulative Impacts

The area evaluated for cumulative impacts include all land to be disturbed within the proposed construction sites and any other potential construction sites subject to expansive soils that are located within the Buckley AFB boundaries.

Soil resources have been historically subjected to many sources of disturbance since the base was established in the 1940s. Past aircraft operations, localized wind, off road vehicles and military training have disturbed soils on Buckley AFB. Other sources of disturbance that have, and would continue to affect soils in the vicinity of the base include site excavation, grading, and outdoor recreational use (off-road vehicles, all terrain vehicles).

The incremental effect from future development of Buckley AFB on expansive soil conditions would be indistinguishable from other types of urban development within the surrounding area. Silt fencing, temporary sediment basins, and other NPDES soil erosion control practices would reduce the small amount of soils lost during construction.

The proposed future land use and community development at Buckley AFB would bring additional personnel, vehicles, and aircraft operations that would produce a minor effect on soil resources. These effects would not be distinguishable from other developments planned in the immediate area. Therefore cumulative effects would not result in long-term loss or impairment of soil resources.

4.5 HAZARDOUS MATERIALS

This section analyzes the potential for impacts from hazardous materials from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on activities that generate or that may be affected by hazardous materials.

4.5.1 Proposed Action

Contractors may use HAZMATs during construction projects, including fuels, oils, lubricants and coolants used to operate vehicles and equipment, as well as concrete joint

sealants, and paints required for foundations and building construction. Hazardous waste may be generated through use of HAZMATs during construction activities. Contractors that use HAZMATs would use them entirely or remove them from the installation for use on other projects. No HAZMATs would be left on-base as wastes. Contractors should seek to use "green building materials" as much as possible to avoid use of HAZMATs and subsequent generation of hazardous wastes.

There would be no HAZMATs associated with operation of the RV lot. HAZMATs that would be used during the operation of the Youth Center would be ODS in air conditioning units, diesel fuel that may be stored and used to supply fuels to boilers and/or emergency backup generators.

Although HAZMATs may be stored, handled and used during construction and operation of the new Youth Center, implementation of the Proposed Action is not expected to significantly increase the quantity of such products at Buckley AFB. Therefore, no impacts related to HAZMATs would be expected. Additional details on hazardous waste management are provided in Section 4.6, Hazardous and Solid Wastes.

4.5.2 Alternative Action 1

If Alternative 1 were followed the types of HAZMATs stored, handled, and used onsite would be the same as that under the Proposed Action. Impacts would remain insignificant under Alternative Action 1.

4.5.3 Alternative Action 2

If Alternative 2 were followed the types of HAZMATs stored, handled, and used onsite would be the same as that under the Proposed Action. Impacts would remain insignificant under Alternative Action 2.

4.5.4 No Action Alternative

Under the No Action, there would be no construction or grading performed. No impacts related to HAZMATs would occur.

4.5.5 Cumulative Impacts

The geographic area evaluated for HAZMAT cumulative impacts includes Buckley AFB and the City of Aurora. Cumulative impacts of the Proposed Action related to HAZMATs used for construction activities and operation of completed facilities coupled with other on- and off-base new construction and operation projects (within the City of Aurora and County of Arapahoe Comprehensive Plans) would depend on the quantity and nature of the materials used (City of Aurora, 2003; Arapahoe County 2001). The quantity and the exact nature of the materials used on a cumulative basis are unknown. However, proper management and use of HAZMATs would minimize the potential for impacts. Additional details on cumulative hazardous waste management are provided below in Section 4.6, Solid and Hazardous Wastes.

4.6 HAZARDOUS AND SOLID WASTES

This section analyzes the potential for impacts from solid and hazardous wastes from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on activities that generate or that may be affected by hazardous wastes.

4.6.1 Proposed Action

4.6.1.1 Hazardous Waste

Hazardous wastes may be generated through use and subsequent need for disposal of HAZMATs used during construction activities. However, the potential quantity and the exact nature of the wastes generated are unknown. In general, hazardous wastes and materials generated during construction activities would be managed according to all relevant regulations. Hazardous wastes would not be expected to be generated through operation of the proposed Youth Center or expanded RV lot.

The exact nature and potential quantity of the materials or wastes generated are unknown. However, if appropriate BMPs and sound designs are employed, and all federal, state, and local regulations dealing with hazardous wastes are followed, no significant impacts related to hazardous wastes would be expected from implementation

of the Proposed Action. BMPs may include substituting non-hazardous materials for HAZMATs (when possible) and purchasing appropriate and/or limited quantities of materials to prevent subsequent waste generation from unused materials. Proper management of hazardous wastes would potentially result in direct effects only.

4.6.1.2 Solid Waste

Solid waste generation would temporarily increase due to construction projects as well as operation of the new Youth Center. No building demolition would occur as part of these projects. These construction projects would generate wastes through packaging of materials delivered to and used on the site, excess and unusable materials resulting from construction activities, and general trash and debris associated with construction projects. Typically, contractors are required to arrange for solid waste disposal within contracts written and issued for the work.

Recycling of discarded construction materials should be considered within the scope of the Proposed Action. Materials that may be recycled include metal, wood, concrete, and asphalt (paving and roofing tiles).

Although recycling should be considered and implemented to the extent possible, for the purposes of this EA the volume of solid waste generated as a result of the Proposed Action would be calculated and assumed to be disposed of at a permitted solid waste landfill. The exact nature and quantity of solid wastes that would be generated through construction activities is not known.

Wastes generated during construction activities would be limited to materials used to create forms for building foundations and footers, packaging wastes (associated with internal building components such as windows, doors, boilers, hot water heaters and other interior features, and other general debris. Solid waste generation for construction projects were based on waste expected to be generated during construction activities and using a conservative engineering estimate of 500 lbs of solid waste generated per day of ground disturbance construction activity. Solid waste generation estimates from Proposed Action construction activities would total 54 tons.

Due to proximity and to limit construction costs, it is likely and assumed that the solid wastes generated though contractor activities would be disposed of at the Denver-Arapahoe Disposal Site. Table 4.9 shows the solid waste generation estimates on an annual basis and the corresponding percent of total waste received at the Denver-Arapahoe Disposal Site landfill.

Table 4.9: Average Annual Construction and Demolition Waste Generation

Year		Construction Solid Waste Generation (Tons) Per Year	Percent of Total Waste Received by Denver-Arapahoe Disposal Site Landfill*
2002-2005		54,881	2.41
Proposed Action	Youth Center	32	0.00
	RV Lot	22	0.00
	Total	54	0.00
Alternative 1	Youth Center	32	0.00
	RV Lot	8	0.00%
	Total	40	0.00%
Alternative 2	Youth Center	32	0.00
	RV Lot	20	0.00
	Total	52	0.00
2006-2009		47,229	2.07

* Assumes the Denver-Arapahoe Disposal Site landfill receives 2,280,000 tons of solid waste per year (source MACTEC, 2004).

Once complete, the Youth Center would be occupied or used by approximately 125 individuals per day including five Youth Center employees (PKF Consulting, 2003). Solid wastes would be generated through operation of the facilities and would include general household-type trash. Waste containers would be provided at the facility for collection of solid wastes. Wastes collected at this facility would be handled by the existing private contractor and be disposed of at the Denver-Arapahoe Disposal Site.

Solid waste generation resulting from occupation of the Youth Center can be estimated by assessing the increase in the number of individuals that would be present on

the base as a result of implementing the Proposed Action. The day-time use would average 125 individuals per day. Conservatively assuming that the individuals would be onsite 365 days per year and a waste generation rates of 5 lbs of solid waste per person per day, average solid waste generation and disposal would increase by 625 lbs per day. This value equals approximately 114 tons of solid waste per year. The recycling program at the installation would off-set a portion of the increased solid waste. Operation of the Youth Center would create a minor long-term increase in annual solid waste generation.

As a result of implementing the Proposed Action, solid waste generation at Buckley AFB would increase by approximately 54 tons in the short-term, due to construction activities. Occupation and operation of these new facilities would create a long-term increase in annual waste generation of 114 tons per year (from 2,950 tons per year in FY04 to a projected 3,064 tons per year), which would increase the percent of the total waste sent by Buckley AFB to the Denver-Arapahoe Disposal Site landfill less than 1 percent of the total received by the landfill. The anticipated increase in solid waste generation resulting from implementing the Proposed Action would be considered a direct effect, and would create a negligible impact on landfills (the Denver-Arapahoe Disposal Site) and recycling facilities receiving the waste.

4.6.2 Alternative Action 1

4.6.2.1 Hazardous Waste

If Alternative 1 were followed the type of HAZMATs stored, handled, and used onsite would be the same as that under the Proposed Action. The quantity of hazardous wastes generated onsite would be the same as that under the Proposed Action. Impacts would remain insignificant under Alternative Action 1.

4.6.2.2 Solid Waste

The quantity of construction derived wastes (packaging of materials delivered to and used on the site, excess and unusable materials resulting from construction activities, and general trash and debris associated with construction projects) from Alternative 1 construction activities would total 40 tons. Wastes generated from operations of the

completed Youth Center would be the same as that under the Proposed Action. Impacts would remain insignificant under Alternative Action 1.

4.6.3 Alternative Action 2

4.6.3.1 Hazardous Waste

If Alternative 2 were followed the type of HAZMATs stored, handled, and used onsite would be the same as that under the Proposed Action. The quantity of hazardous wastes generated onsite would be the same as that under the Proposed Action. Impacts would remain insignificant under Alternative Action 2.

4.6.3.2 Solid Waste

If Alternative 2 were followed the quantity of construction derived wastes would total 52 tons. Wastes generated from operations of the completed Youth Center would be the same as that under the Proposed Action. Impacts would remain insignificant under Alternative Action 2.

4.6.4 No Action

4.6.4.1 Hazardous Waste

Under the No Action Alternative, there would be no construction or operation of the Youth Center or expanded RV lot. Hazardous waste generation at Buckley AFB would not be affected. There would be no hazardous wastes generated and no impacts related to hazardous wastes would occur.

4.6.4.2 Solid Waste

Under the No Action Alternative, there would be no construction or operation of the Youth Center or expanded RV lot. Solid waste generation at Buckley AFB would not be affected. There would be no solid wastes generated and no impacts related to solid wastes would occur.

4.6.5 Cumulative Impacts

4.6.5.1 Hazardous Waste

The geographic area evaluated for hazardous waste cumulative impacts includes Buckley AFB and the City of Aurora. Hazardous waste cumulative impacts created through the Proposed Action construction activities combined with off-base new construction and operation projects (within the City of Aurora and County of Arapahoe Comprehensive Plan) would depend on the quantity and nature of the hazardous wastes generated (City of Aurora, 2003; Arapahoe County, 2001). The exact nature and potential quantity of the materials or wastes generated on a cumulative basis are unknown. However, if appropriate BMPs are implemented (see Section 4.6.1.1), sound designs are employed, and adherence to all federal, state, and local regulations dealing with hazardous wastes are followed, no significant cumulative impacts related to hazardous wastes would be expected.

4.6.5.2 Solid Waste

Cumulative solid waste generation increases would be proportionate with increased residential, business and industrial development in the area. Table 4.10 shows the projected cumulative solid waste generation increases.

Table 4.10: Average Annual Cumulative Solid Waste Generation

Year/Action		Buckley AFB Cumulative Construction Solid Waste Generation (Tons) Per Year[1]	City of Aurora Cumulative Construction Solid Waste Generation (Tons) Per Year[2]	Total Cumulative Construction Solid Waste Generation (Tons) Per Year
2002-2005[3]		54,881	321,401	377,900
Proposed Action[4]	Youth Center	102,142	1,170,046	1,573,147
	RV Lot	102,131	1,170,014	1,573,136
	Total	102,163	1,170,046	1,573,168
Alternative 1[4]	Youth Center	102,142	1,170,024	1,573,147
	RV Lot	102,117	1,170,000	1,573,122
	Total	102,149	1,170,032	1,573,154

Table 4.10: Average Annual Cumulative Solid Waste Generation

Year/Action		Buckley AFB Cumulative Construction Solid Waste Generation (Tons) Per Year[1]	City of Aurora Cumulative Construction Solid Waste Generation (Tons) Per Year[2]	Total Cumulative Construction Solid Waste Generation (Tons) Per Year
Alternative 2[4]	Youth Center	102,142	1,170,024	1,573,147
	RV Lot	102,129	1,170,012	1,573,134
	Total	102,162	1,170,044	1,573,167
2006-2009[3]		47,229	848,591	1,195,214

(1) Buckley AFB solid waste generation values include wastes generated through construction and demolition of CIP cumulative projects proposed in the GP and building and residential unit operations.

(2) Assumptions related to City of Aurora development and increased solid waste generation are as follows:

- City of Aurora Residential Growth Rate = 1,800 units per year
- Average Residential Size = 2,000 ft^2 per unit
- Number of Inhabitants per Residential Unit = 3 persons per unit
- City of Aurora Business Office and Industrial Growth Rate = 9,147,600 ft^2 per year
- Occupancy of Business Office and Industrial Development = 1,000 ft^2 per individual
- City of Aurora Retail and Commercial Growth Rate = 871,200 ft^2 per year
- Occupancy of Retail and Commercial Development = 481 ft^2 per individual.
- Three (3) individuals would live in each residential unit constructed in the City of Aurora.
- Residential waste generation rates 15 lbs per person per day.
- Business Office and Industrial facility waste generation rates are 60 lbs per 1,000 ft^2 building area per day.
- Retail and Commercial facility waste generation rates are 40 lbs per 1,000 ft^2 building area per day.

(3) Cumulative value represents average annual solid waste generation.

(4) Cumulative value represents average annual solid waste generated for each alternative added to the 2002-2005 and 2006-2009 cumulative solid waste generated.

Cumulative impacts of increased solid waste generation would approach maximum capacity as development in the area continues 2006-2009. When Buckley AFB Proposed Action construction projects are completed an average 102,163 tons of waste per year would be generated. Following the completion of all construction and demolition projects, the cumulative annual solid waste generation rate would be approximately 1,195,214 tons of waste per year. The cumulative solid waste generation increase would increase the waste volume sent to the Denver-Arapahoe Disposal Site landfill by 69

percent in the maximum year, and 52.4 percent once all construction and demolition projects are completed in 2009.

The Denver-Arapahoe Disposal Site landfill is designed with an estimated life-span of 40 to 50 years. Cumulative solid waste generation impacts created by implementing the Proposed Action at Buckley AFB in concert with planned City of Aurora expansion would be met by the existing life-span and capacity of the landfill and, therefore would not be considered significant.

4.7 SOCIOECONOMICS

This section analyzes the potential for impacts to socioeconomics from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on activities that may affect socioeconomic conditions.

4.7.1 Proposed Action

4.7.1.1 Family Service Demographics

Approximately 8,950 Military Active Duty reside in Arapahoe County where approximately 33 percent of family households in the County have children less than 18 years of age (USCB, 2003). Average family size ranges from 3.04 to 3.20 (USCB, 2003). Approximately 2,954 military families with children less than 18 years of age are currently living in Arapahoe County, which matches the county average of 33 percent for this demographic.

Youth Services

The youth services program currently addresses the needs of a range of off-base youth and their families including single officers, soldiers with children, and couples with families. The introduction of an on-base Youth Center would increase the number of programs and services for youth resulting in changes in the base service population. A diverse mix of youth services would result, with the addition of sport, before/after-school, summer camp, and teen programs.

The construction of an on-base Youth Center could result in temporary or permanent stresses to youth social activities and/or affiliations within the surrounding community. Personnel employed on-base for example, could find it more convenient to use the Youth Center for before/after-school and summer camp programs. Increased participation in on-base Youth Center programs makes it more difficult to maintain participation in off-base community youth clubs, organizations, and religious institutions. Various factors including the physical distance involved, substitute opportunities on-base or off-base, and personal choice would influence whether these community ties are stressed or severed.

The cost of military youth before/after-school programs varies, but must stay within the fee ranges set by the DOD, which are based on a sliding scale according to family income. Youth Center participation fees could change the demand for before/after-school, summer camps and other youth services offered within the adjacent community (Wellesley College 2003).

In areas where the cost of living is higher, social-oriented programs are usually correspondingly more expensive. The type of youth program chosen adds another variable. To keep youth programs affordable Federal funding of state and local before/after-school programs in the community has increased and more children and youth receiving subsidies are attending school funded programs (Wellesley College, 2003). In addition, fees for youth after-school center programs in urban areas like Adams and Arapahoe County have decreased. Median weekly fees have gone from $24.00 in 2001 to $16.70 per week in 2003 making such services more affordable to families in the community. Therefore, these effects would not have significant impacts when considered in the context of the youth population in the City of Aurora.

Recreation Vehicle Services

Over the next ten years the demand for on-base RV storage will rise (Affinity Group, 2005). Buckley AFB household RV ownership would grow as the Buckley AFBs Military Active Duty and retiree population changes. Expanding the RV lot would provide convenient access, security for personal property, and reduced storage costs.

There would be a minor beneficial increase in expendable income for military personnel. More on-base RV storage could change the demand for off-site RV storage at private storage lots within the adjacent community.

4.7.1.2 Employment and Income

Construction would result in generally short-term beneficial impacts to employment, wages and income. The Proposed Action is expected to generate about $7.6 million over a 7-month period (PKF Consulting, 2003). Labor costs typically comprise approximately one-half of construction contract values. This would therefore generate approximately $3.8 million in construction employment over the period of time that the Youth Center and RV lot expansion projects are constructed.

Direct project construction employment could indirectly increase the number of construction-related jobs in the surrounding area. It is not expected that service jobs (such as materials, manufacturing or delivery) would be created in order to support this construction. However, businesses selling construction materials would benefit through increased revenues from increased demand for goods and materials (MDEDC 2004).

The construction activities could result in beneficial impacts, as construction contractors and their workers may spend money both on and off-base while working at the base, for items such as meals (breakfasts and lunches) and fuel (diesel and gasoline). These impacts would be temporary.

New and expanded on-base youth service facilities would result in the creation of jobs to support the additional services. As a result of these projects, military dependents could also enjoy increased employment opportunities on Buckley AFB. The number of new jobs could increase as youth programs are developed in response to the increase in residential population.

It is anticipated that the average on-base annual discretionary income could increase as a result of the shift from off-base to on-base youth services. Increased discretionary income levels and increased spending could result in a positive impact on local area

business revenues. These factors may contribute to a more economically diverse youth population and increased on-base spending for goods and services, as well as within the adjacent local community.

4.7.2 Alternative Action 1

Family service demographics under Alternative 1 would be similar to the family service effects described for the Proposed Action.

Construction is expected to generate about $7.2 million over a 7-month period and corresponding labor costs would be about $3.6 million under the Alternative Action 1. This is about 4 percent less than the $3.8 million per year of construction activity generated under the Proposed Action.

4.7.3 Alternative Action 2

Family service demographics under Alternative 2 would be similar to the family service effects described for the Proposed Action.

Similar to the Proposed Action, construction is expected to generate about $7.6 million over a 7-month period and corresponding labor costs would be about $3.8 million under the Alternative Action 2. Alternative 2 would generate no measurable difference in the labor costs from construction activity as compared to that generated under the Proposed Action.

4.7.4 No Action Alternative

Under the No Action Alternative, there would be no change in socioeconomic conditions as described in Section 3.

4.7.5 Cumulative Impacts

The geographic area evaluated for socioeconomic impacts includes the City of Aurora and Arapahoe County. The Military Active Duty population of Buckley AFB would increase from between 450 and 640 personnel by 2010 (not including Buckley Annex

personnel). The total Wing and tenant installation population would increase from 8,950 to an approximate maximum of 9,590.

The introduction of on-base family housing units would increase the number of families and children resulting in changes in the base resident population and demographics. A diverse mix of housing types would also result, with some single-family units, single-story units, and multi-family housing units. The post-development residential mix is intended to address the needs of a range of household types including single officers and soldiers, couples without children, and those with families.

Construction would result in generally short-term beneficial impacts to employment, wages and income. Construction is estimated to generate about $175 million, or approximately $35 million per year over a five-year period (from 2003-2009) (Buckley AFB, 2002a). Labor costs typically comprise approximately one-half of construction contract values. This would therefore generate approximately $87.5 million, or approximately $17.5 million per year over a five-year period (from 2003-2009) in construction employment over the period five-year construction period.

The CDLE projects a 31.2 percent expected job growth from 2000-2010 in Colorado. This is a 9.5 percent decrease compared to the job growth from 1990–2000 (CDLE, 2004). Of the nearly 726,600 new jobs projected for this period, 42 percent are anticipated in the Services sector growing at an average annual growth rate of 4.7 percent with an overall total employment share of 38 percent by 2010.

With the Fitzsimons Redevelopment Area, the majority of new jobs in the local community would be in the education and health, and professional business services. In accordance with the projected capital investments within the City of Aurora, nearly half of the total construction-related economic growth would occur in the vicinity of I-225/University Campus Area by the end of 2010. This potential increase in business development and in employment could create a decrease in unemployment within the immediate area. Many military personnel moving on-base are already employed, and

would not add additional demand for employment among residents in the surrounding areas.

4.8 UTILITIES

This section analyzes the potential for impacts to utilities from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on the quantity and/or generation activities that may affect water supply, natural gas, electricity, and wastewater resources.

4.8.1 Proposed Action

4.8.1.1 Water Supply

The proposed projects would require water for construction of buildings and other facilities. Water would also be used for Youth Center landscaping irrigation. The RV Parking lot would not require a water supply.

The increase in water use during construction activities for dust suppression would vary depending on the frequency, volume and duration of land disturbance and climatic conditions.

Details of methods and techniques that can be employed to reduce the creation and migration of dust during the ground disturbance phase of construction activities were previously presented in Section 3. Estimates of increased water use were made assuming that water suppression is the only technique practiced at the construction project sites. To make estimates the following assumptions were made:

- Water would be sprayed on exposed earth surfaces via water spray truck or through hoses with atomizing nozzles, and

- Water is applied to exposed areas of disturbance at a rate of 500 gallons/acre/day. This value includes water applied to stockpiles and natural precipitation is not considered in the calculations.

The estimated increase in water use from the Proposed Action if water suppression is the only technique practiced at construction sites is shown on an annual and total basis on Table 4.11.

Table 4.11: Average Annual Construction Water Suppression Consumption

Year	Water Required For Construction Projects (Gallons)
2002-2005(1)	7,075,140
Proposed Action	925,931
Alternative 1	366,110
Alternative 2	823,617
2006-2009(1)	883,265

(1) Cumulative value represents average annual water consumption.

The Youth Center would require permanent and continuous availability of water, while the RV parking lot would not require water. In most cases, underground water supply lines would need to be run from existing laterals and mains and be connected to new structures. Because construction of the Youth Center would include installation of bathrooms and kitchen facilities, operational water use would occur once the structure is completed and occupied. Water may be used for dust suppression at the construction sites. The distance water supply lines would need to be run would depend on the location of the proposed facility and the location of the nearest feasible tie-in to an existing water supply line.

Table 4.12 shows the average water use on an annual and cumulative basis and compares it with that would be generated by implementation of the Proposed Action. Operational water use increases resulting from occupation of completed buildings used to calculate values on Table 4.12 were estimated by assessing the increase in the number of individuals that would be present at the Youth Center on a daily basis. Table 4.12 assumes that the day-time use would average 125 individuals per day, that the individuals would be onsite 365 days per year, and would consume 100 gallons per day per person.

Table 4.12: Average Annual Finished Building Operational Water Consumption		
Year	**Water Required For Human Consumption (Million Gallons) Per Year**	
	Annual	Cumulative
2002-2005[1]	4.19	10.25
Youth Center - All Actions[2]	4.56	33.93
RV Lot - All Actions[2]	0.00	0.00
2006-2009[1]	1.07	19.12

(1) Cumulative value represents average annual water consumption.
(2) Cumulative value represents average annual water consumption for each alternative added to the 2002-2005 and 2006-2009 cumulative.

Permanent water use increases would also result from landscaping irrigation and irrigation and maintenance around the Youth Center and parking lots (no landscaping is scheduled to be installed at the expanded RV lot). To make water use increase estimates for irrigation the following assumptions were made:

- Landscaped and irrigated areas associated with buildings are 10 percent of the building size (square footage)
- Irrigation would occur from April 1 through September 30 annually, for a total of 183 days
- Irrigation rates are 41,000 gallons/acre/week
- Irrigation rates for turf and landscaped areas are identical.

Using these assumptions annual and cumulative water use increases at Buckley AFB for irrigation purposes would be as provided below on Table 4.13.

Table 4.13 Average Annual Irrigation Water Consumption

Year	Acreage Requiring Irrigation	Annual Water Required for Irrigation (Million Gallons)	Cumulative Required for Irrigation (Million Gallons)
2002-2005(1)	63.08	67.61	83.30
Youth Center – All Actions(2)	0.07	0.08	362.94
RV Lot – All Actions(2)	0.00	0.00	0.00
2006-2009(1)	4.51	4.83	279.55

(1) Cumulative value represents average annual water consumption.
(2) Cumulative value represents average annual water consumption for each alternative added to the 2002-2005 and 2006-2009 cumulative.

As a result of implementing the Proposed Action, water use at Buckley AFB would increase in the short-term, due to construction. However, occupation and operation of the Youth Center would create a long-term increase in average annual water usage of 4.56 mgy. The RV Parking lot would not require and/or use water for operations or for irrigation of landscaping.

The City of Aurora distributed a total of 13,399 mgy in 2004, a portion of which was distributed to Buckley AFB. After full implementation of the Proposed Action and using the 2004 City of Aurora distribution value (e.g. approximately 116 million gallons), Buckley AFB water consumption would increase less than 1 percent of the average annual total water supplied by the City of Aurora in 2004. The anticipated increase in water use resulting from implementing the Proposed Action would be considered a direct effect, and would create a negligible impact on water supply.

4.8.1.2 Wastewater Treatment

The Youth Center project involves construction of bathrooms and a kitchen. These facilities would be provided with continuous water supply and would also require sanitary sewer disposal connections. As with water supply connections, underground sewer lines would need to be run from new structures and be connected to existing laterals and mains. The distance sewer lines would need to be run would depend on the

location of the proposed facility and the location of the nearest feasible tie-in to an existing sewer line. The RV Parking lot would not generate wastewater.

The construction of the Youth Center and expansion of the RV lot is not expected to generate significant quantities of wastewater though construction of buildings and other facilities. Contractors are typically required to supply self-contained portable sanitary facilities for on-site workers and have the wastes generated pumped out and treated off-site.

As with water use, operational wastewater generation resulting from occupation of the bathroom and kitchen facilities can be estimated by assessing the increase in the number of individuals that would be present on the base as a result of implementing the Proposed Action. The estimated day-time use from the Youth Center would increase by a total maximum of 125 individuals.

It is assumed that 100 percent of the water consumed at the Youth Center would be discharged as wastewater, and that no wastewater would be generated from the expansion of the RV lot. Under these assumptions, wastewater generation and discharges would increase by 4.56 mgy (or 0.012 mgd). Occupation of the Youth Center would create a long-term increase in annual wastewater generation. This would increase the wastewater discharge from Buckley AFB from 511 to 515.56 mgy (or less than 1 mgd), a 0.89 percent increase. After full implementation of the Proposed Action Buckley AFB wastewater discharges would increase from 0.756 to 0.763 percent of the total Metro Wastewater Reclamation District treatment plant capacity. In addition, since the Metro Wastewater Reclamation District treatment plant was designed to meet population estimates through 2010, the anticipated increase in wastewater generation and discharge resulting from implementing the Proposed Action would be considered a direct effect, but would create only a negligible impact on wastewater treatment.

Buckley AFB's Wastewater Contribution Permit requires notification to the Metro Wastewater Reclamation District of the introduction of any new wastewater constituents or any substantial changes in operations or the volume or character of the wastewater

constituents being discharged. The Metro Wastewater Reclamation District may require that the permit be modified to address new and/or changing discharges associated with the Proposed Action.

4.8.1.3 Electricity

The Youth Center and RV lot expansion would require permanent and continuous availability of electricity. Overhead or underground electrical supply lines would need to be run from existing distribution lines and be connected to the new Youth Center and expanded RV lot. The distance electrical lines would need to be run would depend on the location of the Youth Center and expanded RV lot and the location of the nearest feasible tie-in to existing supplies. In order to minimize potential environmental impacts (area of ground disturbance, fugitive dust and combustion emissions, etc.) from trenching activities, efforts to run multiple utilities needed for the Youth Center and expanded RV lot in common trenches should be made.

Some electricity use increases would be expected from construction actions related to the Proposed Action. However, since most contractor equipment would be operated on gasoline and diesel powered engines, including small generators used to generate electricity on job sites, increases in electrical consumption would be negligible.

Upon completion, operation of the Youth Center and expansion of the RV lot would cause increases in electric use. Increased electrical demands expected from operation of the Youth Center would include operation of HVAC equipment, communication equipment, computers, security systems, appliances, and general building, facility, and security lighting. The increase in electrical use for the Youth Center can be estimated on the basis of new building area. Currently, Buckley AFB installation facilities consist of approximately 2.6 million gross ft^2 (Buckley AFB 2002a). The Proposed Action would add approximately 32,291 ft^2 of new building area. Assuming a direct ratio of building areas to electrical use, the Youth Center Proposed Action would result in an increase in electrical use of approximately 1,361,384 kWh per year. It is assumed that illumination requirements for the RV lot would be approximately 210,000 kWH per year (MACTEC,

2005b). Therefore the annual increase in electrical consumption for the Proposed Action would be 1,571,384 kWH per year, or an increase of approximately 1.4 percent over current electrical use. The increase in electrical use from construction and operation of completed Youth Center and expanded RV lot associated with the Proposed Action would be considered a direct effect, would be considered negligible, and would create a negligible impact on the electricity provider.

4.8.1.4 Natural Gas

The Youth Center project involves the construction of a kitchen that will require a natural gas supply, requiring permanent and continuous availability of natural gas. Underground natural gas supply lines would need to be run from existing lateral and main tie-ins and be connected to new facilities. The distance natural gas lines would need to be run would depend on the location of the proposed facility and the location of the nearest feasible tie-in to an existing natural gas supply.

Minor increases in natural gas consumption would be expected from construction and operation of the Youth Center. Primarily, increased natural gas use would result from operation of new HVAC equipment and hot water heaters. Using the building area values and assumptions employed for estimating increased electrical use, the Proposed Action would increase natural gas use by approximately 2 $mmft^3$ per year, or an increase of approximately 1 percent. The increase in natural gas use from operation of the Youth Center would be considered a direct effect, would be considered negligible, and would create a negligible impact on the natural gas provider.

4.8.2 Alternative Action 1

If Alternative 1 were followed the increases in quantity of water, electricity, and natural gas used; and wastewater generated would be similar to that of the Proposed Action. A minor short-term decrease in use and generation could occur and would vary in relation to the extent that one or both of the projects would be time-delayed, downsized or not constructed. However, impacts would remain insignificant under Alternative Action 1.

4.8.3 Alternative Action 2

If Alternative 2 were followed the increase in quantity of water, electricity, and natural gas used; and wastewater generated would be similar to that of the Proposed Action. A minor decrease in use and wastewater generation could occur and would vary in relation to the extent that one or both of the projects would be time-delayed, downsized or not constructed. However impacts would remain insignificant under Alternative Action 2.

4.8.4 No Action Alternative

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

4.8.5 Cumulative Impacts

The geographic area evaluated for cumulative impacts on utilities includes Buckley AFB and the City of Aurora. Cumulative impacts on utilities (water supply; wastewater treatment; and electricity and gas consumption) would be created by the Proposed Action in combination with the increased utilities consumption and discharges resulting from other development in the vicinity of Buckley AFB. The City of Aurora anticipates development of residential areas at approximately 1,800 new residential units per year (Buckley AFB, 2002a). Assuming the new residential units average 2,000 ft^2 per unit, the growth rate would equal approximately 3.6 million ft^2 of building space per year. Office and industrial development is also projected to grow at a rate of 210 acres (9,147,600 ft^2) annually (Buckley AFB, 2002a). Retail and commercial development would comprise approximately 20 acres per year (871,200 ft^2) (Buckley AFB, 2002a).

4.8.5.1 Water Supply

Water consumed by operation of new business, office, industrial, retail, and commercial buildings would depend on their size, number of employees, nature of operations, products produced, etc.

Table 4.14 shows the cumulative water consumption increases.

Table 4.14 Average Annual Cumulative Water Consumption

Year	Buckley AFB Cumulative Water Increase (Million Gallons) (1)	City of Aurora Cumulative Water Increase (Million Gallons) (2)	Total Cumulative Water Increase (Million Gallons)
2002-2005(3)	28.2	2,171	2,199
Youth Center Proposed Action(4)	5.6	7,841	7,847
Youth Center Alternative 1(4)	5.0	7,841	7,846
Youth Center Alternative 2(4)	5.5	7,841	7,846
RV Lot – All Actions	0.0	0.0	0.0
2006-2009(3)	3.2	5,664	5,668

(1) Buckley AFB water consumption values include water required for Proposed Action construction activities; building and residential unit operations; and landscaping and lawn irrigation.
(2) Assumptions related to City of Aurora development and increased water consumption are as follows:
- City of Aurora Residential Growth Rate = 1,800 units per year
- Average Residential Size = 2,000 ft^2 per unit
- Number of Inhabitants per Residential Unit = 3 persons per unit
- City of Aurora Business Office and Industrial Growth Rate = 9,147,600 ft^2 per year
- Occupancy of Business Office and Industrial Development = 1,000 ft^2 per individual
- City of Aurora Retail and Commercial Growth Rate = 871,200 ft^2 per year
- Occupancy of Retail and Commercial Development = 481 ft^2 per individual.

(3) Cumulative value represents average annual water consumption.
(4) Cumulative value represents average annual water consumption for each alternative added to the 2002-2005 and 2006-2009 cumulative.

Cumulative impacts of increased water use would reach a maximum in 2006, under the Proposed Action, requiring an average annual 7,847 mgy. Following the completion of construction and demolition projects, the cumulative annual water use would decrease marginally since no water would be used for dust suppression related to these activities. The cumulative water use increases would require the City of Aurora to increase water treatment and distribution capacity by approximately 59 percent (from current output of 13,399 mgy in 2004 to an average annual 21,246 mgy).

The City of Aurora CIP projected water demand increases up to 82,457 acre-feet in 2010 (City of Aurora, 1998). This value equals 26,870 mgy. The City of Aurora has budgeted to expand existing and construct new water infrastructure facilities (including reservoirs, treatment plants and distribution networks) to meet the anticipated demand

increases. Cumulative impacts on water supply created by implementing the Proposed Action at Buckley AFB in concert with planned City of Aurora expansion would be met by expanding existing and constructing new water infrastructure facilities, and would therefore not be considered significant.

4.8.5.2 Wastewater Treatment

Cumulative wastewater generation increases would be proportionate with water use increases. The Metro Wastewater Reclamation District provides wholesale wastewater transmission and treatment service to 58 local governments in the Denver metropolitan area, including the City of Aurora, and is currently treating approximately 160 mgd. If all cumulative increases in water use, with the exception of irrigation water, are assumed to be discharged and require treatment as a result of implementing the Youth Center Proposed Action at Buckley AFB in combination with planned City of Aurora expansion, wastewater discharged to the Metro Wastewater Reclamation District would increase by approximately 7,847 mgy or 21.5 mgd. Since the Metro Wastewater Reclamation District treatment plant is designed to meet population growth estimates through 2010, with a hydraulic capacity of 185 mgd, and the cumulative impacts would increase wastewater treatment demands only to 181.5 mgd, the wastewater treatment impacts would not be considered significant.

4.8.5.3 Electricity

The increase in electricity demand resulting from implementation of the Proposed Action would be 1,571,384 kWh per year (the Youth Center Proposed Action would result in an increase in electrical use of approximately 1,361,384 kWh per year, while it is assumed that illumination requirements for the RV lot would be approximately 210,000 kWH), for a total annual consumption rate of 113,080,504 kWh. Predicting increases in electricity demands from anticipated City of Aurora development is challenging because it is difficult to predict the use and functions that would take place in these facilities. For example, a warehouse of a certain size would require a relatively minimal amount of electricity when compared to an equal sized manufacturing facility, with high-energy

demand equipment and machinery operating. For the purposes of this EA increases in electricity demands from anticipated City of Aurora development will be estimated using 45 kWh per ft^2 new construction per year, respectively for all building types. Using these assumptions annual cumulative increases in electricity are shown below on Table 4.15.

Table 4.15 Average Annual Cumulative Electrical Demand Increases

Year	Buckley AFB Cumulative Electrical Demand Increase (kWh)	City of Aurora Cumulative Electrical Demand Increase (kWh) (1)	Total Cumulative Electrical Demand Increase (kWh)
2002-2005(2)	14,134,392	1,808,406,000	1,822,540,392
Youth Center – All Actions(3)	1,361,384	6,591,440,384	6,592,801,768
RV Lot – All Actions(3)	210,000	6,590,289,000	6,590,499,000
Totals – All Actions(3)	1,571,384	6,591,650,384	6,593,221,768
2006-2009(2)	3,611,430	4,781,673,000	4,785,284,430

(1) Assumptions related to City of Aurora development and increased electrical demand are as follows:
- City of Aurora Residential Growth Rate = 1,800 units per year
- Average Residential Size = 2,000 ft^2 per unit
- City of Aurora Business Office and Industrial Growth Rate = 9,147,600 ft^2 per year
- City of Aurora Retail and Commercial Growth Rate = 871,200 ft^2 per year.

(2) Cumulative value represents average annual electrical demand.
(3) Cumulative value represents average annual electrical demand for each alternative added to the 2002-2005 and 2006-2009 cumulative.

Cumulative impacts of increased electricity demands would reach a maximum in 2006, under the Proposed Action, increasing demand for electricity by an average of 6,593,221,768 kWh per year.

Electricity is provided by non-governmental, independent industries. These industries forecast and increase supplies in direct response to consumer demand. The suppliers of electricity would increase production and supply of those resources as the cumulative consumer demand increases. Cumulative electricity demand impacts created by implementing the Proposed Action at Buckley AFB in concert with planned City of Aurora expansion would be met by the suppliers increasing supplies, and therefore, would not be considered significant.

4.8.5.4 Natural Gas

Full implementation of the Youth Center Proposed Action would create an increase in natural gas demand of 2 $mmft^3$ per year, for a total annual consumption rate of 154 $mmft^3$. The RV parking lot would not require the use of natural gas. For the purposes of this EA increases in natural gas demands from anticipated City of Aurora development will be estimated using 50 ft^3 per ft^2 new construction per year, respectively for all building types. Using these assumptions annual cumulative increases in natural gas are shown below on Table 4.16.

Table 4.16 Average Annual Cumulative Natural Gas Demand Increases

Year	Buckley AFB Cumulative Natural Gas Demand Increase (million cubic feet [$mmft^3$])	City of Aurora Cumulative Natural Gas Demand Increase (mmft)(1)	Total Cumulative Natural Gas Demand Increase (mmft)
2002-2005(2)	20	2,009	2,030
Youth Center – All Actions(3)	2	7,329	7,331
RV Lot – All Actions(3)	0	Not Applicable	Not Applicable
2006-2009(2)	7	5,318	5,325

(1) Assumptions related to City of Aurora development and increased natural gas consumption are as follows:
- City of Aurora Residential Growth Rate = 1,800 units per year
- Average Residential Size = 2,000 ft^2 per unit
- City of Aurora Business Office and Industrial Growth Rate = 9,147,600 ft^2 per year
- City of Aurora Retail and Commercial Growth Rate = 871,200 ft^2 per year.

(2) Cumulative value represents average annual natural gas demand.
(3) Cumulative value represents average annual natural gas demand for each alternative added to the 2002-2005 and 2006-2009 cumulative.

Cumulative impacts of increased natural gas demands would reach a maximum in 2006, under the Proposed Action, increasing demands by an average of 7,331 $mmft^3$ per year for electricity and natural gas, respectively.

Natural gas is provided by non-governmental, independent industries. These industries forecast and increase supplies in direct response to consumer demand. The suppliers of natural gas would increase production and supply of those resources as the

cumulative consumer demand increases. Cumulative natural gas demand impacts created by implementing the Proposed Action and CIP projects at Buckley AFB in concert with planned City of Aurora expansion would be met by the suppliers increasing supplies, and therefore, would not be considered significant.

Water supply and wastewater treatment are services provided by government-owned utilities. Solid waste management is conducted by Waste Management, who operates the Denver-Arapahoe Disposal Site under a long-term contract arranged with the City and County of Denver. Cumulative demand impacts created by implementing the Proposed Action at Buckley AFB in concert with planned City of Aurora expansion would be met by the suppliers increasing supplies, and therefore, would not be considered significant.

4.9 BIOLOGICAL RESOURCES

This section analyzes the potential for impacts to biological resources from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on ground-disturbing activities that may affect biological resources.

4.9.1 Proposed Action

4.9.1.1 Plant Communities

Construction of the Youth Center and RV lot expansion would result in loss of habitat and a direct reduction in plant biomass due to clearing and grading the construction sites. The Proposed Action would result in the short-term disturbance of approximately 19.3 acres associated with construction, and long-term loss of approximately 8.2 acres of land at Buckley AFB. This acreage consists of mixed grass prairie, crested wheatgrass prairie, and weedy forbs. Residual, but temporarily disturbed acreage that is not landscaped would be reseeded to restore the existing site-specific community, thus minimizing the loss of existing vegetation. The total disturbance is less than 1 percent of the total installation, and would result in a negligible long-term impact from loss of native vegetation.

4.9.1.2 Noxious Weeds

Stands of noxious weeds can result from aggressive, non-native plants that invade disturbed ground. The Proposed Action construction projects would result in a total ground disturbance of approximately 19.3 acres over approximately a 7-month period which could be invaded by invasive, noxious, and other weed species if efforts to re-vegetate disturbed areas with desired plant species do not closely follow construction. Primary BMPs that can be taken to thwart establishment of invasive and noxious weeds at project construction sites are described in Section 4.9.5. Implementation of BMPs would reduce the impacts from noxious weeds to short-term and minor.

4.9.1.3 Wildlife

The Proposed Action would result in minor short-term animal displacements from site construction. There is potential for a small number of small mammal mortalities to occur during excavation activities. Likewise a small number of ground-nesting birds, as well as reptiles would be displaced during construction activities. Depending on the season, construction could displace breeding pairs during ground clearing activities. Displacement of wildlife could increase competition for food, cover, and nesting sites in adjacent habitats. Impacts to the black-tailed prairie dog community and burrowing owls are discussed in the Section below (Threatened/Endangered Species and Species of Special Concern). Fumigating black-tailed prairie dogs for removal from the project area, if necessary, could also result in mortality to the other animals potentially inhabiting prairie dog burrows.

Net habitat loss of approximately 8.2 acres would result in a long-term negligible adverse impact. The loss of small mammal habitat could result in a negligible adverse impact on several small animal populations as well as on vertebrate predators (small/medium mammal predators, raptors and raptorial passerines such as the loggerhead shrike).

Excess noise from construction equipment, and movement and close proximity of humans and moving equipment would result in short-term indirect adverse impacts to

wildlife. This activity would startle and alarm wildlife and result in other changes in behavior such as escape movements, extra time spent in nesting and a loss of foraging time.

4.9.1.4 Threatened/Endangered Species and Species of Special Concern

Six rare species and two rare plant communities are known to inhabit, potentially exist, or to temporarily utilize habitat on Buckley AFB (see Section 3.8.6). No critical habitat is present on Buckley AFB. Two of these species, the black-tailed prairie dog, a state Species of Special Concern, and the burrowing owl, a state Threatened species occur at the Youth Center and the RV lot project sites. Neither of the rare plant communities is likely to occur in the mixed grass prairie vegetation at any of the proposed project sites.

A portion of the Buckley AFB black-tailed prairie dog colony would be relocated or removed as a result of the Proposed Action. Removal of the colony could result in a moderate adverse impact to the black-tailed prairie dog/burrowing owl resource at Buckley AFB. It should be noted that a variety of other species including the desert cottontail, horned lark, prairie rattlesnake, several species of mice, raptors and carnivores (including the red - tailed hawk, Swainson ’s hawk, bald eagle, great horned owl, coyote, red fox, and long-tailed weasel) could also be affected by loss of black-tailed prairie dog habitat at Buckley AFB due to loss of prey base or potential burrowing habitat.

Where black-tailed prairie dogs and burrowing owls occur they would typically be managed in accordance with the Supplement to the Environmental Assessment of Proposed Prairie Dog Management Practices at Buckley AFB. The EA is based on the prairie dog listing as a candidate species. Because current state and Federal wildlife and endangered species laws do not include the black-tailed prairie dog under protected species status, prairie dog management will be looked at on a case-by-case basis using the NEPA process to determine the best method of control.

Methods may include live trapping, repellents, barriers, and as a last resort, lethal control. Lethal methods typically require the use of toxic fumigants which kill prairie

dogs in their burrows. Fumigants are not absorbed or toxic to plants, and have no residual presence within a rodent colony. Non-hazardous residues include aluminum hydroxide from aluminum phosphide rodenticides and soot and ash residue from gas cartridges. Fumagants are highly effective rodenticides but are not species specific and can kill other species inhabiting burrows (e.g. burrowing owls).

To avoid potential adverse impacts to ground-nesting birds and to comply with the MBTA, all vegetation should be cleared prior to March 1 or after October 31. To deter burrowing owls from nesting in or near a construction site, prairie dogs should be removed and burrows destroyed prior to March 1. However, if this is not possible, a survey for burrowing owls would be performed prior to any black-tailed prairie dog control action or the start of ground disturbance if site clearing is to occur during the owls' summer residence at the installation (March – October) (Jones, 1998). If nesting burrowing owls are present, a 150-foot buffer would be established around active nest sites during the breeding season to protect owls from disturbances associated with construction, especially increased noise. Site clearing activities from November through mid-March can occur without burrowing owl surveys because the species is not resident during the winter months and would not reestablish residence at former next sties that have been removed or disturbed.

Excess noise from construction equipment, and movement and close proximity of humans and moving equipment would result in short-term indirect adverse impacts to black-tailed prairie dogs and other wildlife. This activity would startle and alarm wildlife and result in other changes in behavior such as escape movements, extra time spent in burrows and a loss of foraging time. In addition, the presence of humans and construction activities would reduce predator attempts on nearby black-tailed prairie dogs.

4.9.2 Alternative Action 1

4.9.2.1 Plant Communities

Alternative Action 1 would result in the short-term disturbance of approximately 9.7 acres associated with construction, and long-term loss of approximately 3.74 acres of land at Buckley AFB. This acreage consists of mixed grass prairie and some crested wheatgrass prairie. Residual, but disturbed acreage that is not landscaped would be reseeded to restore the existing site-specific community, thus minimizing the loss of existing vegetation. The total disturbance would create a negligible, long-term impact on the vegetation.

4.9.2.2 Noxious Weeds

Ground disturbance of 9.7 acres over no more than a 7-month period could be invaded by noxious and other weed species if steps to re-vegetate these areas with desired plant species do not closely follow construction. BMPs that would be employed to thwart establishment of noxious weeds at project construction sites are described in Section 4.9.5.

4.9.2.3 Wildlife

Alternative Action 1 would result in short-term animal displacements. The short-term and long-term impacts on wildlife for Alternative Action 1 would affect approximately 50 percent less area than the Proposed Action.

4.9.2.4 Threatened/Endangered Species and Species of Special Concern

The short-term and long-term impacts on threatened/endangered species and species of special concern for Alternative Action 1 would be similar to that under the Proposed Action, however the impacts would occur on an area half the size of the Proposed Action.

4.9.3 Alternative Action 2

4.9.3.1 Plant Communities

Alternative Action 2 would result in the short-term disturbance of approximately 18.0 acres associated with construction, and long-term loss of approximately 7.93 acres of land at Buckley AFB. Similar to the Proposed Action, this acreage consists of mixed grass prairie and some crested wheatgrass prairie. Residual, but disturbed acreage that is not landscaped would be reseeded to restore the existing site-specific community, thus minimizing the loss of existing vegetation. The total disturbance would create a negligible, long-term impact on the vegetation.

4.9.3.2 Noxious Weeds

Similar to the Proposed Action, ground disturbance of 18.0 acres over a 7-month period could be affected by noxious weed species. BMPs that would be employed to thwart establishment of noxious weeds at project construction sites are described in Section 4.9.5.

4.9.3.3 Wildlife

Alternative Action 2 would result in short-term animal displacements. The short-term and long-term impacts on wildlife for Alternative Action 2 would be similar as those under the Proposed Action, however over a slightly larger area.

4.9.3.4 Threatened/Endangered Species and Species of Special Concern

The short-term and long-term impacts on threatened/endangered species and species of special concern for Alternative Action 2 would be similar to that under the Proposed Action, however over a slightly larger area.

4.9.4 No Action Alternative

Under the No Action Alternative, there would be no construction of the Youth Center or expansion of the RV lot, therefore no impacts related to biological resources are expected to occur.

4.9.5 Best Management Practices

Primary actions that can be taken to thwart establishment of invasive and noxious weeds and minimize impacts to wildlife habitat at project construction sites include the following BMPs:

- Application of a broad-leaf herbicide immediately following construction.
- Timely reseeding of construction sites with sterile oats or winter wheat.
- Follow herbicide treatment with planting of rapid growing sterile annual grass, such as sterile oats or winter wheat, to establish root mass and compete with weeds.
- Follow sterile oats or winter wheat with mixed grass prairie seeding.
- Augment native grass in following growing season as needed.
- Minimize impacts to wildlife habitat by following protective measures established in the Supplement to the Environmental Assessment of Proposed Prairie Dog Management Practices at Buckley AFB.

4.9.6 Cumulative Impact

4.9.6.1 Plant Communities

The cumulative impact of the Proposed Action on plant communities on and surrounding Buckley AFB was determined by comparing the distribution of existing and recent past open space, as well as agricultural and range acreages with projected land use changes in western Arapahoe and Adams counties. The ROI for this resource is western Adams County from Barr Lake State Park south to the Arapahoe/Douglas county line, and bounded by DIA on the east and the Stapleton airport development area on the west.

During the second half of the 20th century this area consisted of a mosaic of rural, suburban and urban acreages. However, the relative percentage and rate of change from natural and low intensity agricultural land uses to high-intensity and urbanizing land uses

has accelerated over the past 50 years. Tables 4.17 and 4.18 demonstrate that in 1960, 94.8 and 91.12 percent of the developable (inhabitable) acres in Adams and Arapahoe counties, respectively, was rural. At that time 1.69 and 2.19 percent of developable land was urban and 3.5 and 6.69 percent was suburban (Ex-urban). By 2000 the percentage of rural land had declined to 89.8 and 84.4 percent, respectively, an average reduction of 5.86 percent. During the same period, urban land in Arapahoe County increased from 2.19 to 11.02 percent of developable land, an increase of 500 percent (Natural Diversity Information Source [NDIS], 2004). Similarly, urban acreage in Adams County has increased 280 percent from 1960 to 2000. A large proportion of this land use change occurred within and near the ROI.

Table 4.17: Adams County Land Type Makeup*

Year	Land Type		
	Rural	Ex-urban	Urban
	Percent of Developable Land	Percent of Developable Land	Percent of Developable Land
1960	94.80%	3.50%	1.69%
1970	93.89%	3.73%	2.38%
1980	91.48%	4.94%	3.59%
1990	90.89%	4.96%	4.15%
2000	89.80%	5.45%	4.75%

* Source: Colorado Natural Diversity Information Source, 2004.

Table 4.18: Arapahoe County Land Type Makeup*

Year	Land Type		
	Rural	Ex-urban	Urban
	Percent of Developable Land	Percent of Developable Land	Percent of Developable Land
1960	91.12%	6.69%	2.19%
1970	89.61%	6.58%	3.81%
1980	86.08%	5.75%	8.17%
1990	85.43%	4.59%	9.98%
2000	84.40%	4.58%	11.02%

* Source: Colorado Natural Diversity Information Source, 2004.

The current distribution of land use and plant communities in the ROI is shown in Table 4.19. Table 4.19 indicates that of the 41,659 acres in the ROI, 42.68 percent are in dry land crops such as grains, grassland range and pastures; urban and mixed-grass prairie represent 18 percent each. In general terms one-fifth of the ROI exists as urban landscape and four-fifths is a mosaic of rangeland, short-grass and mixed-grass prairie, and dry land grain farming (NDIS, 2004).

Table 4.19: Existing Land Use and Plant Communities, Cumulative Impact ROI*

Primary Plant Community	Acres	Percent of ROI
Urban	7,763	18.63
Dry Land Crops	17,782	42.68
Irrigated Crops	3,830	9.20
Tallgrass Prairie	2,396	5.75
Mixed-grass Prairie	7,626	18.30
Short-grass Prairie	1,006	2.41
Foothill and Mountain Grasslands	221	0.53
Deciduous Oak Shrubland	289	0.69
Open Water	300	0.72
Forested Wetland/Riparian Zones	252	0.60
Barren Land	192	0.46
Total	41,659	100

* Source: CDOW, no date.

The cumulative impact to the distribution of urban, agricultural, and natural plant communities (habitats) is the sum of land use changes at Buckley AFB in addition to all other projected increases in urban acreage in the ROI. Planned urban growth in western Adams and Arapahoe counties through 2009 was extrapolated from recent city and county zoning plans in the ROI, particularly the E-470 corridor and the Northeast Plains area located east and northeast of Buckley AFB. This trend analysis indicates a decrease in acreage of all prairie plant communities and agricultural plant communities, and a corresponding increase in urban acreage (NDIS, 2004). This change constitutes a minor adverse impact to the existing prairie and dryland crop plant communities of western Adams and Arapahoe counties.

4.9.6.2 Noxious Weeds

The urbanizing Front Range and the I-25 and I-70 corridors are sources of invasive and noxious weed intrusions into the prairie grasslands of eastern Colorado. The continued growth of Denver into the ROI would create opportunities for noxious weeds to colonize disturbed ground. Compliance with state and county weed laws would limit increases in noxious weed acreages resulting from land clearing and crop growing. New and ongoing construction activities in the region, including the Proposed Action, would cause a moderate adverse impact to existing plant communities due to increased potential for encroachment of invasive and noxious weeds. Impacts at Buckley AFB would be relatively small due to proactive noxious weed avoidance and remediation plans and would not contribute toward adverse cumulative impacts within the ROI.

4.9.6.3 Wildlife

Wildlife populations and diversity in the cumulative impact ROI mirror the diversity and abundance of native plant communities. Tables 4.17 and 4.18 show undeveloped habitats in the ROI, particularly mixed grass prairie, while relatively abundant, are declining as a result of urban growth. The cumulative impact of the Proposed Action would be a minor adverse impact on native vertebrate and invertebrate animal populations. Species specifically associated with black-tailed prairie dog colonies, such as the burrowing owl, ferruginous hawk and mammalian predators such as the badger within the ROI would be negatively impacted due to additional loss of food and habitat. Other grassland species which are not primarily associated with burrowing colonies would also likely sustain a long-term loss of habitat, however, this would not be considered significant given the extent of grassland communities in Arapahoe and Adams Counties.

4.9.6.4 Threatened/Endangered Species and Species of Special Concern

As a result of general grassland habitat loss in the ROI due to the build-out of undeveloped land for commercial and residential use, several rare raptors including wintering bald eagles and ferruginous hawks; and other grassland species such as the

black-tailed prairie dog and the burrowing owl; the loggerhead shrike; Northern leopard frog; olive-backed pocket mouse; and the swift fox could be adversely effected.

One nesting pair of bald eagles is known to exist within the ROI and a number of other individual eagles winter at the Rocky Mountain Arsenal (RMA) and surrounding landscape including Buckley AFB (Kingery, 1998). A minor cumulative impact on this species would result from changes in the distribution of black-tailed prairie dog colonies within the ROI, as well as a decrease in black-tailed prairie dog acreage at Buckley AFB and along the E-470 corridor where development is projected to occur.

Cumulative impact on the ferruginous hawk is similar to the bald eagle. The Preble's meadow jumping mouse is not known to inhabit the ROI (USFWS, 2000). However, mixed grass prairie habitat used by the olive-backed pocket mouse occurs in the northern and southeastern portion of the ROI and would sustain some loss of habitat due to build-out along the E-470 corridor (Buckley AFB, 2002d; CNHP, 2000).

The black-tailed prairie dog, burrowing owl, and associated grassland species would likewise be adversely affected within the ROI by conversion of rural property to urban uses. Currently, the ROI contains approximately 373 active black-tailed prairie dog colonies covering an area of 1,442.6 acres (Buckley AFB, 2002d; CNHP, 2000). This yields an average colony size of 3.86 acres. Black-tailed prairie dog colonies are dispersed throughout the ROI, however two areas of concentration are also evident: Buckley AFB and the RMA. Both of these areas are managed by the federal government.

RMA is a National Wildlife Refuge being managed for a variety of the grassland species including the black-tailed prairie dog. The current black-tailed prairie dog objective at RMA is to increase colony acreage from 660 acres in 2003 to approximately 2,000 acres in the near future (Stone, 2005). The 2,000 acre target would return colony acreage to the average high of 1,500 to 2,000 acres, which occurred in 1992, 1993, and 2000 (Stone, 2004). Cumulative impacts to black-tailed prairie dogs in the ROI include the build-out of Buckley AFB and the E-470 corridor where development is projected to occur , and infilling in currently developed portion of surrounding Aurora.

Loss of colonies resulting from the Proposed Action would be partially compensated by the continued management of RMA to restore black-tailed prairie dog colony habitat in the region. Although the cumulative impact on the black-tailed prairie dog may be a positive increase of colonies, the colony distribution would change so that colonies are more clumped in the northern portion of the ROI, and more diffuse in the remainder of the ROI.

4.10 TRAFFIC/TRANSPORTATION

This section documents transportation impacts from implementation of the Proposed Action and alternatives. It addresses project generated impacts from construction, trip generation, pedestrian access and traffic volumes. The difference between estimated traffic conditions of existing land uses (ELUs) and the alternatives provided a comparison, by which transportation impacts can be measured.

4.10.1 Proposed Action

The Proposed Action locates the Youth Center in close proximity to the new CDC and places it within walking distance of the Chapel and other community service facilities. Integration with the sidewalks, access, and parking improves pedestrian connectivity with the CDC. For the Proposed Action, combining the parking facilities and integrating the pedestrian paths would result in less traffic congestion and improved pedestrian circulation.

Impacts on traffic at Buckley AFB resulting from the Proposed Action would be created from additional vehicles traveling to and within the base boundaries, and from construction and operation of the Proposed Action projects. On-base and off-base traffic increases created by construction activities and operation of completed facilities would be considered direct effects. Potential impacts of on-base and off-base traffic details for the North and Telluride Gates, and South Gate are discussed below.

4.10.1.1 Construction

During construction, vehicle trips would be necessary to deliver construction materials and equipment, remove debris and soils, and transport construction workers to and from work sites. Construction of new facilities would result in some short-term traffic impacts to the surrounding community. Construction is expected to last approximately 7 months. The most noticeable impacts related to the anticipated construction effort would be in the form of truck hauling trips, and heavy equipment traffic. The majority of truck trips would occur in the first quarter of each construction project. Trucks would be directed towards and travel on the primary roads.

Table 4.20 shows the estimated average annual weight and volume of debris used to calculate the number of truck trips required for debris removal from construction and activities. The values on Table 4.20 assume that a typical truck with trailer can carry 22 cubic yards (yd^3) of debris.

Table 4.20: Average Annual Construction Debris Handling Traffic

Year		Weight of Debris Generated (tons)	Volume of Debris Generated (yd^3)	Number of Truck Trips Required
2002-2005(1)		54,881	32,534	1,479
Proposed Action(2)	Youth Center	32	18	1
	RV Lot	22	12	1
	Total	54	30	1
Alternative 1(2)	Youth Center	32	18	1
	RV Lot	8	4	0
	Total	40	22	1
Alternative 2(2)	Youth Center	32	18	1
	RV Lot	20	11	1
	Total	52	29	1
2006-2009(1)		47,229	22,518	1,024

(1) Cumulative value represents average annual construction debris s traffic.
(2) Cumulative value represents average annual construction debris s traffic for each alternative added to the 2002-2005 and 2006-2009 cumulative.

Debris hauling would be limited to weekdays and typical work hours to avoid peak pm commuter hours. Most of the hauling activity would occur outside of the peak commute hours, but morning (am) inbound trips may coincide with the am peak commuter traffic hours. Hauling of construction debris would occur approximately 6.5 hours per day, five days per week. During construction portions of Telluride Avenue may be closed temporarily. Limited modifications to other streets adjacent to the project could result in short-term impacts to these streets. The temporary closure of portions of Telluride Avenue would result in a slight increase to traffic on alternative routes, such as Breckenridge and Aspen Avenues. This would be expected to add less than 10 percent additional traffic to the daily volumes already traveling on the alternative routes during primary road closures.

4.10.1.2 Trip Generation

Trip generation resulting from the Proposed Action was estimated based on the net increase of the base community service facilities. The trips generated by the new Youth Center and expanded RV storage facilities were added to the existing conditions to forecast future traffic volumes. The traffic-generating characteristics of these community services are identified in the Institute of Transportation Engineers (ITEs) Trip Generation, 6th Edition published in 1997 (ITEs, 1997). The Trip Generation manual provides information on the trip-making profiles for many land uses. This manual is recognized as the industry standard for trip generation documentation.

The ITE's trip generation rate for community services was used as a basis for estimating trip generation for the Youth Center and the RV lot expansion. Most of the proposed community service facilities would provide recreational and social opportunities to military personnel and their families. For purposes of this analysis, it was assumed that up to 90 percent of the vehicle trips generated by the new Youth Center and the RV lot expansion would be generated by military or civilian personnel living off-base. The remaining 10 percent of the vehicle trips were assumed to be related to Buckley AFB personnel and their dependents.

Fewer trip rates were used for the RV lot expansion to reflect the lower per unit transport of seasonal use RV's. Trip rates for the RV lot expansion were reduced by 95 percent to reflect the more seasonal transport of RV's.

Table 4.21: Proposed Action Traffic Volume Impacts

Category [1]	Daily Trips[2]	AM peak Hour Trips	PM peak Hour Trips
Existing Land Use Baseline [3]	88,584	8,798	10,357
Youth Center	323	43	57
RV lot Expansion	81	11	14
Proposed Action Trips	404	53	71
Total 2010 Trips	88,988	8,851	10,428
Percent Impact	0.456	0.606	0.682

(1) Based on total market rate community service (ITE LU 495).
(2) Trip generation rates given per 1,000 square foot of Gross Floor Area.
(3) Based on existing land use acreage and 1 percent growth rate per year to 2010.

Proposed Action generated am and pm peak hour traffic volumes were added to the existing traffic volumes to estimate peak hour volumes for the Proposed Action. For purposes of developing a worst-case scenario, traffic volumes for the existing conditions were estimated based on the distribution of existing land uses. A 1 percent per year growth rate in traffic volume was added to the estimated ELU traffic volumes. This projected growth in vehicle trips to 2010 represents a conservative, or "worse case" estimate. By comparing total traffic volumes for the 2010 ELU baseline volumes and Proposed Action, the percent impact of traffic can be identified as illustrated in Table 4.21.

Proposed Action traffic volumes would increase am and pm peak hour traffic levels by less than 1 percent respectively. Some entry gate and intersection level of services would degrade during the am peak hour in 2010. While the largest average delay per vehicle would be expected at the North Gate, there would be a shorter delay at the am peak hour where the Proposed Action would increase traffic by less than 1 percent. A negligible increase in delay is expected at most other on-base intersections.

4.10.1.3 Pedestrian Access

The Proposed Action would provide pedestrian connections with the CDC and Chapel (Youth Center) and outdoor facilities (expanded RV lot) which would encourage pedestrian travel. Direct routing and sidewalk connections and shorter walking distances are incorporated into the site plan. Improved intersection alignments would provide more identifiable roadway intersections and crosswalks, allowing safer crossing for pedestrians at more regular intervals. Proposed round-abouts would contribute to slowing vehicular traffic, which would help accommodate non-motorized (pedestrian and bicycle) trips. Beneficial effects are expected, but no adverse impacts to non-motorized facilities or operations would occur.

4.10.1.4 Traffic Volume

Vehicular traffic would continue to access the installation through the North Gate, Telluride Street, and South Gates. Access to the Youth Center would be provided via Telluride Street, Breckenridge Street, and A-Basin Avenue. Access to the RV lot expansion would be provided via Aspen Avenue and an existing access street located north of Steamboat and east of Aspen Avenue.

The gate selected by individuals commuting to Buckley AFB would depend primarily on their residential location in respect to the base and preferred travel routes. It was assumed that 90 percent of the additional traffic created by the Proposed Action (e.g. pickup and drop off generated by the Youth Center and expansion of the RV lot) would be off-base personnel that enter the base through the North and South Gates. The remaining 10 percent of vehicle trips would be on-base personnel. Due to extended storage periods and infrequent use within the ROI typically associated with RVs, traffic impacts created from operation of RVs would be considered insignificant (RVIA, no date).

Off-base traffic at the new Telluride Gate would not be expected to be impacted significantly by the Proposed Action, as this gate is primarily used to access the BX and Commissary.

For this EA it will be assumed that one-half of all new traffic generated by the Proposed Action would access and exit the base through (1) the existing North Gates and (2) the South Gate via Aspen Avenue. Under this assumption, approximately 202 new vehicle trips would enter through each of the North and South Gates per day. The North and South Gates would see approximately 27 additional peak morning hour inbound vehicles in 2010, increasing total traffic during peak morning hours by less than 1 percent. The number of vehicles traveling via Aspen Avenue during the peak evening traffic hour west of the North and Telluride Gates, on 6th Avenue, is projected to be approximately 780 vehicles per hour (Buckley AFB, 2003a). Assuming that three-quarters of the total 27 additional vehicles exiting the base via Aspen Avenue from the North Gates during the peak evening traffic hour travel west, this number would increase to approximately 800 vehicles per hour, a 2.6 percent increase.

Assuming that the remaining one-quarter, or 7 additional vehicles exiting the base during the peak evening traffic hour travel east of the gates at the intersection of 6th Avenue and state Highway 30, this number would increase to approximately 407 vehicles per hour, a 1.8 percent increase.

West of the South Gate, Mississippi Avenue is a four-lane divided boulevard currently carrying 700 vehicles per hour on the road during peak traffic hours (Buckley AFB, 2003a). Assuming that three-quarters of the total 27 additional vehicles exiting the base during the peak evening traffic hour travel west, this number would increase to approximately 720 vehicles per hour, a less than 3 percent increase.

With approximately less than a 1 to 3 percent increase in off-base traffic on 6th Avenue in both the east and westbound directions, and traveling westbound on Mississippi Avenue during the peak morning and evening travel hours, the Proposed Action would create a negligible increase in off-base traffic at the North and South Gates.

4.10.2 Alternative Action 1

During construction, portions of Aspen and Telluride Streets could require temporary closure. Limited modifications to secondary roads adjacent to the project may result in

short-term impacts to these streets. These impacts would be the same as described for the Proposed Action.

Estimated debris hauling for Alternative 1 would be only slightly less than the Proposed Action. Construction of a 50 space parking lot for the Youth Center would involve excavation of more soil and debris from the site than the Proposed Action, however this increase would be offset by the decrease in the size of the RV lot. The duration of the construction and hauling activity would be somewhat more than that for the Proposed Action. A construction transportation plan would be developed as needed to minimize potential impacts on the local street system.

Similar to the Proposed Action, Alternative 1 total daily traffic trip volumes along Telluride Street and Aspen Avenue would increase. There would be some upgrades to the internal pedestrian connections to temporary quarters and community service areas under Alternative 1. The temporary quarters would be located within walking distance of the Youth Center. During the am and pm peak hour the volume of traffic would be similar to the Proposed action though there could be could be slightly fewer trips and traffic delays than the Proposed Action.

4.10.3 Alternative Action 2

Under Alternative Action 2, short-term impacts due to temporary closure of northern and southern portions of Aspen Avenue could occur. These impacts would be similar to those described for the Proposed Action.

Estimated debris hauling would be similar to the Proposed Action. The duration of the construction, and hauling activity for the 50 space parking lot for the Youth Center would be somewhat more than that for the Proposed Action. A construction transportation plan would be developed as needed to minimize potential impacts on the local street system.

Total daily traffic trip volumes for pick/up and drop offs from the Youth Center and the expanded RV lot would be similar to the Proposed Action but the pattern of circulation would change. Although the Youth Center would be within walking distance

to the Wing Headquarters and Training facility, there would be no upgrades to the internal pedestrian connections. The number of daily trips in the immediate vicinity may be reduced during the summer when personnel take advantage of the on-base summer camp program. During the am and pm peak hour the volume of traffic would be similar to the Proposed Action, though due to the location of the Youth Center, there could be could be slightly more trips and traffic delays along the southern portion of Aspen Avenue than under the Proposed Action.

4.10.4 No Action Alternative

Under the No Action Alternative, there would be no construction of the Youth Center or expansion of the RV lot. Since no construction related to this EA would be conducted through the No Action Alternative, no increases or traffic impacts would occur.

4.10.5 Best Management Practices

A construction transportation plan may be needed to minimize potential temporary impacts of construction on the local transportation system. The plan could include hours of construction, hours for hauling of materials, strategies for providing temporary parking for construction workers, detour routes and location of signs and other safety measures as needed. A temporary detour plan outlining planned detour routing would be developed in conjunction with specific project construction schedules to ensure adequate accessibility to occupied facilities.

4.10.6 Cumulative Impacts

The area evaluated for cumulative impacts includes highways, major and minor arterials and proposed Rapid Transit Lines within the City of Aurora transportation framework surrounding Buckley AFB.

Portions of the DMA's roads would begin to deteriorate at an accelerated rate in the next several years and the current percentage of roads listed in "Good or Fair" condition would dwindle from the present 55 percent to below 30 percent in the next five to ten

years (MDEDC, 2004). Due to these circumstances, the number of road upgrades and maintenance projects in the DMA would increase. In addition, the traffic volumes on Aurora's east-west streets immediately east of I-225 have increased causing congestion.

If the City of Aurora is developed according to its projected future growth rate, approximately 452,783 new vehicle trips per day could occur. With the projected 88,988 additional Buckley AFB-generated trips per day by the year 2010 Buckley AFB would account for 19.7 percent of the increase, and would represent only 16.4 of the total traffic volume (Table 4.22). There would be moderate increases in traffic congestion in the surrounding transportation network as a result of this urban development, however, Buckley AFB would not contribute significantly to this increase.

Table 4.22: Cumulative Traffic Volume - Proposed Action

Category	Daily Trips	am peak Hour Trips	pm peak Hour Trips
Buckley AFB 2010 Total	88,988	8,851	10,428
Aurora 2010 Total	452,783	22,956	26,058
2010 Total	541,771	31,807	36,486
Percent Change	16.43	27.83	28.58

Traffic congestion would be reduced by regional transportation projects along corridors critical to the City of Aurora and by 41 City of Aurora CIP roadway and other planned Transportation Improvement Program projects planned for 2003-2008.

The forecasted traffic is the total number of trips that could be added in the transportation network surrounding Buckley AFB over and above the projected growth of traffic levels through 2010. Although these numbers seem high, it should be noted that they represent the worst case scenario of developing all currently developable land to the highest degree possible according to the current land use regulations.

Developable land within the surrounding community may be built at lower densities than the maximum allowable by the current zoning regulations. Alternative modes of

travel would be increased by the additional bus services and light rail, bike and pedestrian trails planned for the area.

The increase in mixed use development on-base and within concentrated areas such as the Fitzsimons Redevelopment Authority heightens the potential for alternate transport usage. The projected increase in the employment base linked with development of appropriate housing types would reduce the amount and length of work trips by increasing the number of people who both live and work in these new development centers. Therefore there would be a moderately adverse traffic impact.

The combination of increased multi-modal transit opportunities, increased use of alternate transportation, and decreased travel time between residences and places of employment would generate fewer impacts. Accessibility and mobility would improve through a more balanced transportation system.

4.11 WATER RESOURCES

This section analyzes the potential for impacts to water resources from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on ground-disturbing activities that may affect surface water, stormwater, and groundwater.

4.11.1 Proposed Action

Impacts on water resources at Buckley AFB could potentially result from construction, and operation of the structures and facilities included in the Proposed Action. The ground disturbance phase of construction activities would require ground disturbance which can create erosion and cause runoff to become contaminated with particulate matter (silt, soils, sand, etc.). The storage of fuels, oils and other hazardous fluid materials can result in releases of these materials. In addition, fueling and operation of construction vehicles and equipment using these materials could create spills and leaks.

The construction of the Youth Center building and expansion of the RV lot associated with the Proposed Action would result in an increase in impervious surfaces at the

installation. Increased impervious surfaces would cause additional volumes of runoff when precipitation events occur, increasing the volume of stormwater discharge.

4.11.1.1 Surface Water

The ground disturbance phase of construction activities would require land disturbance that can result in surface water contamination due to erosion, increased particulates, turbidity, and transport of particulate matter via stormwater runoff. These effects would be considered to be direct and indirect, as erosion and transport of particulates could have both immediate local impacts, within Buckley AFB boundaries, and downstream impacts on receiving streams off-base. Common BMPs for construction activities would be followed to minimize erosion (see Section 4.11.5).

Operation of the completed structures and facilities would increase the impervious surfaces at the base. Roofs, parking lots, roadways, sidewalks and walking paths would all reduce the areas in which precipitation can infiltrate the earth surface. Table 4.23 shows estimated increases in impervious areas associated with the Proposed Action. The types of BMPs that could be used to minimize soil erosion and sedimentation are described in Section 4.11.5.

Table 4.23: Average Annual Increased Impervious Surfaces Due to Construction

Year/Action		Increased Impervious Surfaces Due to Construction (Acres)
2002-2005		50.58
Proposed Action	Youth Center	0.79
	RV Lot	7.42
	Totals	8.20
Alternative 1	Youth Center	1.13
	RV Lot	6.80
	Totals	7.93
Alternative 2	Youth Center	1.13
	RV Lot	2.61
	Totals	3.74
2006-2009		13.24

As shown on Table 4.23, the combined Proposed Actions would increase the impervious surfaces at Buckley AFB by approximately 8.2 acres or less than 1 percent of the total 3,272 drainage area at Buckley AFB. Approximately 412 acres, or 12.6 percent of the drainage area is impervious surface (Buckley AFB 2002d). The Proposed Action represents nearly 62 percent of the projected 2006-2009 average annual increase in impervious surface. The increases in impervious surfaces would result in increased stormwater runoff volumes and velocities. Increased stormwater runoff volume and velocities could create erosion issues that would impact surface waters. The base has extensive natural and man-made surface drainage as well as underground storm drainage lines that would convey increased stormwater volumes created from increased impervious surfaces. If existing stormwater infrastructure components are overloaded by increased stormwater loading impacts to surface waters could result. Stormwater loading and the potential need to improve and/or upgrade stormwater infrastructure components are discussed in the Section below (Stormwater).

4.11.1.2 Stormwater

Since the proposed construction project sites are located on the east and west sides of the base, potential impacts to all three of the streams that receive stormwater runoff from Buckley AFB could result from the Proposed Action. Operation of the Youth Center, RV expansion lot, sidewalks and walking paths would create the additional runoff volume. Once the construction projects are completed an increase of approximately 8.2 acres of impervious surfaces is expected. Assuming an annual precipitation rate of 15.24 inches per year and no losses due to evaporation, the anticipated increase in stormwater runoff from the new impervious areas created through implementation of the Proposed Action would be approximately 3.4 mgy. The exact direction of increased runoff is not currently known, since drainage studies have not been performed, and would need to be assessed in further detail through site-specific drainage engineering plans that would be developed for construction projects.

Increased stormwater loads could result in exiting stormwater infrastructure components being hydraulically overwhelmed, and increased concentrations of

particulate matter and other contaminants (from construction areas and parking lots) being carried and discharged into receiving streams and waterbodies on and off-base. However, the application of BMPs associated with the USEPA NPDES Permit, and site-specific engineering plans that would be developed for construction projects would provide adequate safeguards to eliminate or minimize impacts to a level considered insignificant.

Site specific engineering plans may include comprehensive topographic map and contour reviews to determine directions of flow and which streams would receive discharges from individual proposed construction sites. The results of these reviews may determine that new or expanded existing engineered stormwater components (drains, culverts and above and underground piping systems) are required to allow proper drainage and prevent erosion and localized flooding.

In addition to potential contamination that could result from construction activities (runoff contaminated with particulate matter and/or spills or leaks of fuels, oils and other hazardous fluids), potential contamination of stormwater from the operation of completed parking lots can also result if spills or leaks from vehicles occur and are permitted to enter the stormwater system. These materials can also be transported via stormwater runoff. Potential effects on stormwater would be considered both direct and indirect, as the capacity of stormwater system components on and off-base could be exceeded by increased stormwater runoff. In addition, particulates and/or other contaminants (accidental leaks or spilled HAZMATs) that enter the stormwater system on-base can be transported and impact stormwater quality within Buckley AFB boundaries, as well as off-base in downstream receiving streams.

As required by its MS4 permit, Buckley AFB must ensure that each of these construction projects is implemented in accordance with the NPDES General Permit for Stormwater Discharges from Construction Activities (CGP). For projects involving greater than one acre of disturbance a Notice of Intent to obtain coverage under the CGP and a SWPPP must be prepared by the operator, typically the construction contractor.

Additionally, all Air Force construction projects must adhere to the Engineering Technical Letter (ETL) 03-1: Storm Water Construction Standards.

4.11.1.3 Groundwater

The Proposed Action would have a limited and negligible affect on groundwater. The increase in impervious surfaces that would result from the Proposed Action would increase stormwater runoff and discharges. Assuming that 100 percent of the increased runoff caused by the loss of pervious surfaces is discharged as stormwater, there would be a loss of 3.4 mgy that had previously been infiltrating and recharging the aquifers underlying Buckley AFB. However, depending on hydrogeologic conditions, stormwater runoff can recharge groundwater. Potential effects on groundwater would be considered indirect, as the loss of water infiltrating and recharging aquifers underlying Buckley AFB would potentially have impacts reaching beyond Buckley AFB boundaries. Ultimately, the Proposed Action would not be expected to significantly impact groundwater resources.

4.11.2 Alternative Action 1

If Alternative 1 were followed the impacts on water resources would be decreased to some degree. The increased imperviousness from the new Youth Center parking lot would be off-set by the smaller RV lot; therefore there would be less overall impervious surface than that under the Proposed Action. Further reductions in impacts to water resources, including surface water, stormwater and groundwater would depend on the extent that one or both of the projects could be time-delayed, downsized or not constructed, however impacts would remain insignificant under Alternative Action 1.

4.11.3 Alternative Action 2

If Alternative 2 were followed the impacts on water resources would be similar to the Proposed Action or, because of the additional impervious surface from the new Youth Center parking lot and RV lot security road, could be increased to some degree. However impacts would remain minor under Alternative Action 2.

4.11.4 No Action Alternative

Under the No Action Alternative, there would be no construction of the Youth Center or expansion of the RV lot, therefore no impacts related to water resources are expected to occur.

4.11.5 Best Management Practices

BMPs for storage, transfer and use of fuels, oils and other hazardous liquid materials should be practiced to prevent impacts on surface waters. The measures can include the use of double-walled tanks or secondary containment for liquid storage areas and tanks; using care when transferring liquid materials to vehicles equipment and other containers; having spill cleanup materials available on hand at storage and transfer locations; expeditiously cleaning up spills and leaks; and inspecting and maintaining construction vehicles and equipment to detect and correct leaks.

Common BMPs for construction activities would be followed to minimize erosion. Preventive BMPs may include the following:

- Limit stockpiling of materials onsite.
- Manage stockpiled materials to minimize the time between delivery and use.
- Cover stockpiled materials with tarps.
- Install snow or silt fences around material stockpiles, stormwater drainage routes, culverts, and drains.
- Install hay or fabric filters, netting, and mulching around material stockpiles, stormwater drainage routes, culverts, and drains.

In addition BMPs would be followed to insure that vehicles stored in the RV lot would not create spills or leaks of HAZMATS that could impact surface or groundwaters. These BMPs would include:

- Prohibit preventive maintenance activities from being performed in RV lot.

- Perform routine visual inspections of the RV lot to detect leaks.

- Use drip pans on a temporary basis, as necessary, where leaks are identified.

4.11.6 Cumulative Impacts

The geographic area evaluated for cumulative impacts on water resources includes Buckley AFB and the City of Aurora. Cumulative impacts on water resources (surface water, stormwater, and groundwater) would be created by the Proposed Action in combination with the increased stormwater discharges resulting from construction and other development in the vicinity of Buckley AFB. The potential cumulative impacts on water resources off-base would be similar to those described for Buckley AFB as related to construction and operation of new facilities (i.e. erosion, contaminated runoff, leaks, spills, increased impervious surfaces and stormwater loading). The City of Aurora anticipates development of residential areas at approximately 1,800 new residential units per year (City of Aurora, 2003). Assuming the new residential units average 2,000 ft^2 per unit, the growth rate would equal approximately 3.6 million ft^2 of building space per year. Office and industrial development is also projected to grow at a rate of 210 acres (9,147,600 ft^2) annually (City of Aurora, 2003). Retail and commercial development would comprise approximately 20 acres per year (871,200 ft^2) (City of Aurora, 2003).

4.11.6.1 Surface Water

The majority of the City of Aurora that could be developed that surrounds or is in proximity to Buckley AFB is also located within the South Platte River drainage basin. As with development on-base, City of Aurora development off-base could impact surface water during the ground disturbance phase of construction activities, including surface water contamination due to erosion, increased particulates, turbidity, and transport of particulate matter via stormwater runoff. These effects would be considered to be direct and indirect. The common BMPs for construction activities would be expected to be practiced at off-base City of Aurora project sites to minimize erosion and minimize potential affects of storage, handling and use of fuels, oils and other hazardous liquids.

Once completed, operation of completed City of Aurora structures and facilities would increase the impervious surfaces throughout the regions of development. Roofs, parking lots, sidewalks and walking paths would all reduce the areas in which precipitation can infiltrate the earth surface. Table 4.24 shows estimated increases in impervious areas anticipated from implementing the Proposed Action and City of Aurora development.

Table 4.24: Average Annual Cumulative Increase in Impervious Surface

Year		Buckley AFB Increased Impervious Surface (Acres)	City of Aurora Increased Impervious Surface (Acres) [1]	Cumulative Increased Impervious Surface (Acres)
2002-2005[2]		51	1,374	1,425
Proposed Action[3]	Youth Center	0.79	5,018	5,018
	RV Lot	7.42	5,024	5,032
	Totals	8.20	5,025	5,033
Alternative 1[3]	Youth Center	1.13	5,018	5,019
	RV Lot	2.61	5,019	5,022
	Totals	3.74	5,021	5,024
Alternative 2[3]	Youth Center	1.13	5,018	5,019
	RV Lot	6.80	5,024	5,030
	Totals	7.93	5,025	5,033
2006-2009[2]		13	3,643	3,656

(1) Assumptions related to City of Aurora development and increased impervious surfaces are as follows:
- City of Aurora Residential Growth Rate = 1,800 units per year
- Average Residential Size = 2,000 ft^2 per unit
- City of Aurora Business Office and Industrial Growth Rate = 9,147,600 ft^2 per year
- City of Aurora Retail and Commercial Growth Rate = 871,200 ft^2 per year.

(2) Cumulative value represents average annual increased impervious surface.
(3) Cumulative value represents average annual increased impervious surface for each alternative added to the 2002-2005 and 2006-2009 cumulative.

As shown on Table 4.24, the cumulative increase of the impervious surfaces due to Buckley AFB and City of Aurora development would total an average annual 5,033 acres. Information related to the current impervious land area in the city was sought from the City Aurora. Although the information was not available, it is known that the total area of the City of Aurora is 142.7 square miles (91,328 acres), of which 0.2 square miles (128 acres) is water (streams, lakes, and ponds). Using the City of Aurora development

and increased impervious surfaces assumptions shown in the footnotes to Table 4.24, planned City of Aurora development would convert 27.5 percent of the total city area to impervious surfaces (excluding water area). As with Buckley AFB, the City of Aurora has extensive natural and man-made surface drainage as well as underground storm drainage lines that would convey increased stormwater volumes created from increased impervious surfaces. Some of the stormwater infrastructure components may need to be upgraded to facilitate increased stormwater flows.

4.11.6.2 Stormwater

City of Aurora development in proximity to Buckley AFB could impact surface waters including Box Elder Creek, First Creek, Sand Creek, Granby Ditch, Westerly Creek, Murphy Creek, Cherry Creek, Cherry Creek Reservoir, Meadowood Creek, Quincy Reservoir, West and East Tollgate Creek, Unamed Creek, Senac Creek, Aurora Reservoir, and Coal Creek. Of these surface waters, East Toll Gate Creek, Sand Creek and Murphy Creek receive flows from Buckley AFB. Cumulative impacts from Proposed Action and City of Aurora development would likely increase the volume of stormwater runoff received some, if not all, of the surface waters identified.

Cumulative impacts from ground disturbance related to construction and demolition activities can impact stormwater discharges. A NPDES stormwater CGP may be required for off-base construction projects if they exceed the one acre threshold.

Operation of the completed expanded RV lot and Youth Center building, parking lots, sidewalks and walking paths would create the additional runoff volume. Table 4.25 provides estimates for cumulative stormwater discharge increases.

Table 4.25: Average Annual Cumulative Increase in Stormwater Loading				
Year		**Buckley AFB Increased Stormwater Loading (Million Gallons)**	**City of Aurora Increased Stormwater Loading (Million Gallons) (1)**	**Cumulative Increased Stormwater Loading (Million Gallons)**
2002-2005(2)		20.9	569	590
Proposed Action(3)	Youth Center	0.3	2,656	2,656
	RV Lot	3.1	2,653	2,656
	Totals	3.4	2,079	2,083
Alternative 1(3)	Youth Center	0.5	2,656	2,657
	RV Lot	1.1	2,653	2,654
	Totals	1.5	2,078	2,079
Alternative 2(3)	Youth Center	0.5	2,083	2,083
	RV Lot	2.8	2,082	2,085
	Totals	3.3	2,079	2,083
2006-2009(2)		5.5	1,507	1,513

(1) Assumptions related to City of Aurora development and increased impervious surfaces are as follows:
- City of Aurora Residential Growth Rate = 1,800 units per year
- Average Residential Size = 2,000 ft^2 per unit
- City of Aurora Business Office and Industrial Growth Rate = 9,147,600 ft^2 per year
- City of Aurora Retail and Commercial Growth Rate = 871,200 ft^2 per year.

(2) Cumulative value represents average annual increased stormwater loadings.
(3) Cumulative value represents average annual increased stormwater loadings for each alternative added to the 2002-2005 and 2006-2009 cumulative.

Once construction projects are completed a cumulative average annual increase of approximately 5,033 acres of impervious surfaces is expected (see Table 4.24). Assuming an annual precipitation rate of 15.24 inches per year and no losses due to evaporation, the anticipated increase in stormwater due to the Proposed Action would be approximately 2,083 mgy. It is not possible to determine the exact direction and volume of increased runoff off-base since the areas that will be developed are currently unknown and no studies or information are available. As with impacts on-base, off-base development would cause increased stormwater loads that could result in exiting stormwater infrastructure components being hydraulically overloaded, an increased

concentrations of particulate matter, and other contaminants being carried and discharged into receiving streams and waterbodies off-base. However, existing zoning and permitting requirements would require studies to be conducted prior to construction, and therefore, resulting impacts would not be expected to be significant.

4.11.6.3 Groundwater

The cumulative affect on groundwater would be minor. Potential effects on groundwater would have indirect cumulative effects, as the loss of water infiltrating and recharging aquifers underlying the area considered would potentially have impacts reaching beyond the area of consideration. As discussed earlier in this section, the cumulative increase in impervious surfaces that would result from the Proposed Action and City of Aurora development would increase stormwater runoff and discharges. Assuming that 100 percent of the increased runoff caused by the loss of pervious surfaces is discharged as stormwater, there would be a loss of 2,083 mgy that had previously been infiltrating and recharging the aquifers underlying the area considered. Ultimately, cumulative impacts on groundwater would not be expected to be significant.

4.12 ASBESTOS

This section analyzes the potential for impacts from exposure of asbestos from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on activities that may expose, generate, or that may be affected by asbestos.

4.12.1 Proposed Action

No existing buildings or facilities are to be demolished under this EA; therefore no asbestos-containing wastes would be generated through implementation of the Proposed Action.

Concerns related to asbestos may be created if construction projects and associated ground disturbance activities would impacts WWII era building materials that were demolished and buried in-place at Buckley AFB. The Proposed Action RV lot expansion site is not located over or near where old WWII buildings were located. Therefore there

would be no ACM impacts resulting from the RV lot expansion. The Youth Center Proposed Action location is sited in an area where old WWII buildings were demolished. Therefore, ACM may be encountered during construction of this facility.

Potential asbestos effects would be considered direct, however, should there be any asbestos materials identified during construction proper abatement procedures and disposal would be conducted. Measures would be taken during the construction process to remove and dispose of any asbestos in accordance with all applicable local, federal, and state regulations. And construction impacts from asbestos would be considered insignificant.

4.12.2 Alternative Action 1

The Alternative Action 1 RV lot expansion and Youth Center sites are not located over or near where old WWII buildings were located. Therefore there would be no ACM impacts resulting from implementing Alternative Action 1.

4.12.3 Alternative Action 2

The Alternative Action 2 RV lot expansion and Youth Center sites are not located over or near where old WWII buildings were located. Therefore there would be no ACM impacts resulting from implementing Alternative Action 2.

4.12.4 No Action Alternative

Under the No Action Alternative, there would be no construction of the Youth Center or expansion of the RV lot, therefore no impacts related to asbestos are expected to occur.

4.12.5 Cumulative Impacts

The geographic area evaluated for asbestos cumulative impacts includes the City of Aurora. The nature of potential cumulative impacts related to asbestos would be similar to those described for the Proposed Action at Buckley AFB. However, impacts could be increased for the City of Aurora because the scope of magnitude of development is many

times that planned for Buckley AFB alone. As with construction of new facilities at Buckley AFB, asbestos issues related to the development within the City of Aurora would depend on the location and type of construction. Potential asbestos effects would be considered direct, however, with proper building and construction impacts from asbestos would be considered insignificant.

4.13 RADON

This section analyzes the potential for impacts from exposure of radon from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on activities that may expose, generate or that may be affected by radon.

4.13.1 Proposed Action

Depending on the location and type of construction of the buildings naturally occurring radon issues could result. Newly constructed buildings would be designed and constructed to prevent radon build-up, therefore no radon impacts would be expected. If the presence of radon is suspected completed structures would be monitored for radon. If structures show radon levels over 4.0 pCi/l appropriate radon reduction actions would be implemented. Potential radon effects would be considered direct, however, with proper building design and construction impacts from radon would be considered insignificant.

4.13.2 Alternative Action 1

If Alternative 1 were followed the potential to encounter radon would be decreased to some degree. The increased ground disturbance from construction of the Youth Center parking lot would be off-set by the smaller RV lot; therefore there would be less overall surface disturbance than that under the Proposed Action. The actual reduction in potential radon exposure would be related to the number and extent of projects that would be time-delayed or downsized, however impacts would remain insignificant under Alternative Action 1.

4.13.3 Alternative Action 2

If Alternative 2 were followed the potential to encounter radon would be increased to some degree due to increased surface disturbance associated with construction of the new Youth Center parking lot than that under the Proposed Action. The actual potential radon exposure would be determined on a project basis, as details related to time-delays, removal, or elimination are known and can be quantified. Similar to the Proposed Action, with proper building design and construction impacts would remain insignificant under Alternative Action 2.

4.13.4 No Action Alternative

Under the No Action Alternative, there would be no construction of the Youth Center or expansion of the RV lot, therefore no impacts related to radon are expected to occur.

4.13.5 Cumulative Impacts

The geographic area evaluated for radon cumulative impacts includes the City of Aurora. The nature of potential cumulative impacts related to radon would be similar to those described for the Proposed Action at Buckley AFB. However, impacts could be increased for the City of Aurora because the scope of magnitude of development is many times of that planned for Buckley AFB alone. As with construction of new facilities at Buckley AFB, radon issues related to the development within the City of Aurora would depend on the location and type of construction. Completed structures may be monitored for radon if its presence is suspected. If structures show radon levels over 4.0 pCi/l appropriate radon reduction actions would be implemented. Potential radon effects would be considered direct, however, with proper building design and construction impacts from radon would be considered insignificant.

4.14 SAFETY

This section analyzes the potential for impacts from health and safety from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on activities that may expose, generate or that may be affected by unsafe conditions.

4.14.1 Proposed Action

Implementation of the Proposed Action would not result in any changes to Buckley AFB standard work safety practices. An adequate level of safety would be maintained during implementation of the Proposed Action as required by all applicable local, State and Federal regulations. Thus, implementation of the Proposed Action would not result in significant impacts to safety on Buckley AFB.

4.14.2 Alternative Action 1

Similar to the Proposed Action, Alternative 1 would not result in any changes to Buckley AFB standard work safety practices. Thus, Alternative 1 would not result in significant impacts to safety on Buckley AFB.

4.14.3 Alternative Action 2

Alternative 2 would increase the proportion of the RV lot in the ACZ. Orienting the expansion to the south increases the risk that personal property could be damaged. For safety and security reasons, this option would be in direct conflict with safety standards. Thus, Alternative 2 would result in significant impacts to safety and security on Buckley AFB.

4.14.4 No Action Alternative

Under the No Action Alternative, there would be no construction of the Youth Center or expansion of the RV lot, therefore no impacts related to safety and security are expected to occur.

4.14.5 Cumulative Impacts

The geographic area evaluated for cumulative impacts associated with safety would take place within the current boundaries of Buckley AFB. Over the next 10-years implementation of the CIP would consolidate the interdependent operations and improve compatibility of airbase operations in accordance with the GP at Buckley AFB (Buckley

AFB, 2003a). The Youth Center with the CDC and Chapel and located in close proximity to the VQ/TLF. This location provides safe and easy access for parents to drop\off and pick up children. Ultimately, once constructed, the Youth Center will be within easy driving or walking distance of the new MFH. The Proposed Action also increases the safety and security of RVs and other private property stored on the expanded RV lot.

4.15 POLLUTION PREVENTION

This section analyzes the potential for impacts from pollution from the implementation of the Proposed Action and alternatives. Analyses of impacts focus on activities that may expose, generate or that may be affected by pollution.

4.15.1 Proposed Action

The pollution prevention techniques detailed in Section 3.14 would be followed. Thus implementation of the Proposed Action would result in a lower usage of virgin raw materials (through purchasing of materials with recycled content); less material being sent to local landfills (through separation and recycling of materials); and lower usage of water, natural gas and electricity (through building "green" methods) than if pollution prevention techniques were not practiced. Therefore the use of pollution prevention techniques would have a beneficial impact when compared to implementing the Proposed Action without consideration for pollution prevention.

4.15.2 Alternative Action 1

Alternative 1 construction activities would be subject to all pollution prevention programs at Buckley AFB. Implementation would not result in impacts from preventable pollution.

4.15.3 Alternative Action 2

Alternative 2 construction activities would be subject to all pollution prevention programs at Buckley AFB. Implementation would not result in impacts from preventable pollution.

4.15.4 No Action Alternative

Under the No Action Alternative, there would be no construction of the Youth Center or expansion of the RV lot, therefore no impacts related to pollution prevention are expected to occur.

4.15.5 Cumulative Impacts

Regionally, current proposed or ongoing residential, commercial, and light industrial developments within the City of Aurora would affect up to 5,952-acres of land by 2010 (City of Aurora, 2003). Compared to the extent of regional development, the Proposed Action would contribute less than 10 percent to potential cumulative pollution. If pollution prevention is practiced on a cumulative basis (on- and off-base) less virgin raw materials would be used in construction; less water, natural gas and electricity would be used for final facilities operations; and less material from construction activities would be sent to local landfills than if pollution prevention techniques were not practiced. Therefore the use of pollution prevention techniques would have a beneficial impact when compared to implementation of the same projects without consideration for pollution prevention.

SECTION 5

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SECTION 6

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SECTION 7

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APPENDIX A

TABLE A.1: ESA AND CONETSCA SPECIES OCCURRING OR POTENTIALLY OCCURRING AT BUCKLEY AFB

ESA and CONETSCA Species Occurring or Potentially Occurring At Buckley AFB[1]				
Scientific Name	**Common Name**	**Colorado Natural Heritage Program (CNHP) Ranking[2]**	**Regulatory Status[3]**	**Known To Exist at Project Sites**
Amphibians				
Rana pipiens	Northern Leopard Frog	Not Tracked	SC	Potentially exists at Williams Lake ADP
Birds				
Athene cunicularia	Burrowing owl	G4/S4B	ST	Known to exist at several project sites.
Buteo regalis	Ferruginous Hawk	G4/S3B,S4N	SC	Potentially a causal visitor.
Charadrius melodus	Piping Plover	G3/S1B	FT	No habitat, but affected by upstream water depletions.
Charadrius montanus	Mountain Plover	G2/S2B	SC	Not known on Installation.
Grus Americana	Whooping Crane	G1/SNAN	FE, SE	No habitat, but affected by upstream water depletions.
Haliaeetus leucocephalus	Bald Eagle	G4/S1B,S3N	FT, ST	Could occur incidentally during Winter.
Lanius ludovicianus	Loggerhead Shrike	Not Tracked	SC	Occurs at installation incidentally.
Sterna antillarum athalasssos	Interior Least Tern	G4/S1B	FE, SE	No habitat, but affected by upstream water depletions.
Strix occidentalis lucida	Mexican spotted owl	G3T3/S1B,SUN	FT, ST	No habitat.
Insects				
Euphilopes rita coloradensis	Colorado blue	G4T2T3/S2		Host plant (wild buckwheats) are available on installation. Unknown if host plants exist at project sites.
Hesperia ottoe	Ottoe skipper	G3G4/S2		No habitat.
Ischura barberi	Desert forktail	G4/SU		Unknown
Sympertrum costiferum	Saffron-bordered meadowfly	G5/S1		Unknown
Fish				
Scaphirhynchus albus	Pallid Strugeon	Not listed for	FE	No habitat, but

ESA and CONETSCA Species Occurring or Potentially Occurring At Buckley AFB[1]				
Scientific Name	**Common Name**	**Colorado Natural Heritage Program (CNHP) Ranking[2]**	**Regulatory Status[3]**	**Known To Exist at Project Sites**
		Colorado.		affected by upstream water depletions.
Mammals				
Cynomys ludovicianus	Black-tailed prairie dog	G4/S4	SC	Exists at 9 of 14 project areas.
Mustela nigripes	Black-footed ferret	G1/S1	E/SE	Does not exist at Buckley AFB.
Perognathus fasciatus infraluteus	Olive-backed pocket mouse	G5TNR, S2		Installation within Front Range distribution. Mixed grass stands is potential habitat.
Vulpes velox	Swift fox	G3/S3	SC	Not known to exist on the installation.
Zapus hudsonius preblei	Preble's Meadow Jumping Mouse	G5T2/S1	FT/Potential for Delisting	USFWS concurrence that species not likely to occur on installation (USFWS 2003)
Mollusks				
Anodonta grandis	Giant Floater	G5/S1		Not likely to occur on installation. Does not occur at project sites.
Plants				
Ambrosia linearis	Plains ragweed	G2/S2		Not currently known from Arapahoe County.
Asclepias uncialis	Dwarf milkweed	G3T1T2/S1S2		Not known to occur on the installation.
Eustoma russelianum	Showy prairie gentian	G5/S3		Not known to occur on the installation.
Gaura neomexicna var. *coloradensis*	Colorado butterfly plant	G4T2/S1	FT	Not known to occur on the installation.
Hypoxis hirsute	Yellow stargrass	G5/S1		Generally not known from Arapahoe County.

ESA and CONETSCA Species Occurring or Potentially Occurring At Buckley AFB[1]				
Scientific Name	**Common Name**	**Colorado Natural Heritage Program (CNHP) Ranking[2]**	**Regulatory Status[3]**	**Known To Exist at Project Sites**
Ribes americanum	American currant	G5/S1		Not known to exist at the installation.
Spiranthes diluvialis	Ute's ladies tresses	G2/S2	FT	Not known to occur on the installation.
Viola pedatifida	Prairie violet	G2/S2		Not known to occur on installation.
Plant Communities				
Populus deltoides ssp. *Monilifera – Salix amygdaloides/Salix exigua*	Plains cottonwood riparian woodland	G2G3/S1		May occur at Williams Lake ADP.
Heterostipa (*Stipa*) *comata*	Mixed grass prairie	G2/S2		May occur in mixed grass areas

(1) Sources: CNHP, 2000; Buckley AFB, 2002b; The Colorado Rare Plant Technical Committee, 1999; USFWS, 2003.

(2) Colorado Natural Heritage Program Ranking Scheme as follows:

- S1 = critically imperiled in the state (five or fewer occurrences)
- S2 = imperiled in the state (6 to 20 occurrences)
- S3 = vulnerable throughout the state or found locally in a restricted range (21 to 100 occurrences)
- S4 = apparently secure in state, though may be rare in parts of range, especially periphery
- SH = historically known, but not verified for an extended period
- S#B = refers to breeding season rareness
- S#N = refers to non-breeding season rareness
- SAN = refers to non-breeding accidental occurrence in the state
- SZN = non-breeding season rareness where no consistent location for non-breeding or migratory populations can be discerned
- G= Global ranking; G#Q= uncertainty regarding global status and taxonomic status
- NA=Does not apply.

(3) FC = federal endangered species candidate; FE = federal endangered species; FP = federal proposed endangered species; FT = federal threatened species; SC = state species of concern; SE = state endangered species; ST = state threatened species.

APPENDIX B

AIR FORCE FORM 813's

REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

Report Control Symbol
RCS: 21375

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)*	2. FROM *(Proponent organization and functional address symbol)*	2a. TELEPHONE NO.
460 CES/CEV	460 CES/CEC	7-9832

3. TITLE OF PROPOSED ACTION
Expand RV Storage Lot

4. PURPOSE AND NEED FOR ACTION *(Identify decision to be made and need date)*
See next page and attached drawings

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES *(DOPAA) (Provide sufficient details for evaluation of the total action.)*
See next page and attached drawings

6. PROPONENT APPROVAL *(Name and Grade)*	6a. SIGNATURE	6b. DATE
Anastasia M. Johnson, GS-7	Anastasia Johnson	20050120

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.)*	☐	☑	☐	☐
8. AIR QUALITY *(Emissions, attainment status, state implementation plan, etc.)*	☐	☐	☑	☐
9. WATER RESOURCES *(Quality, quantity, source, etc.)*	☐	☐	☐	☑
10. SAFETY AND OCCUPATIONAL HEALTH *(Asbestos/radiation/chemical exposure, explosives safety quantity-distance, bird/wildlife aircraft hazard, etc.)*	☐	☑	☐	☐
11. HAZARDOUS MATERIALS/WASTE *(Use/storage/generation, solid waste, etc.)*	☐	☐	☐	☑
12. BIOLOGICAL RESOURCES *(Wetlands/floodplains, threatened or endangered species, etc.)*	☐	☐	☐	☑
13. CULTURAL RESOURCES *(Native American burial sites, archaeological, historical, etc.)*	☐	☐	☐	☑
14. GEOLOGY AND SOILS *(Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)*	☐	☐	☐	☑
15. SOCIOECONOMIC *(Employment/population projections, school and local fiscal impacts, etc.)*	☐	☑	☐	☐
16. OTHER *(Potential impacts not addressed above.)*	☐	☐	☐	☑

SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17. ☐ PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # _____ ; OR
☑ PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.

18. REMARKS
EA required.

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION *(Name and Grade)*	19a. SIGNATURE	19b. DATE
Elise Sherve		1 Feb 05

Purpose and need for action:

This construction would allow Services to provide Buckley Servicemen and customers with additional space to store their RV's. currently there is an extensive waiting list. This addition would make it possible for us to place most if not all of those on the list in a secure storage facility on base.

Description of Proposed Action and Alternatives:

Proposed action/Preferred alternative: Construct a new RV Storage area adjacent to the existing RV lot. Addition should be 200 feet wide by approximately 810 feet long, and slightly offset from the existing lot, as shown on the drawing, in order to keep it out of the clear zone. An additional gate would need to be installed as well as access to the new area. Perimeter of the lot should be of the same concrete curb-type foundation and chain-link fencing as exists around the current lot. A dirt road will be constructed around the perimeter of the entire lot (there is already one around the existing lot) for security patrols to use. The surface of the lot should be durable and similar to what is in place in the existing lot (well-compacted gravel). This project has not yet been programmed, but would probably take place in the spring and summer of 2006 or later. Approximate disturbed area should be assumed to be at least double the area of the addition itself, for a total disturbed area equal to or possibly greater than 7.5 acres. This project would involve a large amount of earthwork in order to bring the proposed area to the proper height and level it.

First alternative: Lot would be constructed as shown on the drawing for this alternative. The only difference between this alternative and the Preferred alternative would be its orientation with respect to the existing lot. Area disturbed, time of construction, and construction materials would remain unchanged. This alternative is not desirable because it would bring a large part of the additional portion of the lot into the airfield clear zone. This is not approved and is not waiverable. It is unlikely that this action would be approved at any level.

Second alternative: Lot would be constructed as shown on the drawing for this alternative. The only difference between this alternative and the Preferred alternative would be its orientation with respect to the existing lot. Area disturbed, time of construction, and construction materials would remain unchanged. This alternative is not desirable because it would not allow for good use of the added space. A rectangular area as shown for the Preferred alternative allows for maximization of the space. A configuration as the one shown for this alternative would allow only minimal use of the available space, in order to leave room for maneuvering the large RV's that are stored in this lot.

No action alternative: This alternative would involve doing nothing, and leaving the existing lot as the only RV storage available for military personnel in the Denver area. This is not desirable because it would not help to shorten the very large existing waiting list for the current storage area. Additionally, there would be no increased revenue to the base as would be provided if the lot were constructed as recommended in the Proposed Action.

BASE CIVIL ENGINEER WORK REQUEST
(See Reverse for Instructions)

Form Approved
OMB No. 0704-0188

SECTION I - TO BE COMPLETED BY REQUESTER

1. FROM *(Organization)*	2. OFFICE SYMBOL	3. DATE OF REQUEST	4. WORK REQUEST NO. *(For BCE Use)*
460 MSG/SVD	SVFLP	20040206	21375

5. NAME AND PHONE NO. OF REQUESTER	6. REQUIRED COMPLETION DATE	7. BUILDING, FACILITY OR STREET ADDRESS WHERE WORK IS TO BE ACCOMPLISHED
Brian J Cook 303-677-6020 STOP 90		RV Storage Lot

8. DESCRIPTION OF WORK TO BE ACCOMPLISHED *(Include Sketch or Plan, when appropriate)*

Construct a new RV storage area adjacent to the existing RV Lot. Addition should be 200'x entire length of the existing lot and should incorporate the existing south fence as north boundary of the new construction. An additional gate would need to be installed as well to access the new area.Perimeter should be of the same curb and fence standard as the existing. Also, the surface should be durable and similar to the existing.See Sketch.

9. BRIEF JUSTIFICATION FOR WORK TO BE ACCOMPLISHED *(Not required for maintenance and repair)*

This service would allow us to provide Buckley Servicemen and customers additional space to store their RV's. Currently there is an extensive waiting list and this addition would make it possible for us to place most if not all of those on the list in a secure storage facility, on base.

10. DONATED RESOURCES

	FUNDS		LABOR		MATERIAL		CONTRACT BY REQUESTER		NONE

11. NAME OF REQUESTER	12. GRADE OF REQUESTER	13. SIGNATURE OF REQUESTER *(See Reverse of Form)*
Clifford Carroll	GS 7	Carroll (signature)

14. COORDINATION

Bio 4 Mar 04 | CEF 4 Mar 04 | 4 Mar 04 HQ ABW/SE | RBear CEAP

SECTION II - FOR BASE CIVIL ENGINEER USE

15. WORK ORDER *(Place an "X" in the appropriate box.)*

	IN-SERVICE		SELF-HELP		CONTRACT		SABER

16. DIRECT SCHEDULED WORK *(Place an "X" in the appropriate box.)*

	EMERGENCY		URGENT		ROUTINE		SELF-HELP		M/C

17. SELF-HELP *(Place an "X" in the appropriate box.)*

	BRIEFING REQUIRED		ADEQUATE COORDINATION		INSPECTION REQUIRED

SECTION III - COMPLETE ONLY IF WORK IS TO BE ACCOMPLISHED BY WORK ORDER

18. WORK CLASS	19. PRIORITY	20. ESTIMATED HOURS	21. ESTIMATED FUNDED COST	22. ESTIMATED TOTAL COST
				??

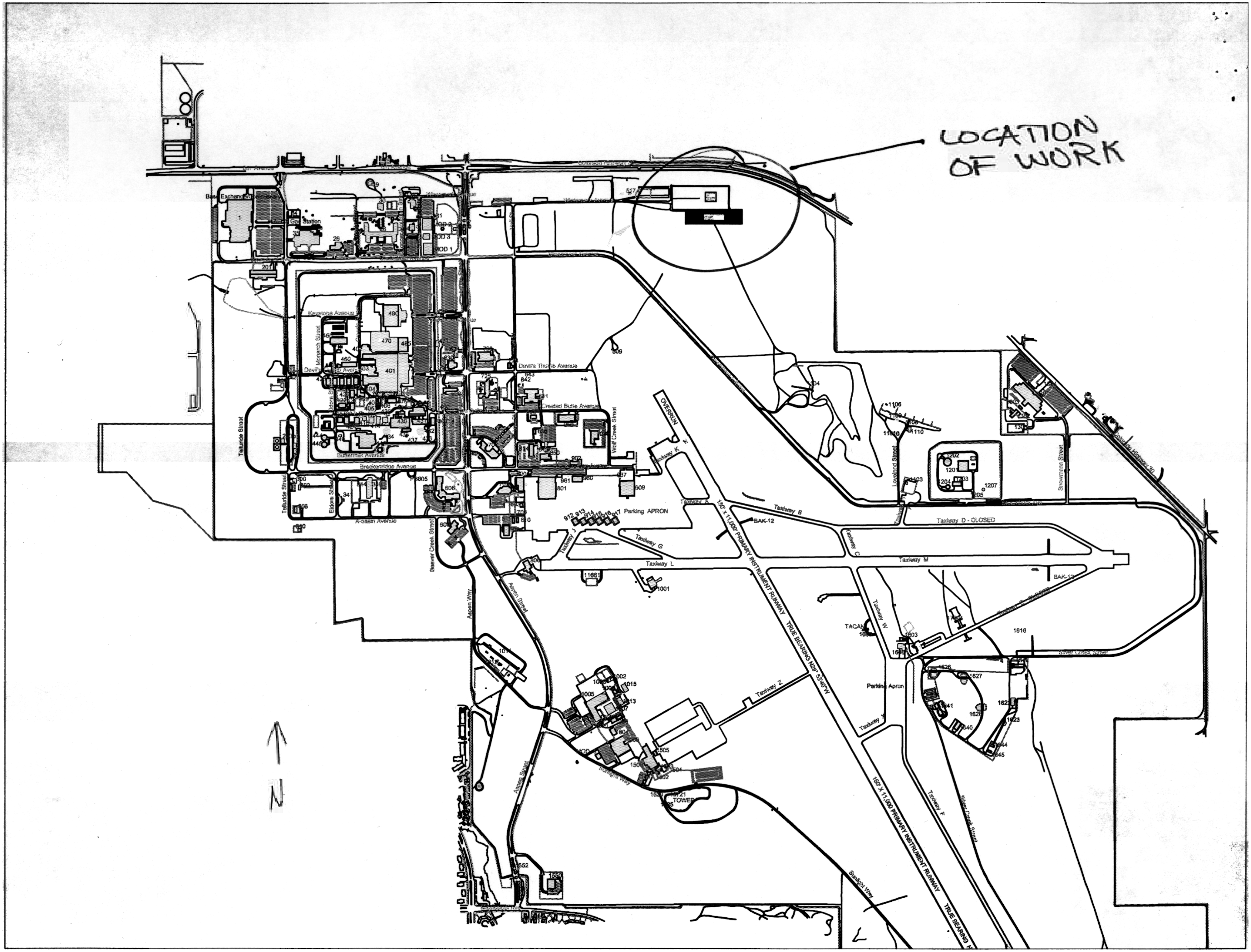
✓	23. THERE IS NO NEED FOR AN ENVIRONMENTAL ASSESSMENT (AFR 19-2) A2.3.1	24. A WRITTEN ASSESSMENT IS BEING/HAS BEEN PROCESSED		25. APPROVED		26. DISAPPROVED

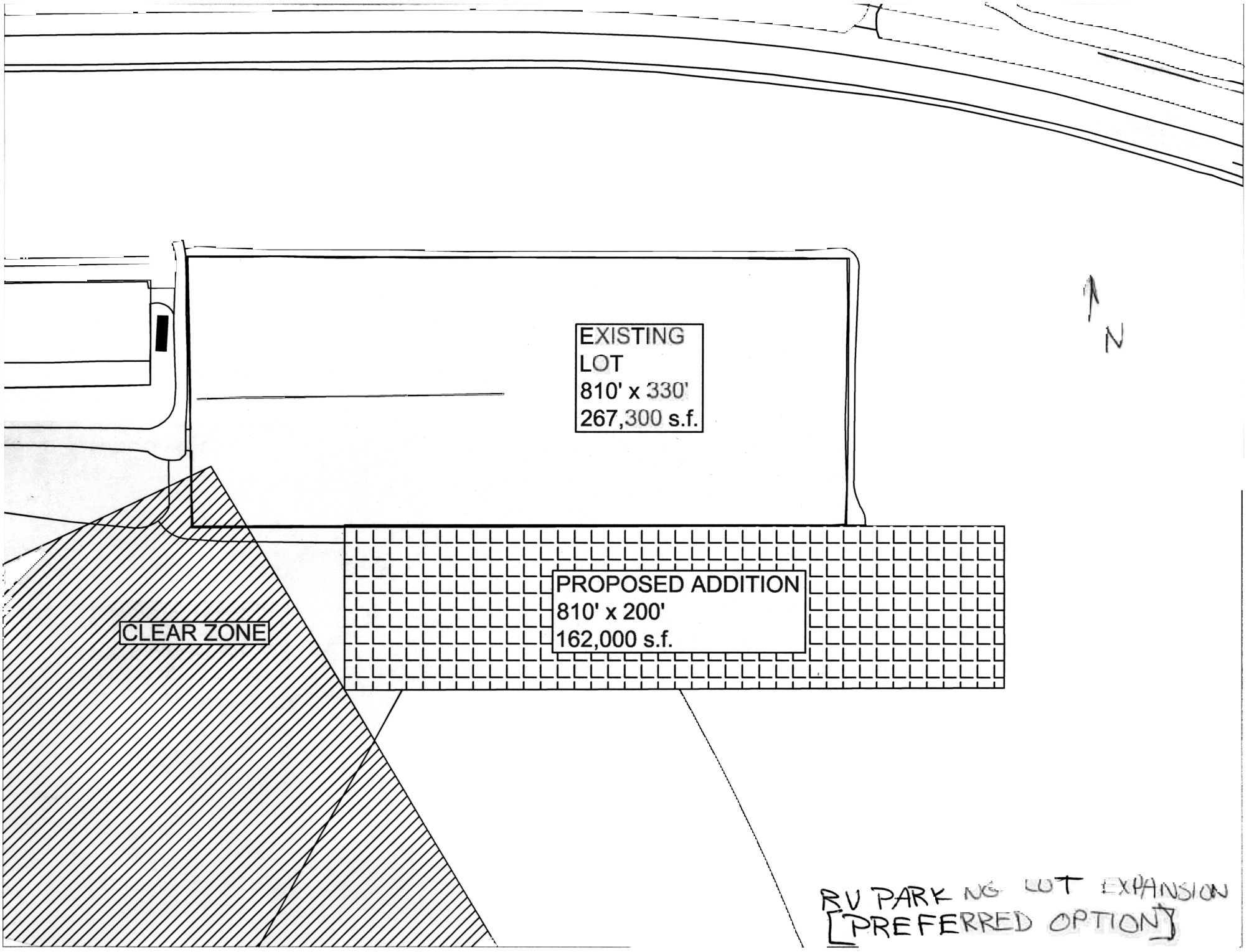
27. REMARKS Requires AF Form 813 won't be accomplished until approved
Needs to go to FWB.

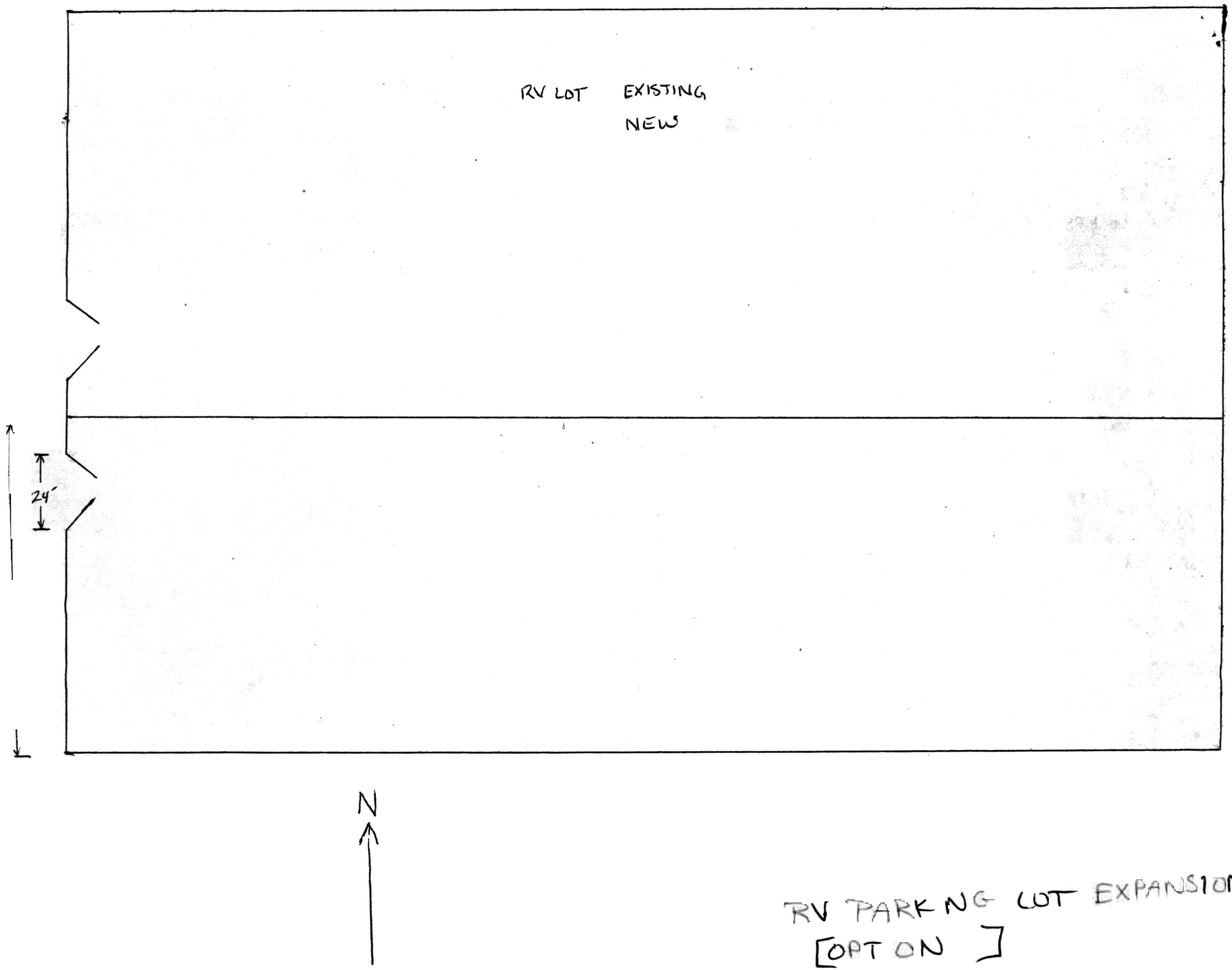
SECTION IV - APPROVING AUTHORITY

28. NAME AND GRADE *(Please Type or Print)*	29. SIGNATURE	30. DATE

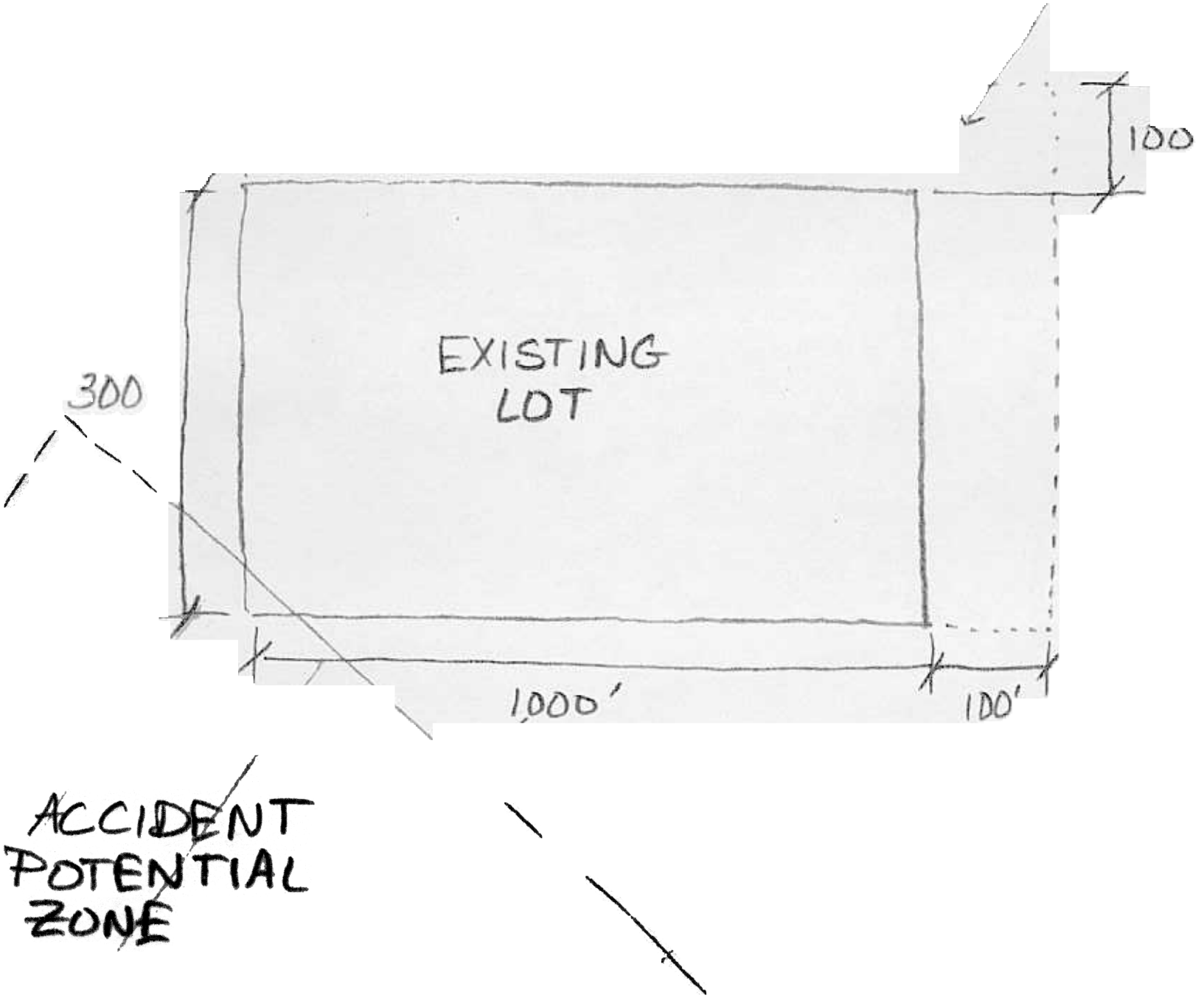
AF FORM 332, 19910101 *(EF-V3)* PREVIOUS EDITION IS OBSOLETE. MASTER FILE COPY


LOCATION OF WORK
N
OVERRUN
Taxiway B
Taxiway D - CLOSED
Taxiway M
Taxiway L
Taxiway G
Taxiway Z
Taxiway F
Parking APRON
Parking Apron
BAK-12
150' x 11,000' PRIMARY INSTRUMENT RUNWAY
TRUE BEARING N29° 53'40"W
TOWER
Sunlight Way
Aspen Street
Aspen Way
Beaver Creek Street
Breckenridge Avenue
Butternilk Avenue
Keystone Avenue
Monarch Street
Telluride Street
Eldora Street
A-Basin Avenue
Devil's Thumb Avenue
Crested Butte Avenue
Wolf Creek Street
Loveland Street
Snowmass Street
Silver Creek Street
Colorado Highway 30
Base Exchange/Commissary
Gas Station


EXISTING
LOT
810' x 330'
267,300 s.f.
N
PROPOSED ADDITION
810' x 200'
162,000 s.f.
CLEAR ZONE
RV PARKING LOT EXPANSION
[PREFERRED OPTION]



RV PARKING LOT EXPANSION
[OPTION]



2

RV PARKING LOT EXPANSION
[OPTION 2]

REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

Report Control Symbol RCS

INSTRUCTIONS: *Section I to be completed by Proponent; Sections II and II 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)	2. FROM (Proponent organization and functional address symbol)	2a. TELEPHONE NO.
460 CES/CEVP	460 MSG/SV	7-6689

3. TITLE OF PROPOSED ACTION
Construct a New Youth Center

4. PURPOSE AND NEED FOR ACTION (*Identify decision to be made and need date).*
Construct a youth center that is located on Buckley AFB so that it is convenient to base personnel and their children.

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPPA) (Provide sufficient details for evaluation of the total action)
See attached

6. PROPONENT APPROVAL (*Name and Grade*)	6a. SIGNATURE	6b. DATE
ELIZABETH A DEMMONS, Maj, USAF	Elizabeth A Demmons	10 JUN 03

SECTIONII - 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.)* Fugitive dust during construction			X	
9. WATER RESOURCES (Quality, quantity, source, etc.) Stormwater runoff during and after construction			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*) Potential Asbestos – dependent upon location				X
12. BIOLOGICAL RESOURCES (*Wetlands/floodplains, flora, fauna, etc)* Potential prairie dogs and burrowing owls			X	
13.CULTURAL RESOURCES (*Native American burial sites, archeological, historical, etc.)*		X		
14.GEOLOGY AND SOILS (*Topography, minerals, geothermal, 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.)*Cumulative Impacts will be addressed in the Environmental Assessment				

SECTION III - ENVIRONMENTAL ANALSIS DETERMINATION

17.		
		PROPOSED ACTION CUALIFIES FOR A CATEGORICAL EXCLUSION (CATEX #) _____: OR
	X	PROPOSED ACTION DOES NOT QULIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALSIS IS REQUIRED.

18. REMARKS
An environmental assessment is required.

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (*Name and Grade*)	19a. SIGNATURE	19b. DATE
Elise Sherva, GS-12	Elise Sherva	6/20/03

AF FORM 813 – CONTINUATION – PROPOSED YOUTH CENTER

PROPOSED ACTION – Construct a 2,657 Square Meter Youth Center Facility, to be located off Breckenridge Road on the south side of the base. The Center would include the following: Administrative offices, isolation room, break room, resource/training room, kitchen, game room, television area, gymnasium, multipurpose/instruction room, outdoor courts, outdoor open space and playground, School Age Program room, computer lab/homework room, snack bar counter, teen room, music room, front desk/control/equipment issue. A parking lot with approximately 50 spaces and a landscaped area consisting of a playground minimal sod are planned.

It is assumed that the youth center would be used by:

Program	Average No of Users
School Age Program – Summer Camp	75
School Age Program – Before and After School	84
Sports Programs	294
General Membership	100
Teen Programs	50
Youth Special Events	75

Source: PK Consulting, Draft Needs Assessment Study for the Youth Center at Buckley AFB CO, 5 May 2003.

ALTERNATIVE ACTION A: Use an existing facility at Buckley AFB. This was eliminated from consideration since Buckley AFB does not have any excess or sufficient space for this action.

ALTERNATIVE ACTION B: Partnership with commercial agencies, such as the YMCA, for after school programs. This was eliminated from consideration because "it did not present a potential benefit to the installation. Due to lower than average price points of military youth center operation and a low return on investment this option would likely not be attractive to a private sector partnership.

NO ACTION ALTERNATIVE. Continue leasing off-base space at the former Lowery Air Force Base location from the Lowry Redevelopment Authority. The current facility is located approximately 6 miles to the west of Buckley AFB. This will result in continues lack of awareness, poor visibility and accessibility, inability to meet demand, and the dependence on available space on Buckley AFB. The military population, which is expected to increase with the addition of new military family housing units, will be forced to leave the Base in order to find adequate before and after school childcare and/or youth programming. This would result in lower utilization, further affecting the viability of the operation.

APPENDIX C

PUBLIC COMMENTS

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

Janet L. Wade
Chief, environmental Flight
660 South Aspen Street, Stop 86
Buckley AFB CO 80011-9551

OCT 5 - 2005

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

Dear Ms. Contiguglia

RE: Your letter dated September 02, 2005

The Air Force is preparing an Environmental Assessment for the construction and operation of a Youth Center at the corner of Telluride St. and Breckenridge Ave. and an expansion of an existing RV Storage Lot. The existing structures, which are the future location of the Youth Center, would be removed under another project. The proposed action is required to enhance the quality of life of military and civilian families living and working at Buckley AFB. The No Action Alternative is to continue using the existing facilities. Figures that show the proposed action locations and alternates are attached.

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. Cultural resources at Buckley AFB have been inventoried and analyzed for historic significance (Historic Building Inventory and Evaluation dated June 2004). There are no known archaeological or historic structure resources in, or near, the proposed sites. Building information, with the dates of construction in parenthesis, is outlined below.

Youth Center Proposed Action Site and Alternative #1:

- Buildings 200 (5AH2284)(1978), 202 (1995), 210 (2000), 300 (5AH2285)(1978), 302 (5AH2286) (1989), 310 (1994), and 340 (1994) were constructed after 1970. Therefore, they are not eligible for inclusion on the National Register of Historic Places.

Youth Center Alternative #2:

- Building 1011 (5AH1528): Was determined to be ineligible for inclusion on the National Register of Historic Places per formal consultation with your office and has been demolished.

- Building 1012 (5AH2317)(1967): Sanitary Latrine, was determined to be ineligible for listing on the National Register of Historic Places and has been demolished.

- Buildings 806 (1996), 1000 (1990), 1001 (1998), 1002 (2000), 1003 (1999), 1004 (1990), 1005 (1994), 1006 (1994), 1007 (1994), 1008 (1996), 1009 (1996), and 1014 (2002 – originally planned as an addition to building 1007) were constructed or in place after 1990. Therefore, they are not eligible for inclusion on the National Register of Historic Places.

RV Storage Expansion:

- Building 517, a Communications Transmitter, was built in 1994 and not eligible for inclusion on the National Register of Historic Places.

Please provide written comments and/or concurrence to:

Floyd W. Hatch
460 CES/CEVP
660 S. Aspen Street, Mail Stop 86
Buckley AFB CO 80011-9551

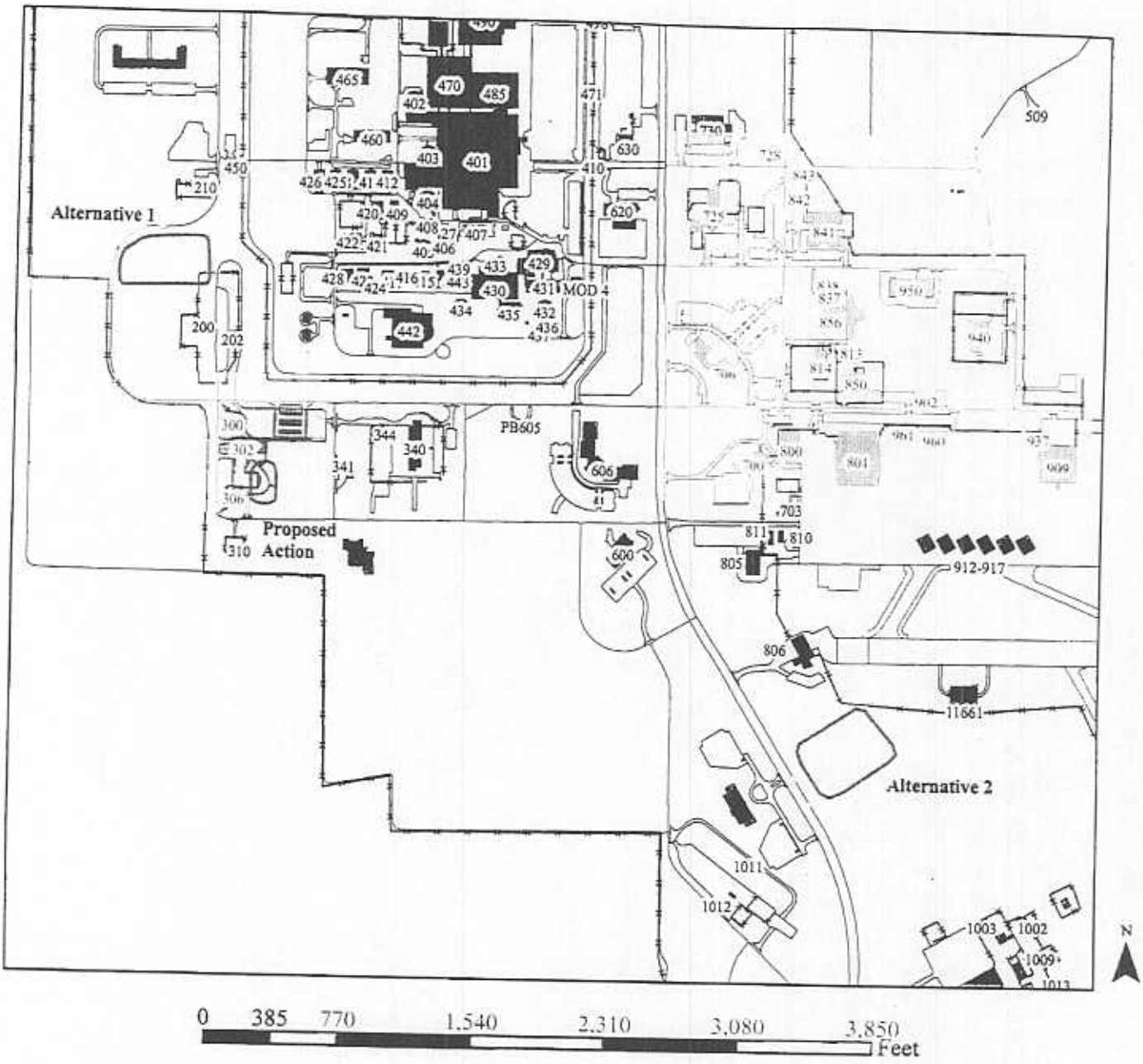
If you have any questions please feel free to contact Mr. Floyd Hatch, Cultural Resources Manager 720-847-6937, email floyd.hatch@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief at 720-847-9977, email janet.wade@buckley.af.mil.

Sincerely

Janet L Wade

JANET L. WADE, GS-13
Chief, Environmental Flight

Attachment
Location figures



Proposed Youth Center
Buckley AFB, CO

Proposed RV Lot Expansion
Buckley AFB, CO

FILE 38-03-01
INIT FWH

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

SEP 2005

Janet L. Wade
Chief, Environmental Flight
660 South Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Bruce Rosenlund
U.S. Fish and Wildlife Service
755 Parfet Street, Suite 496
Lakewood CO 80215

Dear Mr. Rosenlund

The Air Force has prepared a Draft Environmental Assessment (EA) for the Youth Center and Recreational Vehicle Parking Lot Expansion Area located at Buckley Air Force Base (AFB), Colorado. The Youth Center will provide a permanent facility dedicated to youth center programs on base. The RV lot project will expand the existing RV parking lot in order to accommodate the increased demand for RV storage on base. A copy of the Finding of No Significant Impact (FONSI) and the Draft EA dated Jun 05 were sent to you on 25 Aug 05. We have assessed the potential environmental effects of the Youth Center and Recreational Vehicle Parking Lot Expansion Area projects and determined that the proposed actions are not likely to adversely affect federally listed and candidate species. We are requesting initiation of Section 7 consultation per the Endangered Species Act.

Please feel free to contact Mr. Floyd Hatch, Natural and Cultural Resources Manager, at 720-847-6937, email floyd.hatch@buckley.af.mil with any questions.

Sincerely

Janet L Wade

JANET L. WADE,
Chief, Environmental Flight

DEC 15 2005

DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

Ms. Janet Wade
460th Civil Engineer Squadron
660 South Aspen Street
Buckley AFB CO 80011-9551

Ms. Judy Enderle
Prairie Preservation Alliance
P.O. Box 12485
Denver, CO 80212

Dear Ms. Enderle

Thank you for your letter, dated 26 Sep 05, on the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction of the Youth Center and RV Parking Lot Expansion at Buckley Air Force Base (AFB).

Buckley AFB has considered the issues raised in your letter and has considered all competing interests including potential environmental impacts. We have also considered reasonable alternatives to the extent practicable with our mission requirements.

Buckley AFB works with the U.S. Fish and Wildlife Services and the Colorado Division of Wildlife. Both of these agencies review all Buckley AFB EAs. They are also involved in the development of our Integrated Natural Resource Management Plan (INRMP). Buckley AFB is committed to the overall protection of prairie dogs and associated species and is committed to being good stewards of our natural resources. We are following a previously approved Prairie Dog EA which addresses protecting the burrowing owls. Buckley AFB also protects other migratory birds and state listed species. In addition to annual base-wide burrowing owl surveys we also conduct burrowing owl surveys before initiating any ground disturbance at a construction site.

Your comments pertaining to section 4.9.6.3 Wildlife are valid and as a result we have changed the sentence in Section 4.9.6.3, page 4-56 to now read, "Species specifically associated with black-tailed prairie dog colonies, such as the burrowing owl, ferruginous hawk and mammalian predators such as the badger within the ROI would be negatively impacted due to additional loss of food and habitat. Other grassland species which are not primarily associated with burrowing colonies would also likely sustain a long term loss of habitat, however, this would not be considered significant given the extent of grassland communities in Arapahoe and Adams Counties."

We will take any other issues under advisement and thank you for your ideas and input. If you have any further questions, please contact Mr. Bruce James, Environmental Planning Chief at 720-847-7245, email bruce.james@buckley.af.mil.

Sincerely

Janet L Wade

JANET WADE
Chief, Environmental Flight

See feedback from my ERP regulator at the State.
Mark Spangler
Environmental Restoration Program
460 CES/CEVR
660 S. Aspen Street
Buckley AFB, Stop 86
Aurora, CO 80011
720-847-9402
720-847-6159 fax
----- Original Message -----
From: ED J LAROCK
Sent: 9/6/05 2:31:08 PM
To: anthony.fontanetta@buckley.af.mil
Cc:
janet.wade@buckley.af.mil;Rathke.David@epamail.epa.gov;mark.span@gimail.af.mil;Mdsheets@smtpgate.dphe.state.co.us
Subject: BAFB EA youth Center and RV parking

Captain Fontanetta,

I have reviewed the Draft Environmental Assessment (EA) for the new Youth Center and RV storage parking dated August 2005 and received August 26, 2005. This EA addresses both the Buckley Air Force Base Environmental Restoration Program (no current impact) and the base wide expanded Preliminary Assessment (PA) effort as previously requested by the CDPHE Hazardous Materials and Waste Management Division. These issues are discussed to my satisfaction and I concur with the EA conclusions.

Additionally, the EA properly identifies base-wide asbestos issues potentially impacting the proposed action for the Youth Center.

Thank you for the opportunity to comment. If you require this in a formal letter, please let me know.

Ed LaRock
Hazardous Materials and Waste Management Division Colorado Dept. of Public Health and Environment
4300 Cherry Creek Drive South Denver, CO 80246-1530
303-692-3324
Fax 303-759-5355
ed.larock@state.co.us

COLORADO
HISTORICAL
SOCIETY

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

October 7, 2005

Janet L. Wade
Chief, Environmental Flight
460th Civil Engineer Squadron
660 South Aspen Street, Stop 86
Buckley AFB, CO. 80011-9551

Re: Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new Youth Center and expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base. (CHS #46207)

Dear Ms. Wade:

Thank you for your additional information correspondence dated October 5, 2005 and received by our office on October 6, 2005 regarding the above-mentioned project.

After review of your submitted information, we concur with your finding that there are no properties eligible for listing in the National Register of Historic Places within the Area of Potential Effect for the proposed project. Therefore, we concur with the finding of *no historic properties affected* under Section 106 of the National Historic Preservation Act (36 CFR 800.4(d)(1)) for the above-mentioned undertaking.

We request being involved in the consultation process with the local government, which as stipulated in 36 CFR 800.3 is required to be notified of the undertaking, and with other consulting parties. Additional information provided by the local government or consulting parties might cause our office to re-evaluate our eligibility and potential effect findings.

Please note that our compliance letter does not end the 30-day review period provided to other consulting parties.

If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

Sincerely,

Mark Wolfe

For Georgianna Contiguglia
State Historic Preservation Officer

cc: Floyd Hatch/Buckley AFB

PRAIRIE PRESERVATION Alliance

September 26, 2005

Capt Anthony Fontanetta
460 CES/CEVP
660 S. Aspen Street (Stop 86)
Bldg. 1005
Room 254
Buckley AFB
Colorado 80011-9551
Telephone 720.847.9187

Re: Draft Environmental Assessment for Youth Center and Recreational Vehicle Parking Lot Expansion Project Buckley Air Force Base, Colorado

Dear Capt Fontanetta:

Thank you for accepting these scoping comments on behalf of the members and constituents of Prairie Preservation Alliance. We sincerely appreciate the opportunity to provide Buckley AFB with our concerns during this public process. We feel that the scope of the Environmental Assessment should be broadened to include concerns that were not addressed in the assessment and provide you with the following ideas and input.

Purpose and Need

The purpose of this environmental assessment (EA) is to analyze the "potential environmental impacts that may result from constructing a Youth Center and expanding an existing recreational vehicle storage lot (RV lot) at Buckley Air Force Base (AFB), Colorado" (p. 1-1).

While directives provide "guidance for the establishment of outdoor recreation programs and mission sustaining community support" (p. 1-3), construction of an RV lot does not seem to be the "outdoor recreation (p. 1-3) that the EA states it is. It would appear that the "extensive waiting list" (p. 1-3) must apply to retirees at this time since no families are in residence on the base. "The project objective … to provide sufficient space to accommodate the increased demand for RV storage space resulting from realignment to a full functioning AFB" (p. 1-3) at the expense of the environment does not appear so much as an effort to provide recreational opportunities for Active Military and their families, as an attempt to eliminate wildlife and wildlife habitat from the base.

As written, the EA presents evidence of native prairie species in the path of construction, but contends that their removal is of minor consequence. The EA further contends that the species will be protected by the Rocky Mountain Arsenal.

The scope of the EA is "to consider environmental consequences as part of the planning and decision-making process. While the EA provides information with which to make better decisions about proposed actions, it does not impart project approval or authorization which is obtained through the 460th Facilities Board" (p.1-7).

The analyses of solutions fail to adequately weigh multiple possibilities and alternatives to environmental measures.

Both the National Environmental Policy Act (NEPA) and the Administrative Procedures Act (APA) require that an agency's determinations be supported by factual information. A federal court has found that "the agency must explicate fully its course of inquiry, its analysis and its reasoning" (Dubois v. U.S. Department of Agriculture, 102 F.3d 1273, 1287 (1st Cir. 1996)). An agency decision must always have a rational basis that is both stated in the written decision and demonstrated in the administrative record accompanying the decision (Kanawha v. Hocking Coal & Coke Co., 112 IBLA 365, 368 (1990)). In Davis v. Mineta, 2002 WL 1401690 (10th Cir. 2002), the court found that the government too narrowly defined the purpose and need statement.

Thus, based on these decisions by federal courts, we strongly suggest that Buckley AFB revisit its purpose and need statement. We provide the following criteria to assist in that regard:

- Buckley must demonstrate why an additional 100 spaces (162,000 square feet) of space is required to meet the demand of retirees and predicted personnel on base. According to the Recreational Vehicle Industry Association (RVIA), approximately 2440individuals will own RVs by the year 2010, and will require a storage space for the vehicle for 321-328 days annually. Many of these people are retirees, and although trends may have shown an increase in RV ownership a few years ago, rising fuel prices may have altered these data significantly. Prior to making decisions based on future trends, we strongly recommend the AFB consults experts outside the RV industry and seek trends based on today's economics.

- Buckley must afford the six (or more) privately owned storage facilities within five miles of the AFB the opportunity to generate income from their facilities—some of the owners may depend on this income for their livelihood. An on-base lot may be significant enough competition that their business will suffer. As a community partner, it would be an irresponsible act to knowingly reduce their vital income.

- Buckley reports that short-term benefits to employment will result from the construction of a Youth Center and RV storage lot. However, the monies appropriated from public taxation to finance the construction will continue to impact consumable income in the long term. We urge Buckley to consider these long-term ramifications prior to decision-making.

- Buckley acknowledges that the black-tailed prairie dog's "presence at project sites creates habitat for the burrowing owl that is present during the non-winter months" (p. 3-29); and that, "field surveys of selected black-tailed prairie dog wards at Buckley AFB have located this species [burrowing owl] at or near the RV lot sites" (p.3-29). With this information comes the responsibility for providing protection for a species in decline—one that is a state species of concern, is listed as threatened by CDOW, and is protected under the MBTA. Simply because the species is not designated as federally listed does not dispense with Buckley's responsibility for being a good steward.

- Buckley must realize that the removal of black-tailed prairie dogs (through donation to the black-footed ferret program or fumigation) from areas to be impacted by construction is a permanent, lethal method of control. As such, it is irresponsible to state that the consequences to biological resources have a "minor short-term adverse impact and a moderate long-term adverse impact" (Table 2.3, p. 2-13). It is well documented that the species provides a prey base for numerous raptor and predator species, as well as shelter for other mammals and reptiles (John L. Hoogland, The Black-Tailed Prairie Dog, 1995). Consequences of its extermination can be catastrophic to those species that depend upon it in one way or another. Until these relationships are documented on base, construction must be delayed.

- Buckley states, "no alternatives were eliminated from further study" (p. 2-16) regarding the construction of an RV lot. We applaud this decision and recommend that the "no action alternative" be selected as the most environmentally conscious alternative.

- Buckley's vision is to "transform the former Air National Guard installation into a full-fledged AFB providing a quality work environment and a full range of military personnel services" (p. 3-4). This vision affords the AFB with the opportunity to provide an extensive area of native Colorado flora and fauna for viewing and study. A national survey by the U.S. Fish & Wildlife Service reports that in "2001, wildlife-watching participants spent $38.4 billion" (2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, p. 5). The on-base environment provides a wealth of wildlife-associated recreation that must be protected, not destroyed.

- Buckley must adhere to its own findings that a "significant riparian area exists 0.5 miles northeast of the installation along Sand Creed floodplain" (p. 3-23). A wildlife corridor of this importance must depend, at least in part, on the prey base represented by the black-tailed prairie dog colony that inhabits the proposed RV lot. To destroy an essential food supply is to declare the riparian area of no significance, which flies in the face of its findings.

- Buckley must acknowledge its findings that the only noxious vegetation on the proposed RV lot is thistle, making the site a salvageable mixed-grass prairie worthy of protection.

- Buckley findings noted that the black-tailed prairie dog inhabited 492 acres of installation land surface during 2001-2003 (Buckley AFB, 2003b). In 2004, a survey by ERO Resources found only 296 acres inhabited by the species—a 40 percent decrease in acreage inhabited over a 1to3-year period. To ignore these findings is to minimize the effect of "management" on base, and doom the species to extirpation in the future.

- Buckley declares the off-base land use patterns or aesthetic values are such that the RV lot expansion, located in the open space ELVA were not found to adversely affect the off-base land use patterns or aesthetic values, and therefore were not analyzed further in the EA (p. 3-4). This reasoning is analogous to the destruction of the commons in England—where each user decided that their individual over-use would not adversely affect the whole—resulting in its ruination for everyone. The location of the RV lot and its adverse affects to off-base land use must be analyzed.

The extent to which off-base citizens utilize the area is unknown until it is analyzed and therefore must be calculated.

- Buckley uses faulty logic in stating, "Colorado law does not prohibit habitat alteration or destruction" [of threatened species and species of special concern] (p. 3-30), and because of this exclusion, the destruction of this type of habitat is legal. While it may be legal, it is not acceptable to the people of Colorado, who own the wildlife in the State, and acting in such an irresponsible manner indicates a lack of stewardship and support of species management and protection. We strongly urge Buckley to reconsider its position.

- Buckley acknowledges, "the bald eagle is known to reside at or seasonably visit the installation" (p.3-23). This knowledge is tantamount to admitting that destroying its food source will negatively affect its presence in the area. Bald eagles are rebounding because of the concentrated efforts of people and agencies throughout the U.S., and must be continued over the long term.

- Buckley must rely on the data from ERO Resources in 2004, which found 18 burrowing owl nests, 33 adults, and 17 juveniles in the proposed areas of construction. This species is in decline and enjoys the protection of multiple government agencies. Buckley must work with these agencies in providing suitable habitat to augment its population to the extent possible.

- Buckley states, "an on-base Youth Center would increase the number of programs and services for youth, resulting in changes in the base service population. A diverse mix of youth services would result, with the addition of sport, before/after school, summer camp, and teen programs" (p. 4-33). This service presents an excellent opportunity to educate youth by allowing them to experience first-hand the relationships among the many species that inhabit the shortgrass prairie. Prairie Preservation Alliance would be honored to develop an environmental program to enhance the service package available through a youth center.

- Buckley must realize that the small number of benefits for retirees who wish to store their RVs is far outweighed by the potential benefits of restoring the proposed site to native mixed-grass prairie. The continued development in adjacent Aurora further decreases the opportunity of youth and Military Active Duty, their families, and retirees to enjoy the advantages of experiencing Colorado's historical landscape.

- Buckley states, "The Proposed Action would result in minor short-term animal displacement from site construction" (p. 4-50). The statement implies that displaced animals will somehow find temporary niches to inhabit until construction is completed, and then will be able to return to their homes. This is not the case. Once displaced, wildlife will likely perish since all available habitat is occupied. While people will often open their hearts and homes to victims of disaster, the wildlife community cannot adhere to these same standards. Limitations in food and shelter make this "humane" alternative impossible. Therefore, impacts are not minor—but major to the birds and animals who are forced to leave.

- Buckley must understand the ramifications of its statement, "A portion of the Buckley AFB black-tailed prairie dog colony would be relocated or removed as a result of the Proposed Action" (p. 4-52). The results of relocation or removal (as used in this context) are lethal to black-tailed prairie dogs and burrowing owls. With no nesting area to use, returning burrowing owls cannot reproduce, for they require prairie dog burrows as nest sites. This species will continue to decline, ultimately resulting in its extinction. Burrowing owl nesting sites must be vigorously protected. It is incumbent upon the MBTA, USFWS, CDOW, BAFB, and people of the State to do so. Anything less can be construed as negligence in the highest degree. To protect the birds during a single breeding season only salves the conscience of the developer in the short term. Ultimately, it will destroy the species and the predators that rely on it as a food source.

- Buckley's argument that species associated with the black-tailed prairie dog would benefit from its removal because of management practices at RMA is ludicrous! These species will continue to decline to extinction with continued loss of habitat. The ESA protects species and their habitat, knowing that one cannot exist without the other. To do less is an egregious assault on the landscape. Additionally, RMA cannot accept prairie dogs for at least 5 years. To attempt to offload responsibility to that facility is irresponsible and ineffective at this time. Perhaps in the future, a partnership can be formed to jointly invest in the future of grassland species, but not at the present time.

Thoughtfully Analyzed Alternatives

Buckley must develop and provide to the public discrete and thoughtfully analyzed alternatives and present them in an EA. To do less is a violation of NEPA. The Code of Federal Regulations provide:

[The alternatives] section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (§1502.15) and the Environmental Consequences (§1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, *thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.* (Emphasis mine). [40 C.F.R. §1502.14]

We are concerned that the alternatives found in the EA are too narrowly constructed. Yet, under NEPA, all of these alternatives must weigh competing interests of the public, balance the potential harms of the agency's actions, and consider a whole realm of economic, social, and environmental knowledge. Of particular note, the "only nonlethal methods" section excludes a whole sphere of imaginative, non-lethal controls. Again, the federal courts have weighed in on this issue.

In Muckleshoot Indian Tribe v. U. S. Forest Service, 177 F.3d 800 (9th Cir. 1999), the court upheld the purpose and need statement but found that the U.S. Forest Service did not consider a reasonable range of alternatives, including considering public interest alternatives. The court wrote that the public's interests and rights must be retained. In City of Carmel-by-the Sea v. U.S. Dept. of Transportation, 123 F.3d 1142 (9th Cir. 1997), the court wrote, "the stated goal of a project necessarily dictates the range of reasonable alternatives and an agency cannot define its objectives in unreasonably narrow terms." (Id. at 1155.) In yet another case, Simmons v. U.S.

Army Corps of Engineers, 120 F.3d 664, 669 (7th Cir. 1997), the court found that "the 'purpose' of a project is a slippery concept, susceptible of no hard-and-fast definitions. One obvious way for an agency to slip past the structures of NEPA is to contrive a purpose too slender as to define competing 'reasonable alternatives' out of consideration (and even out of existence). The federal courts cannot condone an agency's frustration of Congressional will."

Economics and Society

Buckley needs to provide the public with a cost-benefit analysis of its proposed action. Although the CEQ regulations in 40 CFR §1502.23 do not require an agency to develop *a cost-benefit analysis*, per se, NEPA provides that "effects" are both direct and indirect. The criteria for establishing a cost-benefit analysis includes:

> Ecological . . . aesthetic, historic, cultural, *economic, social*, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial. [40 C.F.R. §1508.8].

The criteria we feel are important for developing a cost-benefit analysis are:

- Analysis of economic sectors showing the relative importance of prairie dogs in eastern Colorado in relation to the associated wildlife the public engages in viewing (See U.S. Fish and Wildlife Service 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation: $38.4 billion in expenditures in viewing wildlife in the U.S.) compared with all other economic activities in this region.

- Analysis of the opportunity costs that include impacts to ecosystems by elimination of prey species, including disruption of the predator/prey balance, and changes in floral communities if large numbers of prairie dogs are removed.

- Analysis of the cumulative economic impacts to society from the continuation of this program.

- Cost-benefit analysis for wildlife damage management in terms of society's willingness to pay for such control. What do public surveys tell us with regards to the value of wildlife to society? Several studies and surveys have been conducted concerning the value of animals to people and the value of predator controls.

Environmental and Issues Concerning the Health and Well Being of People, Animals, and Nature

As you are well aware, the 1931 Animal Damage Control Act continually bumps up against other federal and state laws. The Act presumes that agricultural concerns trump all others. Fortunately, NEPA, the Endangered Species Act, and a whole host of other environmental laws which were passed by Congress in the 1970s require that Environmental Assessment analyses be based on a whole range of values held by the public and carefully conduct its projects with environmental integrity. As such, Buckley must balance humans' rights and interests

with nonhuman and environmental well-being and health. We provide some examples for the environmental analyses as follows:

- The agencies must provide data to the public that enumerates how many animals will be affected by the proposed action and how individual prairie dogs and the population as a whole will be influenced. Buckley and the State of Colorado in this effort must determine how many prairie dogs and non-target species will be harmed or killed and provide the public with its rationale. To emphasize, the agencies must show that they have reliable baseline data concerning prairie dog populations, recruitment levels into the population, etc., *before* they take any actions them. The analysis must consider all cumulative impacts to the prairie dog population, including affects from shooting, poisoning, road kill, "non-lethal" controls such as donating individuals to black-footed ferret reintroduction programs and raptor foundation, etc. The public must be given information about whether the agencies' actions will target certain members of the prairie dog population—particularly if females and pups are targeted.

- Non-lethal methods. What is the true range of possibilities? Have the latest advances in barrier systems used in combination with vegetative barriers been researched? Has the definition of relocated been polluted by recommending the use of the vacuum extraction method followed by donation to ferret and raptor programs? The discussion of relocation needs to be vastly improved upon and not easily dismissed as it is in the EA.

- Buckley must evaluate whether their prairie dog control efforts (whether lethal or non-lethal) will effect or harm other species, particularly species that are threatened, endangered, or are of special concern to the State of Colorado, the US Fish and Wildlife Service, or to the public.

- Buckley must evaluate whether their prairie dog control efforts (whether lethal or non-lethal) will harm the ecosystem, the health of the ecosystem, and biodiversity in any capacity.

- In this analysis, Buckley must discuss and evaluate the range of human values toward prairie dog control measures (that will likely include the killing of large prey bases for the benefit of individuals who perceive them as a health or safety risk) before it makes its decision. The groups' actions also must be evaluated for what could happen in the foreseeable future.

- Buckley must evaluate the range of human values concerned with conservation, the well being, and health of individuals, populations, and the ecosystem.

Decision Model Process

For years prairie dogs have been routinely persecuted, poisoned and shot to free the rural environment of the "destructive rodent pest". The same unwarranted beliefs have transferred to the urban environment where the prairie dog is poisoned and bulldozed daily to make way for development. With no protection from either the state or federal level it is of grave concern that the species will become extinct before protective measures are in place. Species have certainly been lost while waiting to be listed as threatened or endangered and in the same

way, prairie dogs can easily be lost to the grassland biome if protection is not afforded them. It will be one more example of violating state and federal laws as well as the public's trust.

Mitigation Measures

NEPA requires that mitigation measures be reviewed in the process—not in some future decision shielded from public scrutiny. "[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the 'action-forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989).

The Public Trust Doctrine and the Public's Interest

The ownership of wildlife under common law is a long established tradition in England and the United States. Wild animals, in the proprietary sense, are owned by no one, not even the state. Clajon Producation Corp. v. Petera, 854 F.Supp. 843 (D.WY 1993); U.S. v. Long Cove Seafood, Inc. 582 F.2d 159 (2nd Cir. 1978). As such, wildlife is held in trust for the public. "The American common law rule is that the sovereign owns fish and game in trust for its citizens." Mille Lacs Band of Chippewas Indians v. Minnesota, 861 F.Supp. 784 (D.MN, 1994). The U.S. Supreme Court has held that states hold wildlife in trust for its citizens for conservation and protection. Hughes v. Oklahoma, 441 U.S. 322 (1979). For an excellent discussion of the public trust doctrine, please see Susan Morath Horner, "Embryo, Not Fossil: Breathing Life into the Public Trust in Wildlife," *Land and Water Review*, volume 35 (University of Wyoming, College of Law, 2000), p. 23-75.

In addition to the harm to wildlife, we are concerned about the harm to the ecosystem when a keystone species is removed. Such activities can harm the soil, water, and air and thus harm the public's interest.

Integrity of Data

The environmental analyses that Buckley gathers must adequately address all the information available on this issue so that informed decisions can be reached as required by NEPA. We raise this point, because past environmental analyses regarding prairie dogs have not included sound research. The EA itself cites only the science that bolsters its position. The literature on the topic at hand has far more breadth and should not be limited solely to the "hard" sciences, but should also include the vast body of literature that concerns human dimensions. We have included a bibliography at the end to assist your research. (This bibliography is not an exhaustive look at the literature, but is intended as a starting point.)

Again, NEPA requires that agencies "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." 40 C.F.R. §1502.24. Courts have determined "[i]f an alternative mode of EIS evaluation is insufficiently detailed to aid the decision-makers in deciding whether to proceed, or to provide the information the public needs to evaluate the project effectively, then the absence of a numerically expressed cost-benefit analysis may be fatal." Columbia Basin Land Protection Ass'n v. Schlesinger, 643 F.2d 585, 594 (9th Cir. 1981).

Public Lands, Cumulative Impacts, Need for a Single Document

NEPA requires that federal agencies prepare a detailed environmental impact statement for each proposed action considering "cumulative actions" and "connected actions" together in a single statement rather than subdividing the proposed actions into smaller environmental analyses. 40 C.F.R. § 1508.25(a); see also Save the Yaak v. Block, 840 F.2d 714, 719-21 (9th Cir. 1988).

Without a single comprehensive document, with regards to prairie dog management in Colorado, we are left without sufficient data and so is the agency. Buckley needs sufficient information so that it can make sound decisions. We recommend that Buckley:

1. Revisit the purpose and need statement so that it reflects criteria important to the public's interest;
2. Expand and more clearly analyze a range of alternatives with the public trust doctrine in mind;
3. Provide the public and itself with a cost-benefit analysis of the proposed actions;
4. Analyze issues that concern the health and well being of people, animals, and nature and that this search have integrity;
5. At long last notify the public about its decision model process and whether that process is actually followed; and
6. Expand the scope of this analysis to include all of Colorado so that cumulative impacts can be adequately addressed.

Conclusion

Thank you for providing the public with the opportunity to comment on this EA. It is important that as a matter of practice, the federal sector engages the public early on. We have several concerns, as expressed here. No doubt, these concerns are not comprehensive and so we are hopeful that Buckley will be allowed to continue accepting input from a vast public.

Sincerely,

Judy Enderle, President
Prairie Preservation Alliance
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Denver, CO 80212
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judyenderle@earthlink.net

Suggested Bibliography

Dunlap, Thomas R. Saving America's Wildlife: Ecology and the American Mind, 1850-1990. Princeton University Press, 1988.

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FILE
INIT

COLORADO
HISTORICAL
SOCIETY

September 2, 2005

Capt. Anthony Fontanetta
460th Civil Engineer Squadron
660 South Aspen Street, Stop 86
Buckley AFB, CO. 80011-9551

Re: Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new Youth Center and expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base. (CHS #46207)

Dear Capt. Fontanetta:

Thank you for your correspondence dated August 25, 2005 and received by our office on August 26, 2005 regarding the above-mentioned project.

After review of the submitted information, we are unable to complete our review of the Draft EA and FONSI. According to our files, we have not received the Section 106 of the National Historic Preservation Act studies for this project. Once we receive and review the Section 106 studies, we will then be able to review and comment on the Draft EA and FONSI.

We recommend that you coordinate your National Environmental Policy Act (NEPA) studies with the studies required under Section 106 of the National Historic Preservation Act. According to 36 CFR 800.8 of Section 106, "Federal agencies are encouraged to coordinate compliance with Section 106 and the procedures in this part with any steps taken to meet the requirements of the National Environmental Policy Act." The findings from the Section 106 studies can inform the NEPA studies, such as including mitigation measures identified under Section 106 into the NEPA decision document.

We have enclosed a flow chart that explains the coordination between Section 106 and NEPA. If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

Sincerely,

for Georgianna Contiguglia
State Historic Preservation Officer

cc: Floyd Hatch/Buckley AFB

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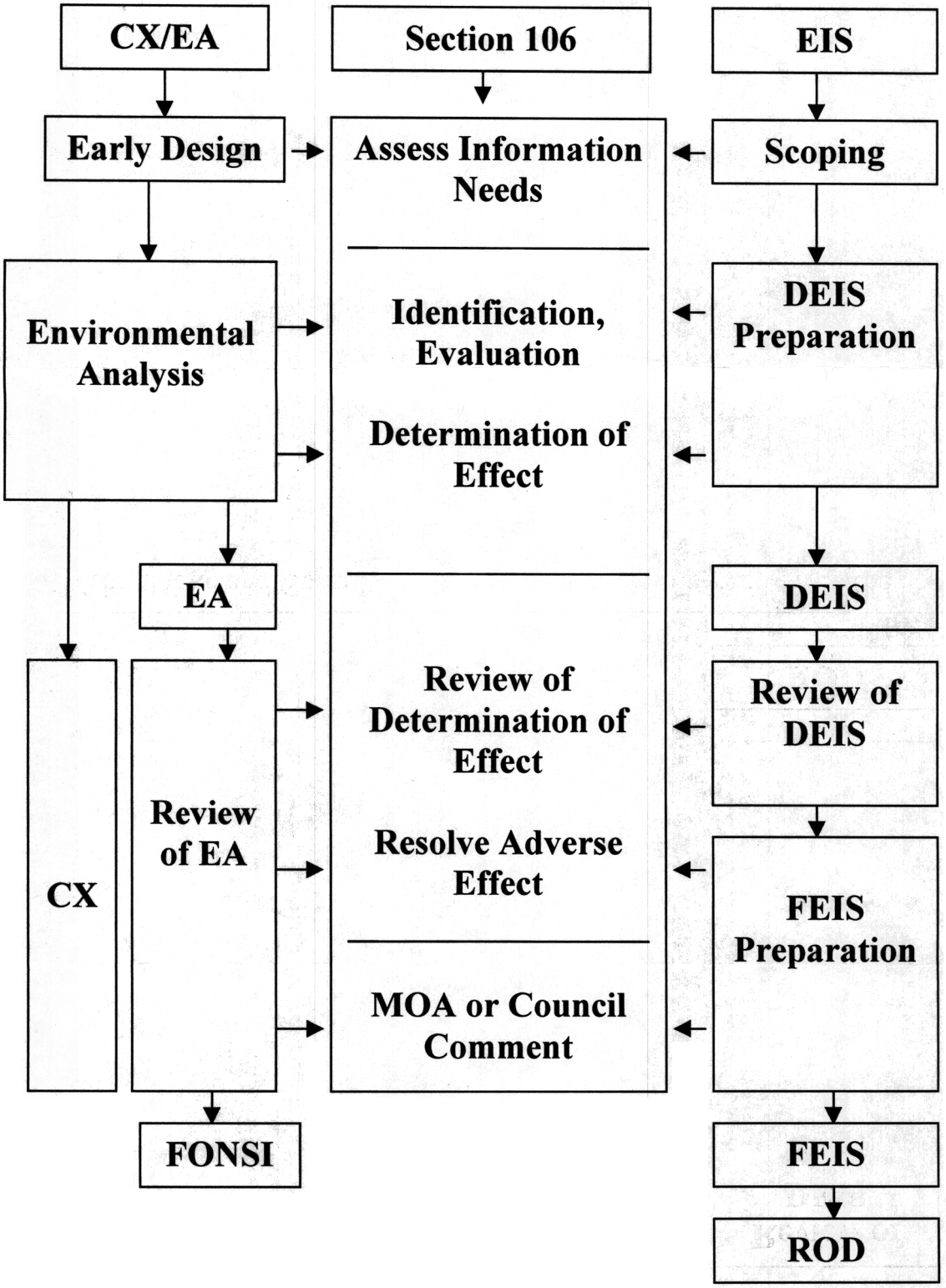
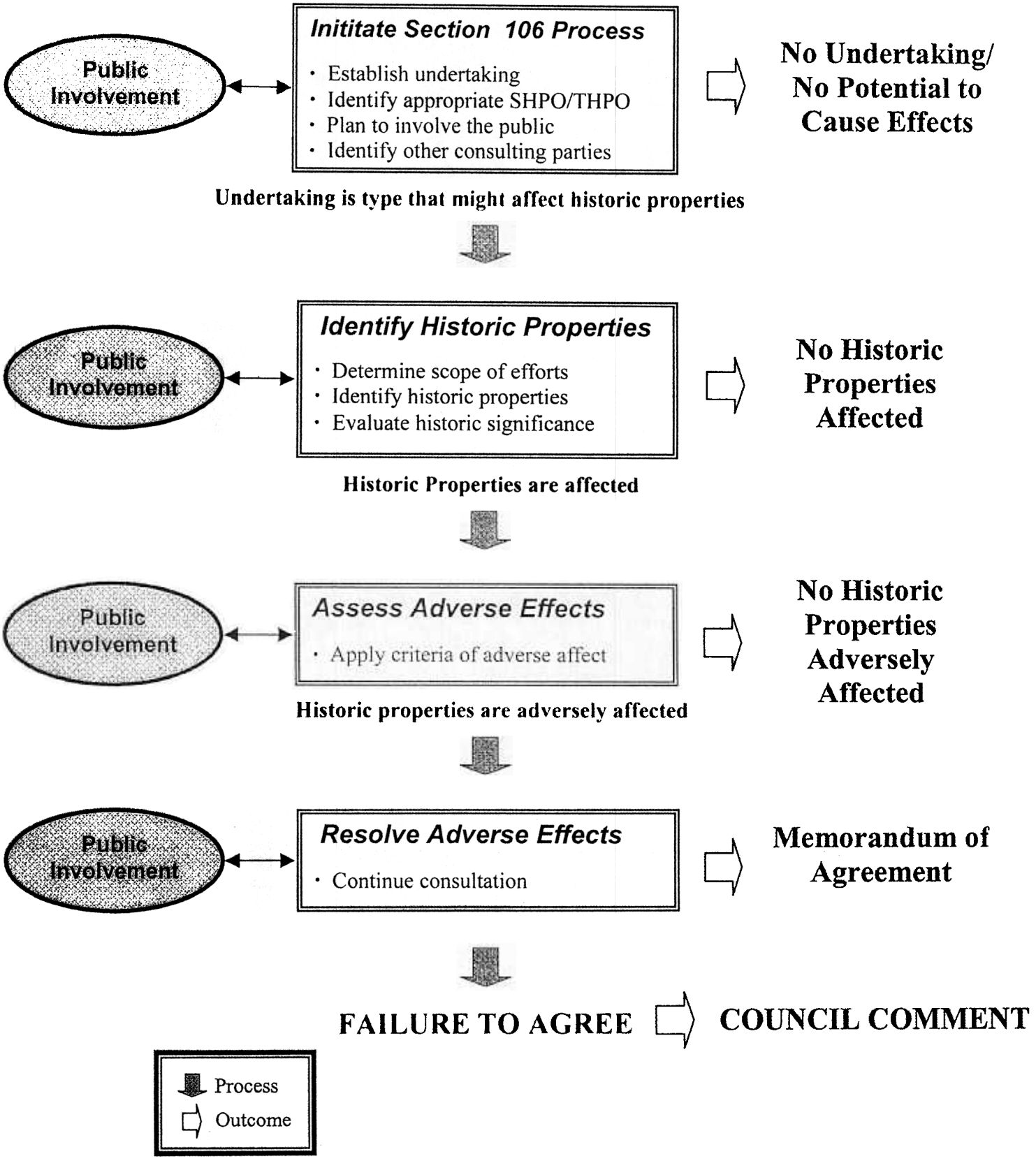
COORDINATION BETWEEN NEPA AND SECTION 106



The Public and Consulting Parties must be notified and given the opportunity to comment during each step of the Section 106 review process.

THE SECTION 106 PROCESS



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this is in response
to Cap. Improv. EA...

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

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

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Colorado Department
of Public Health
and Environment

September 1, 2005

James Page
Dept. of the Air Force
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB, CO 80011-9551

Re: Buckley Air Force Base Improvements

Dear Mr. Page,

On August 25, 2005 the Colorado Air Pollution Control Division received a request for an air quality determination concerning Buckley Air Force Base Improvements. Thank you for taking the time to inquire about air quality requirements in this area. The following information pertains to air quality issues only.

All sources of air emissions in Colorado are required to obtain a construction permit unless they are specifically exempted by the provisions of Regulation No. 3. The first phase of air permitting involves submission of an Application for Construction Permit for each facility and one Air Pollutant Emission Notices (APEN) for each emission source. For purposes of Air Pollutant Emission Notice reporting, a source can be an individual emission point or group of similar emission points (Ref: Regulation No. 3, Part A). Both APEN reporting and permit requirements are triggered by uncontrolled actual emission rates. Uncontrolled actual emissions are calculated based on the requested production/operating rate assuming no control equipment is used. In general, an APEN is required for an emission point with uncontrolled actual emissions of any criteria pollutant equal to or greater than the quantity listed in the table below:

Area	Uncontrolled Actual Emissions
Attainment Areas	2 Tons Per Year
Non-attainment Areas	1 Ton Per Year
All Areas	Lead Emissions: 100 pounds per year

Please consult http://www.cdphe.state.co.us/ap/attainmaintain.asp to determine if your project will be located within an attainment or non-attainment area. Other exemptions may be found in Regulation No.

3, Part A, Section II.D.1, however a source may not be exempted if the source would otherwise be subject to any specific federally applicable requirement.

Sources of non-criteria reportable air pollutants have different reporting levels depending on the pollutant, release point height, and distance to property line. Please see Appendix A and Appendix C of Regulation No. 3 for determining the appropriate reporting level for each pollutant and for the list of non-criteria reportable air pollutants. . However, none of the exemptions from Air Pollutant Emission Notice filing requirements described above shall apply if a source would otherwise be subject to any specific federal or state applicable requirement. Information concerning submittal of revised Air Pollutant Emission Notices is also given in Regulation No. 3, Part A. An Air Pollutant Emission Notice is valid for a period of five years. The five-year period recommences when a revised Air Pollutant Emission Notice is received by the Division.

If you have any questions regarding your reporting and permitting obligations please call the Small Business Assistance Program at (303) 692-3148 or (303) 692-3175.

Land development (earth moving) activities that are greater than 25 acres or more than 6 months in duration will most likely be required to submit an APEN to the Division and may be required to obtain an air permit. In addition a startup notice must be submitted 30 days prior to commencement of the land development project. Please refer to the following link for additional information: http://www.cdphe.state.co.us/ap/down/landdevelop.pdf.

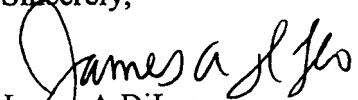
Other requirements regarding the disturbance of lead-based paint or asbestos containing materials during demolition and renovation/remodeling activities are set forth in Colorado Regulations No. 8 (Asbestos) and/or 19 (Lead-based Paint). Should you have any questions regarding these particular regulations, or need the names of qualified inspectors, please call our asbestos and lead-based paint staff at 303-692-3150.

Additionally, I have several comments on the Draft Environmental Assessment. Page 3-10, Table 3.3 states there are no Colorado standards for Lead. However there is a standard of 1.5 $\mu g/m^3$. Section 4.11.5 "Best Management Practices" should include BMPs for leaks from the recreational vehicles. Section 4.15.4 "No Action Alternative" seems to be drawn from some other EA and does not appear relavent to the current EA under discussion.

If you have any questions or feel as though you need more information on possible air pollution permits or notice requirements, please contact me directly at (303) 692-3127 or the Colorado Air Pollution Control Division's Stationary Source Program at (303) 692-3150. I can also be reached via email at jim.dileo@state.co.us.

Again, thank you for taking the time to contact the Division about this upcoming project.

Sincerely,



James A DiLeo
Air Quality Planner
Colorado Air Pollution Control Division

APPENDIX D

AGENCY COORDINATION LETTERS

MACTEC

engineering and constructing a better tomorrow

August 25, 2005

Denver Public Library
Government Document Section
10 West Fourteenth Ave
Denver, CO 80204

Attention: Mr. Wayne Coffey

The Air Force has prepared a Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for construction of a Youth Center and Recreational Vehicle Parking Lot Expansion Projects at Buckley Air Force Base (AFB). The proposed action is required to support the 460th Air Base Wing mission and improve quality of life for on-site, off-site, and retired personnel.

A copy of the Draft EA and FONSI for the Youth Center and Recreational Vehicle Parking Lot Expansion Projects is enclosed for public review. Written comments can be directed to:

Capt Anthony Fontanetta
460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254
Buckley AFB, Colorado 80011-9551

Questions can be directed to Capt Anthony Fontanetta at (720)-847-9187.

Sincerely,

Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

MACTEC Engineering and Consulting, Inc.
14062 Denver West Parkway, Suite 300 • Golden, CO 80401 • Phone: 303.292.5365 • Fax: 303.292.5411
www.mactec.com

MACTEC

engineering and constructing a better tomorrow

August 25, 2005

Aurora Public Library
Government Document Section
14949 East Alameda Street
Aurora, CO 80012

Attention: Ms. Susan Yoneda

The Air Force has prepared a Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for construction of a Youth Center and Recreational Vehicle Parking Lot Expansion Projects at Buckley Air Force Base (AFB). The proposed action is required to support the 460th Air Base Wing mission and improve quality of life for on-site, off-site, and retired personnel.

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Sincerely,

Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

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www.mactec.com

MACTEC

engineering and constructing a better tomorrow

August 25, 2005

CU-Boulder
University Government Publications Library
1720 Pleasant Street
Boulder, CO 80309

Attention: Ms. Leanne Walther

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Sincerely,

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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

AUG 25 2005

Dan Beley
Colorado Department of Public Health and Environment
Water Quality control Division
4300 Cherry Creek Drive, South
WQCD-OA-B2
Denver CO 80246-1530

Dear Mr. Beley

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new Youth Center and to expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base (AFB), CO. The proposed actions are part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. These proposed projects are required to support the 460th Space Wing mission and improve quality of life for on-site, off-site, and retired personnel. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Captain Anthony Fontanetta
460 CES/CEVP
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Captain Fontanetta, at 720-847-9187, or via e-mail at anthony.fontanetta@buckley.af.mil.

JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

2 Attachments:
1. Draft EA
2. Draft FONSI

DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

AUG 2 5 2005

Mac Callison
Planning, Traffic Division
City of Aurora
1470 South Havana
Aurora CO 80012

Dear Mr. Callison

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new Youth Center and to expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base (AFB), CO. The proposed actions are part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. These proposed projects are required to support the 460th Space Wing mission and improve quality of life for on-site, off-site, and retired personnel. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

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

AUG 2 5 2005

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

Nancy Chick
Air Pollution Control Division
Colorado Department of Public Health and Environment
APCD-TS-B24300
Cherry Creek Drive, South
Denver CO 80246-1530

Dear Ms. Chick

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new Youth Center and to expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base (AFB), CO. The proposed actions are part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. These proposed projects are required to support the 460th Space Wing mission and improve quality of life for on-site, off-site, and retired personnel. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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Buckley AFB CO 80011-9551

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

2 Attachments:
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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

AUG 25 2005

Lt Col James P. Page
460th Civil Engineer Squadron
660 South 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) to construct a new Youth Center and to expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base (AFB), CO. The proposed actions are part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. These proposed projects are required to support the 460th Space Wing mission and improve quality of life for on-site, off-site, and retired personnel. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

AUG 2 5 2005

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

Jerry Craig
Wildlife Researcher
Colorado Division of Wildlife
Wildlife Research Center
317 W. Prospect Road
Fort Collins CO 80526

Dear Mr. Craig

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new Youth Center and to expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base (AFB), CO. The proposed actions are part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. These proposed projects are required to support the 460th Space Wing mission and improve quality of life for on-site, off-site, and retired personnel. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

AUG 2 5 2005

Jane Hann
Environmental Project Manager
Colorado Department of Transportation
4201 East Arkansas Ave.
Denver CO 80222

Dear Ms. Hann

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new Youth Center and to expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base (AFB), CO. The proposed actions are part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. These proposed projects are required to support the 460th Space Wing mission and improve quality of life for on-site, off-site, and retired personnel. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

AUG 25 2005

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

James Ives, C.E.P.
Planning, Environmental Division
City of Aurora
15151 E. Alameda
Aurora CO 80012

Dear Mr. Ives

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

AUG 25 2005

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

Eugene Jansak
Industrial Waste Specialist
Metro Wastewater Reclamation District
6450 York Street
Denver CO 80229-7499

Dear Mr. Jansak

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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

AUG 2 5 2005

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

Ed LaRock
Federal Facilities HMWM 2800
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) to construct a new Youth Center and to expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base (AFB), CO. The proposed actions are part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. These proposed projects are required to support the 460th Space Wing mission and improve quality of life for on-site, off-site, and retired personnel. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

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

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

AUG 25 2005

Patricia Mehlhop
U.S. Fish and Wildlife Service
PO Box 25486
Denver CO 80225-0486

Dear Ms. Mehlhop

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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
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AUG 25 2005

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

Dear Ms. Moore

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

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

AUG 25 2005

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
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Jim Paulmeno
Manager Environmental Planning
Colorado Department of Transportation
4201 East Arkansas Ave.
Denver CO 80222

Dear Mr. Paulmeno

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

AUG 25 2005

David Rathke
U.S. Environmental Protection Agency, Region 8
999 18th Street, Suite 500
Denver CO 80202

Dear Mr Rathke

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JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

2 Attachments:
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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

AUG 2 5 2005

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

Bruce Rosenlund
Colorado Field Supervisor
U.S. Fish and Wildlife Service
755 Parfet Street, Suite 496
Lakewood CO 80215

Dear Mr. Rosenlund

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JAMES P. PAGE, Lt Col, USAF
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DEPARTMENT OF THE AIR FORCE

460TH SPACE WING (AFSPC)

AUG 2 5 2005

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

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

Dear Mr. Svoboda

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660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Captain Fontanetta, at 720-847-9187, or via e-mail at anthony.fontanetta@buckley.af.mil.

JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

2 Attachments:
1. Draft EA
2. Draft FONSI

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

Lt Col James P. Page
460th Civil Engineer Squadron
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

AUG 2 5 2005

Robert Watkins
Director of Planning
City of Aurora
15151 E. Alameda
Aurora CO 80012

Dear Mr. Watkins

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new Youth Center and to expand the existing recreational vehicle (RV) storage lot at Buckley Air Force Base (AFB), CO. The proposed actions are part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. These proposed projects are required to support the 460th Space Wing mission and improve quality of life for on-site, off-site, and retired personnel. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Captain Anthony Fontanetta
460 CES/CEVP
660 South Aspen Street (Stop 86)
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Captain Fontanetta, at 720-847-9187, or via e-mail at anthony.fontanetta@buckley.af.mil.

JAMES P. PAGE, Lt Col, USAF
Base Civil Engineer

2 Attachments:
1. Draft EA
2. Draft FONSI

MACTEC

August 25, 2005

Frank Weddig
15818 E. 8th Circle
Aurora CO 80011

Dear Mr. Weddig:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

Copies of the EA may be found at the following public libraries: Aurora Public Library, Government Document section, 14949 East Alameda Drive, Aurora, CO 80012, 303-739-6600; the Denver Public Library, Government Document section, 10 West Fourteenth Ave., Denver, CO 80204, 303-640-6200; or the CU-Boulder University Government Public Library, 1720 Pleasant Street, Boulder, CO 80309, 303-492-8834.

Interested parties should address their comments, questions, or concerns to: Capt Anthony Fontanetta, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551; telephone (720)-847-9187.

Comments must be received by Tuesday, September 27, 2005.

Sincerely,

Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

MACTEC Engineering and Consulting, Inc.
14062 Denver West Parkway, Suite 300 • Golden, CO 80401
303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Linda S. Young
1104 South Biscay Street
Aurora, CO 80017

Dear Ms. Young:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Rich Muza
EPA – Region VIII
999 18th Street
Denver CO 80202

Dear Mr. Muza:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Fred B. Mould
980 South Gun Club Road
Aurora, CO 80018

Dear Mr. Mould:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Comments must be received by Tuesday, September 27, 2005.

Sincerely,

E. J. Barndt

Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

MACTEC Engineering and Consulting, Inc.
14062 Denver West Parkway, Suite 300 • Golden, CO 80401
303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Bob and Leslie Reichardt
23852 East Archer Place
Aurora, CO 80018

Dear Mr. and Ms. Reichardt:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Ivor Alexander
1385 S. Uravan Street
Aurora, CO 80018

Dear Mr. Alexander:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Sincerely,

Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

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14062 Denver West Parkway, Suite 300 • Golden, CO 80401
303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

R. Linda Appelbaum
908 South Yampa Street, Unit 106
Aurora, CO 80017

Dear Ms. Appelbaum:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Sincerely,

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www.mactec.com

MACTEC

August 25, 2005

Laura Bishard
CDPH&E
6552 W. 81st Avenue
Arvada CO 80003

Dear Ms. Bishard:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Comments must be received by Tuesday, September 27, 2005.

Sincerely,

Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

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14062 Denver West Parkway, Suite 300 • Golden, CO 80401
303-292-5365 • Fax: 303-292-5411
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MACTEC

August 25, 2005

Monique Brunecz
23841 East Archer Place
Aurora, CO 80018

Dear Ms. Brunecz:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Sincerely,

Eric J. Barndt
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www.mactec.com

MACTEC

August 25, 2005

Curtis Burns
CDPHE
4300 Cherry Creek Dr. South
Denver CO 80246

Dear Mr. Burns:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Sincerely,

Eric J. Barndt
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303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Margee Cannon
City of Aurora Neighborhood Services
15151 E. Alameda Pkwy.
Aurora CO 80012

Dear Ms. Cannon:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Paul Carlberg
970 South Telluride Street
Aurora, CO 80017

Dear Mr. Carlberg:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Eric J. Barndt
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MACTEC

August 25, 2005

Russell Clayshulte
1529 South Telluride Street
Aurora, CO 80017

Dear Mr. Clayshulte:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Eric J. Barndt
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www.mactec.com

MACTEC

August 25, 2005

Elizabeth Cline
1311 South Cathay Court
Apartment 103
Aurora, CO 80017

Dear Ms. Cline:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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MACTEC

August 25, 2005

Eilene F. Cottingham
1156 South Biscay Court
Aurora, CO 80017

Dear Ms. Cottingham:

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www.mactec.com

MACTEC

August 25, 2005

David Cox
URS Group
8181 E. Tufts Ave
Denver CO 80237

Dear Mr. Cox:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

John Dalton
EPA – Region VIII
999 18th Street, Suite 300
Denver CO 80202-2466

Dear Mr. Dalton:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Sincerely,

Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

MACTEC Engineering and Consulting, Inc.
14062 Denver West Parkway, Suite 300 • Golden, CO 80401
303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Christopher DeLaRosa
7561 East Harvard Avenue
Apartment 103
Denver, CO 80231

Dear Mr. DeLaRosa:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

Copies of the EA may be found at the following public libraries: Aurora Public Library, Government Document section, 14949 East Alameda Drive, Aurora, CO 80012, 303-739-6600; the Denver Public Library, Government Document section, 10 West Fourteenth Ave., Denver, CO 80204, 303-640-6200; or the CU-Boulder University Government Public Library, 1720 Pleasant Street, Boulder, CO 80309, 303-492-8834.

Interested parties should address their comments, questions, or concerns to: Capt Anthony Fontanetta, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551; telephone (720)-847-9187.

Comments must be received by Tuesday, September 27, 2005.

Sincerely,

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MACTEC

August 25, 2005

Jackie Emmons
477 Salem Street
Aurora CO 80011

Dear Jackie Emmons:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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MACTEC

August 25, 2005

Judy Enderle
Prairie Preservation Alliance
PO Box 12485
Denver, CO 80212

Dear Ms. Enderle:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Comments must be received by Tuesday, September 27, 2005.

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MACTEC

August 25, 2005

William A. Gallant, R.G.
Principal
Gallant & Associates
17531 West 59th Avenue
Golden, Colorado 80403

Dear Ms. Gallant:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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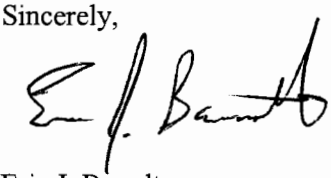
Comments must be received by Tuesday, September 27, 2005.

Sincerely,



Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

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MACTEC

August 25, 2005

Francisco J. Garza
3028 S. Mobile Way
Aurora CO 8013

Dear Francisco Garza:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Comments must be received by Tuesday, September 27, 2005.

Sincerely,

Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

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www.mactec.com

MACTEC

August 25, 2005

The Honorable Kathy Green
Aurora City Council Ward II
15151 East Alameda Parkway
Aurora CO 80012

Dear Ms. Green:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Comments must be received by Tuesday, September 27, 2005.

Sincerely,

Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

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303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Janell Hetrick
1760 Andes
Aurora, CO 80017

Dear Ms. Hetrick:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Comments must be received by Tuesday, September 27, 2005.

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Eric J. Barndt
Project Manager (under contract to 460 CDS/CEVP)

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www.mactec.com

MACTEC

August 25, 2005

Ron Hinds
1311 South Cathay Court
Apartment 103
Aurora, CO 80017

Dear Mr. Hinds:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Project Manager (under contract to 460 CDS/CEVP)

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MACTEC

August 25, 2005

Cuatro Hundley
5575 DTC Blvd #200
Denver CO 80111

Dear Cuatro Hundley:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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303-292-5365 • Fax: 303-292-5411
www.mactec.com

MACTEC

August 25, 2005

Marilyn Kay Johnson
14751 East Tennessee Drive
Apartment 227
Aurora, CO 80012

Dear Ms. Johnson:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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MACTEC

August 25, 2005

Carolyn J. Lawrence
906 Sough Walden Street
Apartment 106
Aurora, CO 80017

Dear Ms. Lawrence:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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MACTEC

August 25, 2005

Carol Maclennan
Tri-County Health Department
7000 E. Belleview Avenue, Suite 301
Greenwood Village, CO 80111

Dear Ms. Maclennan:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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MACTEC

August 25, 2005

Ken Melcher
11499 E. Dakota Ave
Aurora CO 80012

Dear Mr. Melcher:

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www.mactec.com

MACTEC

August 25, 2005

William and June Murray
18011 East 14th Drive
Aurora, CO 80011

Dear Mr. and Ms. Murray:

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www.mactec.com

MACTEC

August 25, 2005

Richard and Bonnie Rader
71 Alqonquian Street
Aurora, CO 80018

Dear Mr. and Ms. Rader:

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

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Project Manager (under contract to 460 CDS/CEVP)

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303-292-5365 • Fax: 303-292-5411
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APPENDIX E

NOTICE OF AVAILABILITY

THE Denver Newspaper Agency
DENVER, CO

PUBLISHER'S AFFIDAVIT

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

Diane Trujillo

..... 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 Thereto:

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

August 28, 2005

Diane Trujillo
Signature

Subscribed and sworn to before me this 29 day

Of August A.D. 2005.

Susan Sloan
Notary Public.

My commission expires 8/15/06

SUSAN SLOAN NOTARY PUBLIC STATE OF COLORADO

Public Notice
U.S. Air Force Notice of Availability
Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the Proposed Youth Center and Recreational Vehicle (RV) Parking Lot Expansion Projects at Buckley Air Force Base, Colorado

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared this EA to evaluate the poofential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

Comments must be received by Tuesday, September 27, 2005.

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; the Denver Public Library, Government Document section, 10 West Fourteenth Ave., Denver, CO 80204, 303-640-6200; or the CU-Boulder University Government Public Library, 1720 Pleasant Street, Boulder, CO 80309, 303-492-8834

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AURORA SENTINEL
PROOF OF PUBLICATION

STATE OF COLORADO
COUNTY OF ARAPAHOE }ss.

I HARRISON COCHRAN, do solemnly swear that I am the PUBLISHER of the AURORA SENTINEL; that the same is a weekly newspaper published in the County of Arapahoe, State of Colorado and has a general circulation therein; that said newspaper has been published continuously and uninterruptedly in said County of Arapahoe for a period of more than fifty-two consecutive weeks prior to the first publication of the annexed legal notice or advertisement; that said newspaper has been admitted to the United States mails as second-class matter under the provisions of the Act of March 30, 1923, entitled "Legal Notices and Advertisements", or any amendments thereof, and that said newspaper is a weekly newspaper duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Colorado.

That the annexed legal notice or advertisement was published in the regular and entire issue of every number of said weekly newspaper for the period of 1 consecutive insertions; and that the first publication of said notice was in the issue of said newspaper dated August 25 A.D. 2005 and that the last publication of said notice was in the issue of said newspaper dated August 25 A.D. 2005.

In witness whereof I have hereunto set my hand this 25 day of August.

H. Harrison Cochran

Subscribed and sworn to before me, a notary public in the County of Arapahoe, State of Colorado, this 25 day of August A.D. 2005.

NANCY J. ARMIJO NOTARY PUBLIC STATE OF COLORADO

Notary Public
My Commission expires November 26, 2005

Public Notice

U.S. Air Force Notice of Availability Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the Proposed Youth Center and Recreational Vehicle (RV) Parking Lot Expansion Projects at Buckley Air Force Base, Colorado.

The United States Air Force (USAF) and the 460th Space Wing (SW) has prepared this EA to evaluate the potential environmental impacts from the proposed construction and operation of the Youth Center and expansion of the existing RV Parking Lot at Buckley Air Force Base, Colorado (Proposed Action). The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The proposed Youth Center construction and RV Parking Lot expansion are required to improve upon current infrastructure and accommodate the increased numbers of on-site personnel that has resulted from the realignment of Buckley Air National Guard Base to Buckley Air Force Base.

Comments must be received by Tuesday, September 27, 2005.

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; the Denver Public Library, Government Document section, 10 West Fourteenth Ave., Denver, CO 80204, 303-640-6200; or the CU-Boulder University Government Public Library, 1720 Pleasant Street, Boulder, CO 80309, 303-492-8834

Interested parties should address their comments, questions, or concerns to: Capt Anthony Fontanetta, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551; telephone (720)-847-9187.

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