

FINDING OF NO SIGNIFICANT IMPACT

FALCON MEWS PROJECT 05-0205

PURPOSE: The Academy proposes to demolish the buildings housing the falconry program and to construct a new building with falcon lofts, workroom, storage room, restroom, and an outdoor weathering pen.

BACKGROUND: The existing falcon mews have deteriorated and are difficult to clean effectively, which may endanger the health of the falcons. The Department of Defense (DOD) requires DoD organizations that maintain animals for research, testing, or training be accredited by the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC). Current facilities do not meet accreditation standards or reflect progressive humane standards of falconry care.

PROPOSED ACTION: The proposed action will construct a new 1,300 square-foot facility to incorporate falcon lofts and work and care facilities. The new facility will include four large lofts, four small lofts, four breeding lofts, a workroom, two storage rooms, a restroom, and locker room. Utilities will connect to existing lines. A sanitary holding tank will serve both the restrooms and the waste generated from washing the lofts. An open air weathering pen will be built to the west of the new building.

The four existing buildings will be demolished. Two of the buildings will be removed prior to the construction of the new mews. The remaining two buildings will be removed at a future date and the new weathering pen placed within the existing footprint.

NO ACTION ALTERNATIVE: The No Action alternative will leave the facilities unmodified. The existing buildings will continue to deteriorate. The inability to adequately sanitize the existing mews will subject the falcons to increasing health hazards. The current facilities are not accredited by AAALAC. The lack of accreditation of the falconry program jeopardizes the use of vertebrate animals in other Academy programs, including Biology, Chemistry, and Behavioral Science.

ALTERNATIVES: Alternative locations are described in the attached environmental assessment (EA).

SUMMARY OF FINDINGS: The EA considered the environmental impacts of the proposed action and no action alternatives on land use, soils, water resources, biological resources, cultural resources, safety and occupational hazards, and accreditation. No significant impacts will result from implementing the proposed action

MITIGATIONS REQUIRED:

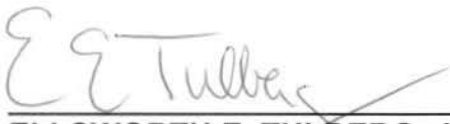
- The installation and maintenance of silt fences for control of soil erosion and sediment control.

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 18 SEP 2004		2. REPORT TYPE		3. DATES COVERED 00-00-2004 to 00-00-2004	
4. TITLE AND SUBTITLE Finding of No Significant Impact: Falcon Mews Project No. 05-0205				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 10 Civil Engineer Squadron (45 CES/CEV),8120 Edgerton Drive,USAF Academy,CO,80840				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 31	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

- Protection of existing trees and shrubs whenever possible.
- Prompt re-vegetation in accordance with the Academy's Overarching Environmental Specifications.

FINDING OF NO SIGNIFICANT IMPACT (FONSI): Based on the attached EA conducted in accordance with the requirements of National Environmental Policy Act, Council on Environmental Quality regulations, and 32 Code of Federal Regulations 989, Environmental Impact Analysis Process, I find the proposed action would have no significant individual or cumulative impacts upon the environment. An environmental impact statement is not warranted and one will not be prepared.

APPROVED:



ELLSWORTH E. TULBERG, JR., Colonel, USAF
Vice Commander, 10th Air Base Wing

28 SEP 04

DATE

Environmental Assessment

United States Air Force Academy

Falcon Mews

Project No. 05-0205

September 18, 2004

**Prepared by:
10CES/CEV**

TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Purpose	1
1.2 Need	1
1.3 Decision to be made	1
1.4 Issues eliminated from consideration	3
1.4.1 Climate	3
1.4.2 Air Quality	3
1.4.3 AICUZ	3
1.4.4 Noise	3
1.4.5 Cultural Resources	3
1.4.5.1 Archaeology/Paleontology	3
1.4.6 Socioeconomic Impacts	4
1.4.7 Environmental Justice	4
1.5 PERMITS REQUIRED	4
1.6 APPLICABLE REGULATORY REQUIREMENTS	4
2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES	5
2.1 Proposed Action	5
2.2 No Action	5
2.3 Alternatives Considered and Rejected	7
3.0 AFFECTED ENVIRONMENT	8
3.1 Location and Use	8
3.2 Cultural Resources	12
3.2.1 Historic Resources	12
3.2.2 Archaeological/Paleontological Resources	12
3.3 Geology and Soils	12
3.4 Water Resources	12

3.5 Biological Resources	13
3.5.1 Vegetation and Noxious Weeds	13
3.5.2 Wildlife and Threatened/Endangered Species	13
3.6 Safety and Occupational Hazards	14
4.0 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES...	14
4.1 Proposed Action	14
4.1.1 Land Use	14
4.1.2 Cultural Resources	14
4.1.2.1 Historic Resources	14
4.1.2.2 Archaeological/Paleontological Resources	15
4.1.3 Soils	15
4.1.4 Water Resources	15
4.1.5 Biological Resources	15
4.1.5.1 Vegetation and Noxious Weeds	15
4.1.5.2 Wildlife and Threatened/Endangered Species	16
4.1.6 Safety and Occupational Hazards	16
4.1.7 Accreditation	16
4.2 No Action Alternative	17
4.2.1 Land Use	17
4.2.2 Cultural Resources	17
4.2.2.1 Historic Resources	17
4.2.2.2 Archaeological/Paleontological Resources	17
4.2.3 Soils	17
4.2.4 Water Resources	17
4.2.5 Biological Resources	17
4.2.6 Safety and Occupational Hazards	18
4.2.7 Falcon Health	18
4.2.8 Accreditation	18
4.3 Tables of Effects	19
5.0 LIST OF PREPARERS AND REVIEWERS	22
6.0 REFERENCES	23

List of Figures

Figure 1	Cadet Area with location of Falcon Mews.	2
Figure 2	Location close-up of Falcon Mews.	2
Figure 3	Proposed Action including new mews and future weathering pen..	6
Figure 4	Interior plans for new Falcon Mews.....	6
Figure 5	Existing Falcon Mews	9
Figure 6	Primary work area, Building 2182.	10
Figure 7	Entrance to a falconry loft.	11
Figure 8	Interior view of falconry loft.....	11

List of Tables

Table 1	Direct, Indirect, and Cumulative Effects of Proposed Action	19
Table 2	Direct, Indirect, and Cumulative Effects of No Action Alternative	21

1.0 Introduction

The U.S. Air Force Academy (Academy) is located 6 miles north of Colorado Springs and 60 miles south of Denver. Slightly more than 19,000 acres are owned by the U.S. Air Force. Approximately 18,500 acres are dedicated to the mission of the Academy proper and 650 acres known as the Farish Memorial Recreational Annex. The Rampart Range, an extension of the Rocky Mountain Front Range running from Wyoming to southern Colorado, stands as the backdrop of the Academy proper. The foothills of the Rampart Range grade into the Great Plains to the east. The geographic position of the Academy places it at the junction of two important physiographic and ecological zones, the montane and alpine ecosystems at higher elevations and prairie and grassland ecosystems at lower elevations. Additionally, Palmer Divide six miles north of the Academy, separates the drainage of the Platte and the Arkansas Rivers. The juxtaposition of these major terrestrial (montane/prairie) and aquatic ecosystems (Platte/Arkansas) means the Academy grounds play an important function in the transition from one system to another. Many species of plants and animals reach their range limits in this general region.

1.1 Purpose

The Academy proposes to demolish two buildings, 2182 and 2185, located in the Cadet Area (Figure 1) currently housing the Academy's falcon mascots. The proposed project will construct a new facility to incorporate falcon lofts and work and care facilities for human handlers and trainers of the falcons. This Environmental Assessment (EA) evaluates the environmental effects of the proposed action, as well as future plans to remove the remaining two buildings shown in Figure 2 and relocate the existing outdoor weathering/flight pen.

1.2 Need

The existing facilities have deteriorated and are difficult to clean effectively, which may endanger the health of the falcons. Department of Defense (DoD) requires DoD organizations that maintain animals for research, testing, or training be accredited by the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC). Current facilities do not meet accreditation standards or progressive humane standards of falconry care.

1.3 Decision to be made

The HQ 10 ABW/CV, as chairman of the Environmental Protection Committee, will decide whether to proceed with an Environmental Impact Statement or issue a Finding of No Significant Impact (FONSI).



Figure 1 Cadet Area with location of falcon mews.



Figure 2 Location close-up of falcon mews showing position of existing buildings and weathering pens.

1.4 Issues eliminated from consideration

Several issues were examined and dismissed from further consideration because the impacts of the proposed actions were determined to be minor.

1.4.1 Climate

None of the proposed activities will affect either short-term weather conditions or long-term climate on the Academy or in the surrounding region.

1.4.2 Air Quality

The effects from this project will be temporary and limited to potential dust emissions during the construction period. The proposed actions will not have a measurable effect on the air quality of the Academy or surrounding region.

1.4.3 AICUZ

The project area lies below the elevation of the Cadet area and well outside the designated clear zones for airfield operations. Construction will not cause projections into airspace that pose hazards to aircraft.

1.4.4 Noise

Increased noise will exist during the construction phase; however, the noise is not expected to affect receptors beyond the immediate area of the construction site. Falcons will be moved to Building 2185 during the demolition of Building 2182 and until the new building is finished.

1.4.5 Cultural Resources

Cultural resource issues include historically significant structures contributing to the status of the Academy as a National Historic site and archaeological and paleontological sites. The existing historic resources and the effect of the proposed action and no action alternative are examined in later sections.

1.4.5.1 Archaeology/Paleontology

No known archaeological or paleontological resources exist in the project area or construction staging areas for the project. It is unlikely that any such resources will be disturbed during this project because the area was previously disturbed during the construction of the existing facilities. The proposed action will remain completely within the existing developed footprint.

1.4.6 Socioeconomic Impacts

Local contractors will construct this project providing a temporary benefit to the local economy.

1.4.7 Environmental Justice

Executive Order 12898 requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of activities on minority and low-income populations. Concentrated areas of low-income, minority, or disadvantaged residents do not exist within the Academy or within a five-mile radius of the approximate center of the Academy grounds.

1.5 Permits Required

Demolition/Renovation Permit, State of Colorado
Air Emissions Permit, El Paso County, Colorado

1.6 Applicable Regulatory Requirements

Clean Air Act
National Environmental Policy Act of 1969
Executive Order No. 11988, Floodplain Management
Environmental Impact Analysis Process
National Defense Authorization Act for Fiscal Year 1993
National Defense Authorization Act for Fiscal Year 1995
National Historic Preservation Act of 1966
National Institute of Health Publication 96-1, The Guide for the Care and Use of Laboratory Animals.
Department of Defense Directive 3216.1, Use of Laboratory Animals in DoD Programs
Air Force Manual 40-401 (I), The Care and Use of Animals in DoD Programs
50 CFR, Vol. 1, Parts 21, Subpart C, Sec. 21-29, Migratory Bird Permits, Specific Permit Provisions, Federal falconry standards
Regulation No. 8, Part B—Asbestos, Air Quality Control Commission, Colorado Department of Public Health and Environment
El Paso County Air Quality Regulations for Fugitive Particulates Matter, Demolition, Sand Blasting and Open Burning, El Paso County Department of Health and Environment, Colorado

2.0 Description of Proposed Action and Alternatives

This section describes the proposed action and alternatives, including the no action alternative.

2.1 Proposed Action

The proposed action will replace two existing buildings that support the falconry program, 2182 and 2185, and replace them with a single building placed within the footprint of the older buildings (Figure 3). The existing weathering pen will be removed. The remaining buildings, 2183 and 2184, will be removed during a separate action that is not yet funded and a new 1,300 square-foot weathering /flight pen, an open-air enclosure where birds may be placed outdoors, will be constructed within the footprint of the buildings to be demolished. (Figure 3).

The new facility will incorporate four large lofts (10 feet 6 inches by 10 feet 6 inches), four small lofts (7 feet by 7 feet), four breeding lofts (three at 10 feet 6 inches by 13 feet 6 inches and one at 9 feet 11 inches by 13 feet 6 inches), a workroom, two storage rooms and a restroom and locker room. Utilities will hook into existing lines. A sanitary holding tank will serve both the restrooms and the waste generated by washing the lofts. Interior plans are shown in Figure 4.

The new mews will:

- Allow for the normal physiologic and behavioral needs of the falcons.
- Allow conspecific (within species) social interaction.
- Allow falcons to remain clean and dry.
- Allow adequate ventilation.
- Allow access to food and water and permit easy filling, refilling, changing, servicing, and cleaning of food and water utensils.
- Provide a secure environment that does not allow escape or accidental entrapment of falcons or their appendages between opposing surfaces or by structural openings.
- Provide an environment free of sharp edges or projections that could cause injury to the falcons.
- Allow observation of the falcons with minimal disturbance of them. (Banks, 2003).

2.2 No Action

The No Action alternative would leave the current facilities untouched. The consequences of this action are examined in Section 4.0, Environmental Consequences and Mitigation Measures.

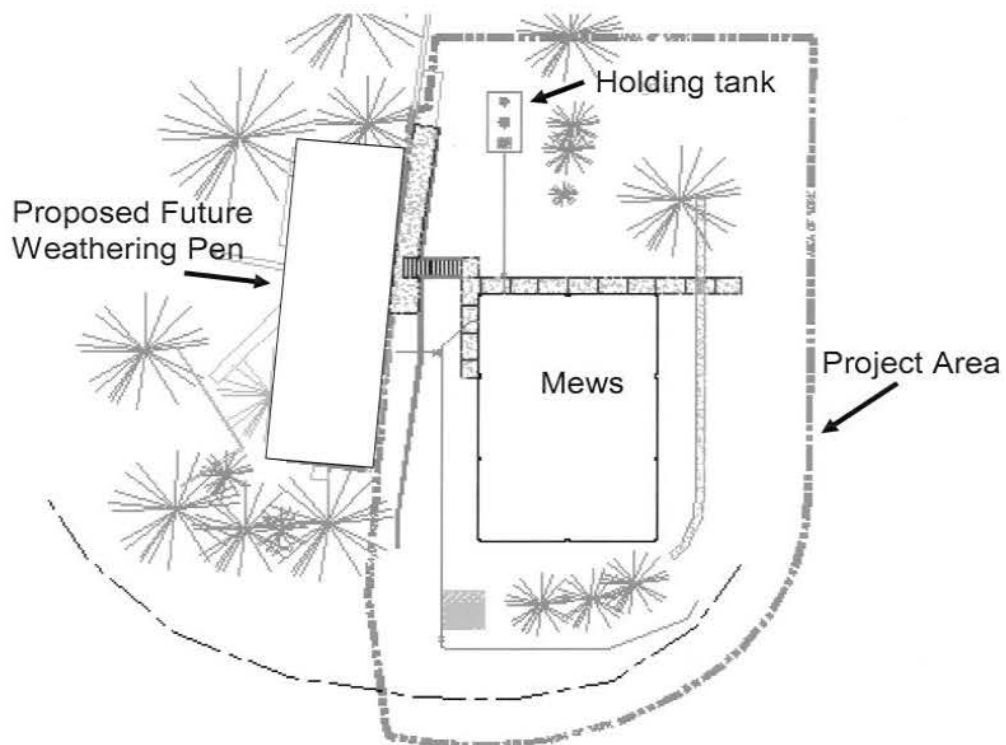


Figure 3 Proposed Action including new mews and future weathering pen

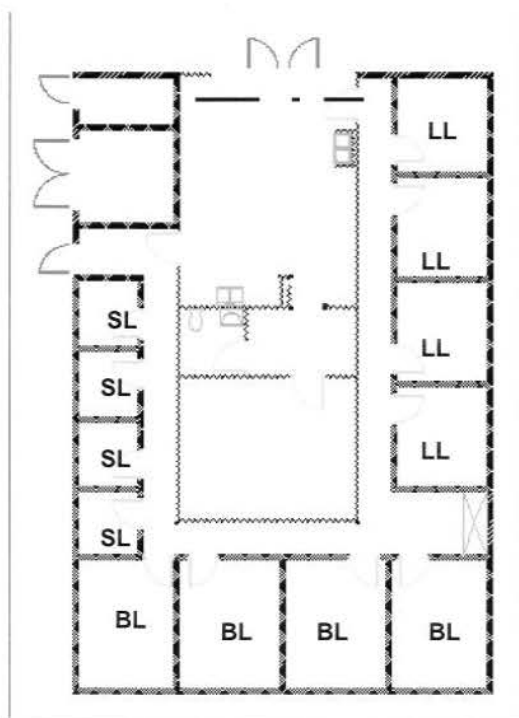


Figure 4 Interior plans for new falcon mews. LL: large loft, SL: small loft, BL: breeding loft.

2.3 Alternatives Considered and Rejected

Several locations were considered as alternate sites for this facility. Criteria for site selection included: (1) ability to support all functions of the program, (2) minimize stress for birds, (3) environmental impacts, (4) lack of conflict with other programs, and (5) accessibility for cadets. The sites considered and the reasons for their elimination are presented below (Niehoff, 2004b):

- Deadman's Lake area: This site was considered as a temporary location for housing the birds during construction. The site is a considerable distance from the Cadet Area and would be difficult for the cadets to access without vehicles. The birds will remain in buildings at the mews location during construction, therefore, this location was eliminated.
- Near Visitor's Center: The area near the Visitor Center was considered but did not allow for all functions of the program. The topography of this area is steep. This location was eliminated because it did not fulfill all the requirements of the program, and the impact to the natural environment would have been significant.
- Area west of the current mews: This area lies within the Obstacle Course and was originally thought to be unused. Upon investigation, it was found the equipment is still used; therefore, consideration of this site was abandoned.
- Behind the Cadet Gym: This area has been reserved for future athletic use and was discarded because of the conflict with future development of athletic programs.
- Off the Academy: This option to relocate the mews to an unspecified location off the Academy would increase the stress on the birds and be very difficult for the cadets to access. In addition, this option would incur additional costs for rental space.

Several operational options were also considered and rejected. Those are listed below:

- Eliminate the program: This alternative was considered to be unacceptable because the falcons have been a symbol of the Academy since its inception. The falcons are used to train select cadets in the ancient art of falconry. The falconry program serves several functions considered important for the Academy: (1) public relations tool for recruiting, (2) school mascot, and (3) educational tool for conservation and environmental stewardship.

- Downsizing the program: This alternative was rejected because this would result in either no flight performances at parades and athletic events or no presentations with birds on the fist because a single bird cannot serve both purposes. Even if downsizing the program did not affect the integrity of the program, it would not eliminate the necessity to improve the existing facility.
- Use a mechanical falcon: Although this is the least costly option, it is unacceptable. A mechanical falcon would not represent the Academy as a dynamic symbol (Niehoff, 2004a).

3.0 Affected Environment

3.1 Location and Use

The Falcon Mews is located in an industrial area south of the Cadet Athletic Fields, north of Arnold Hall and west of the Cadet Gym (Figure 1). In the same industrial complex to the east of the mews lies the base maintenance yard. The undeveloped land bordering the industrial area to the south and the east has been designated as Open Space-General (GRW, 2000 Area Development Plan). The undeveloped land to the west is Open Space-Preserved Natural (GRW, 2000, Area Development Plan).

The Falcon Mews incorporates a cluster of four buildings (2182, 2183, 2184 and 2185). Bldg. 2182 (720 square feet) was built in 1966 as pre-engineered metal building, as was building 2183 (800 square feet) constructed in 1974. Buildings 2184 and 2185, (473 and 476 square feet, respectively) were constructed in 1988 of precast panels with exposed aggregate finish. Figure 5 shows the layout of the existing buildings.

The mews currently house ten birds: two gyrfalcons, three prairie falcons, four peregrine falcons, and one gyrfalcon-Saker falcon cross. Several birds are used in performance flights in falconry demonstrations during parades and athletic events. The remaining birds are used for educational purposes. Different birds are used for performance demonstrations and educational purposes because the requirements for performance and education differ. For a falcon to fly well in performances, it must be more aggressive than a bird used for educational purposes. Several birds used for educational purposes have been injured in the past and are no longer strong flyers (Niehoff, 2004b).

Falcons are not now bred at the Academy. The Academy discontinued the active breeding program for peregrine falcons. Institutional Animal Care and Use Committee Sub-Committee has determined that breeding replacement falcons is not cost-effective; however, the Sub-Committee noted that a small number of birds could be raised to provide an important education opportunity for the cadets

(Niehoff, 2004b). The poor state of the current facilities precludes the accommodation of the occasional breeding pair of falcons.

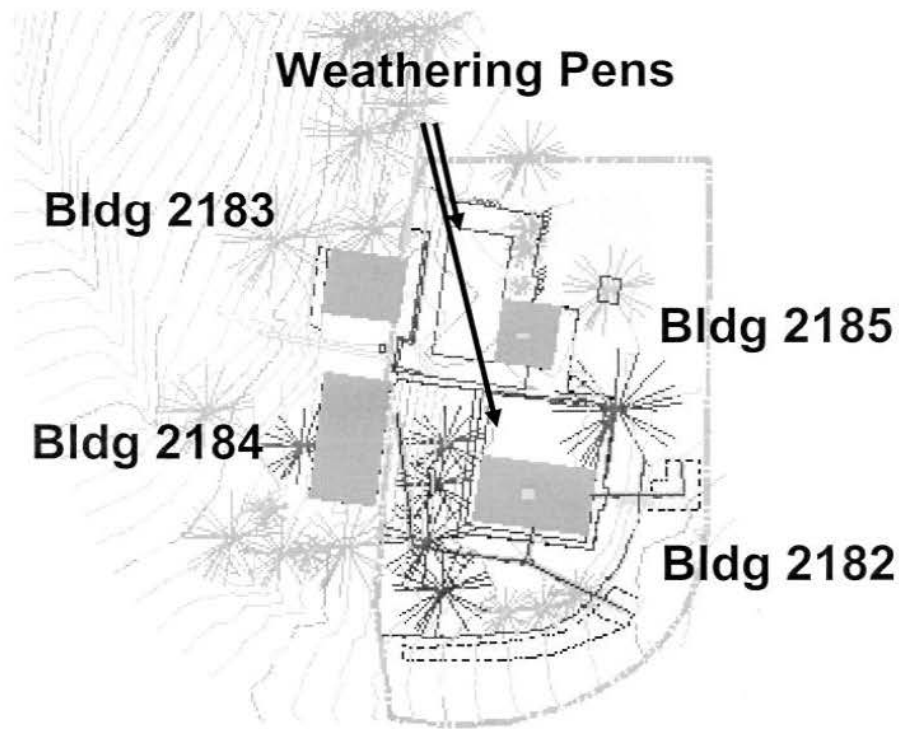


Figure 5 Existing Falcon Mews consisting of four buildings and two weathering pens.

The Falcon Mews are open for tours with appropriate coordination. About six to seven tours are given each month. The official count on number of people participating in the tours ranges from 7 to 200 (Niehoff, 2004b). Because the mews are adjacent to the athletic fields, sports spectators traveling from athletic fields to the Cadet Area, pass by the falconry pens.

The facilities housing the birds are substandard in terms of progressive humane standards for falconry. The Academy Institutional Animal Care and Use Committee Sub-Committee on Falcon Care Facilities (Neihoff, 2003a) found the following items needed attention:

- The facility is approximately 30 years old and is in need of renovation or replacement.
- The absence of drains interferes with effective sanitation.
- Sheet rock and wooden walls are aged, distressed, cracked, and prevent effective facility sanitation.
- Loft sizes are too small, resulting in injury to bird feathers.
- The loft design is not supportive of healthy and well-groomed birds.

- The current extensive use of ground perches require that birds are constantly secured with tethers and jesses, which limit mobility and discourage effective exercise.
- The use of chain link to roof the pens allows for good ventilation but is difficult to clean and damages feathers.
- The treatment/food preparation/handler room has exceeded its useful life.
- Sports spectators trying to view the birds cause distress to the birds.
- Lofts have little natural illumination.

The existing workrooms and lofts (Figures 6 to 8) are poorly illuminated. The interior walls are made of gypsum sheet rock. Birds defecate on the walls and floors. Because the walls are made of sheet rock and wood, they cannot be easily cleaned. Moisture trapped in the walls encourages mold growth.



Figure 6 Primary work area, Building 2182.



Figure 7 Entrance to a falconry loft. Lofts are poorly lit and are too narrow for birds to effectively exercise limbs.



Figure 8 Interior view of falconry loft. Fecal material accumulates below perches. Sanitizing existing lofts is difficult.

Molds can affect the health and well-being of the birds. Baseline laboratory results show antibodies for mold, which indicates the birds have been exposed to mold. In a natural environment, falcons would be unlikely have these antibodies because the open environment in which they live would not expose them to molds.

3.2 Cultural Resources

3.2.1 Historic Resources

The falcon mews lie outside the boundaries of the Cadet Area, which is listed as a National Historic Landmark District. The remainder of the Academy exclusive of the Cadet Area is eligible for the National Register of Historic Places as an historic district. The current mews are non-contributing structures (Roupe, 2004). The buildings are not constructed in the International Modernist style which characterizes the Cadet Area. None of the buildings meet the requirements of the Guide for Installation Excellence (King, 2004).

3.2.2 Archaeological/Paleontological Resources

There are no known archaeological or paleontological resources within the project area.

3.3 Geology and Soils

The Cadet area rests on the bedrock of the Dawson Formation, a sedimentary rock consisting of small gravels, sands and silts with minor clays. Covering the bedrock is a continuous layer of Douglas Mesa Gravel. When this material weathers, the soils produced tend to be highly erodible, especially on hillsides (Varnes and Scott, 1967).

Two bore holes were drilled at the mews facility (Geocal, 2003). The drill logs indicate the first two to five feet consists largely of fill covered by asphalt. Beneath the fill is about two feet of consolidated sand that is underlain by about ten to twenty feet of weakly cemented sandstone or siltstone.

Large portions of the industrial area in which the mews are located were disturbed during construction in the 1960s and again in the 1980s. Little natural soil structure remains at the mews site.

3.4 Water Resources

The nearest drainage to the mews is Goat Camp Creek, an intermittently flowing stream. This drainage was modified during Academy construction. West of Academy Drive, the creek was dammed forming Non-potable Reservoir No. 4. At the athletic fields, storm water is funneled into a subsurface culvert.

Immediately west of the mews, the drainage consists of several dry stream beds that convey water during spring runoff and during precipitation events into a wetland to the northwest of the mews. The mews are topographically above and outside the 10-year and 100-year floodplain of Goat Camp Creek (URS, 2003). Runoff from the mews enters a storm culvert, which conveys water to Deadman's Creek.

The existing mews are located on a hill south of Goat Camp Creek. No groundwater was encountered during the geotechnical exploration of the site. Two boreholes penetrated 25-30 feet and neither encountered groundwater (Geocal, 2003). The report notes that groundwater would not be expected because of the topography of the site.

3.5 Biological Resources

3.5.1 Vegetation and Noxious Weeds

The native plant community was mostly eliminated during the construction of the Academy and by the construction of Buildings 2182, 2183, 2184, and 2185. Several Ponderosa pines are found on site, as well as shrubs and some grasses.

Three noxious weeds occur at or adjacent to the site: yellow toadflax, leafy spurge, and Canada thistle. Diffuse knapweed and Russian olive trees are found close to the site, although not in the immediate area (Colorado Natural Heritage Program, 2003).

3.5.2 Wildlife and Threatened/Endangered Species

The native animal community was eliminated from this area of the Academy by development. Occasional visitors may include medium and large animals, including mule deer, elk, and coyote. The constant human traffic and limited natural habitat discourages native animals use.

The greenback cutthroat trout (*Oncorhynchus clarki stomias*) and the Preble's Meadow Jumping Mouse (PMJM) (*Zapus hudsonius preblei*) are the only resident animals on the Academy listed as threatened under the Endangered Species Act. The greenback cutthroat trout does not occur in Goat Camp Creek.

The US Fish and Wildlife Service and the Academy have signed a conservation agreement to preserve PMJM habitat in riparian areas. PMJM favors well-developed riparian habitat. This type of habitat does not occur at the mews site. The delineated PMJM habitat along Goat Camp Creek terminates at Academy Drive, west of the mews.

3.6 Safety and Occupational Hazards

Buildings 2182 and 2185 were constructed in 1966 and buildings 2183 and 2184 in 1988. The current preparation and handling facility, Building 2182, is in poor repair. Linoleum is coming apart. The facility is poorly lit and difficult to clean. The combination of aging structure and poor illumination increase safety risks for cadets, supervisors, and visitors (Figure 6).

A recently completed (Walsh Environmental, 2004) asbestos survey of the four mews buildings revealed building materials containing asbestos in buildings 2182 and 2183.

4.0 Environmental Consequences and Mitigation Measures

4.1 Proposed Action

This section discusses the effects of the proposed action on land use, soils, water resources, biological resources, safety and occupational issues, and accreditation issues.

4.1.1 Land Use

There will be no change in land use for the falcon mews site. It will remain an industrial area. Construction activities will require the mews to be temporarily relocated during the demolition of existing buildings 2182 and 2185.

4.1.2 Cultural Resources

4.1.2.1 Historic Resources

The proposed action will rebuild the mews to the Academy's standards in the Installation Guild to Excellence. Additionally the new mews will be consistent with the planning principles in the Academy's General Plan (GRW, 2000). Although the new mews lie outside the boundaries of the Cadet Area Historic Landmark District, changes outside of the Cadet Area must be consistent with the original Academy design and preserve important views and vistas (GRW, 2000). There will be no adverse effect on the historic status of the Cadet Area. The new mews will enhance the character of the Cadet Area and improve continuity of design between the Cadet Area and adjacent buildings.

This action has been reviewed by the State Historic Preservation Office which concurs with the Academy's assessment of no adverse effect (Wolfe, 2004).

4.1.2.2 Archaeological/Paleontological Resources

It is unlikely that undiscovered archaeological or paleontological resources will be found during the construction phase of this project because the area was disturbed during the construction of the existing buildings. Because the new mews will be entirely within the developed footprint, the possibility the existence of unknown cultural resources is low.

4.1.3 Soils

Because the native soils were disturbed during the construction of the original mews and support complex, no additional disruption of the soil at the site is expected as a result of this action. The building site and construction staging areas will remain within the developed footprint and will cause no further degradation to the soils.

4.1.4 Water Resources

Because the drainage of Goat Camp Creek was modified during the construction of the Academy and the new falcon mews will be built within the existing developed footprint, no additional significant effects from this project will result. The impermeable area of the new mews will be 2646 square feet, an increase of about 6 per cent over the existing impermeable area. The increased runoff will enter the storm water culvert and be conveyed to Deadman's Creek.

Increasing the discharge in Deadman's Creek will marginally increase the erosive capability of this stream. Although the impact of this project in isolation is minimal, the increase in impermeable surface as a result of this and other such projects will ultimately increase runoff to larger drainages such as Monument Creek.

4.1.5 Biological Resources

4.1.5.1 Vegetation and Noxious Weeds

The construction of the new mews will require the removal of 5 trees and a number of shrubs.

The removal of existing vegetation and disturbance of the soils provides opportunity for the establishment of noxious weeds. Prompt reclamation with topsoil and re-seeding will reduce the opportunity for noxious weeds to become established at the site.

4.1.5.2 Wildlife and Threatened/Endangered Species

No permanent wildlife residents exist at the existing mews because of the lack of native habitat and human usage of the area. Occasional animal visits to the mews may be interrupted by demolition and construction activities; however, a rapid return to preconstruction levels of wildlife usage is expected.

Upgrading the facilities would substantially improve the conditions under which the birds are maintained. The new mews will be much easier to clean, be much better illuminated, and reduce the exposure of the birds to mold and other pathogens. More efficient cleaning of the lofts will lower the risk of disease transmission among the birds. The proposed lofts are larger and illuminated with skylights. All of these modifications will improve the living conditions of the birds. The improved mews should lower stress levels in the birds and improve their general health.

4.1.6 Safety and Occupational Hazards

An asbestos survey was completed on the four buildings that comprise the falcon mews. Asbestos-containing materials were found in buildings 2182 and 2183 (Walsh Environmental, 2004).

Building 2182 is scheduled for demolition as part of the proposed action. No abatement action is necessary because the building will be demolished (Walsh Environmental, 2004).

Building 2183 will be removed at a later date. Asbestos-containing materials were found in the joint compound, floor tiles, and mastic. The walls and floors are in good condition with no water damage or evidence of physical damage. The potential for disturbance of these items is low to moderate (Walsh Environmental, 2004). At this time, the asbestos-containing materials pose low risk to occupants of the building. As the building ages, these materials may pose increasing health risks to occupants. This building will be demolished in a future project when the new weathering pen is constructed.

4.1.7 Accreditation

The National Defense Authorization Act (NDAA) for Fiscal Year (FY) 1993 required the Secretary of Defense to move toward accreditation of all DoD laboratories. The NDAA for FY 1995 requires termination of animal research at non-compliant facilities. Department of Defense Directive (DoDD) 32161.1, Use of Laboratory Animals in DoD Programs and Air Force Manual 40-401, Use of Animals in DoD Programs require all facilities maintaining animals for research, testing or training or DoD organizations having animals seek accreditation by AAALAC (Hale, 2004a and 2004b; Niehoff, 2003b).

The new mews will meet accreditation standards and will be tangible evidence of the Academy's commitment to progressive humane animal care.

4.2 No Action Alternative

The No Action alternative results in no change in existing conditions. This section discusses the effects of leaving the falcon mews as is on land use, soils, water resources, biological resources, safety and occupational health, and accreditation issues.

4.2.1 Land Use

There would be no change in land use.

4.2.2 Cultural Resources

4.2.2.1 Historic Resources

The falcon mews lie outside the boundaries of the Cadet Area which is listed as a National Historic Landmark District. The remainder of the Academy exclusive of the Cadet Area is eligible for the National Register of Historic Places as an historic district. The current mews are non-contributing structures. The buildings are not constructed in the International Modernist style which characterizes the Cadet Area. Changes outside of the Cadet Area must be consistent with the original Academy design and preserve important views and vistas (GRW, 2000).

4.2.2.2 Archaeological/Paleontological Resources

There are no known archaeological or paleontological resources within the project area.

4.2.3 Soils

There would be no change in soils.

4.2.4 Water Resources

There would be no change in water resources.

4.2.5 Biological Resources

There would be no substantial change in biological resources, either plant or animal, as the result of the No Action alternative.

4.2.6 Safety and Occupational Hazards

The asbestos survey of the falcon mews buildings found asbestos-containing materials in two of the four buildings, 2182 and 2183. Floor tiles in the center of the building near the lofts and in the center of the office area were found to contain 15 percent chrysotile. Two areas were found to have deteriorated and damaged tiles (center of the building near the bird areas and the southwest corner of the office area). The potential for disturbance of these materials was considered to be low (Walsh Environmental, 2004).

In Building 2183, asbestos-containing materials were found in the joint compound, floor tiles, and mastic. The walls and floors are in good condition with no water damage or evidence of physical damage. The potential for disturbance of these items is low to moderate (Walsh Environmental, 2004). At this time, the asbestos-containing materials pose low risk to occupants of the building.

4.2.7 Falcon Health

The current living conditions for the birds are poor. The mews are difficult to clean and poorly illuminated. Because of the moisture trapped by sheetrock in the walls, mold has become established. Traces of mold have been found in the falcons' blood. The current loft sizes do not allow for free movement within the pens. As the birds attempt to fly about, they damage feathers because the enclosures are too small. Damaged feathers may interfere with exercise regimes and performance flights. If the No Action alternative is chosen, the mews housing the birds will continue to deteriorate exposing the animals to greater stress and increased health risks. Poor sanitary conditions will increase risk of exposure to pathogens and disease transmission.

The standards to which the mews were constructed were adequate at the time of construction; however, progressive falconry standards require large lofts and more easily sanitized facilities. If the falcons are not housed adequately, public perception of the Academy's commitment to proper animal care may be jeopardized.

4.2.8 Accreditation

Under the No Action alternative, the AAALAC will not grant accreditation to the falconry program because the facilities are substandard. If accreditation is not granted, the Academy risks losing all use of vertebrate animals in research, testing and training (Hale, 2004a and 2004b). With no accreditation, the Academy must discontinue use of these animals in research and teaching activities. Loss of accreditation would significantly affect programs in Biology, Chemistry and Behavioral Sciences (Hale, 2004a).

AAALAC accreditation also strengthens the public relations image of the Academy. If the Academy lost AAALAC accreditation and Institutional Animal Care and Use Committee approval, it could negatively affect public perception of the Academy because of challenges from animal-rights activists.

4.3 Tables of Effects

The following tables summarize the direct, indirect, and cumulative effects of the proposed action (Table 1) and the No Action alternative (Table 2).

Table 1 Direct, Indirect, and Cumulative Effects of Proposed Action			
Category	Direct	Indirect	Cumulative
Climate	No effect	No effect	No effect
Air Quality	No effect	No effect	No effect
AICUZ	No effect	No effect	No effect
Noise	Temporary increase limited to construction period.	No effect	No effect
Historic Resources	No effect	No effect	No effect
Archaeological and Paleontological Resources.	No effect	No effect	No effect
Socioeconomics	Small positive contribution to local economy.	No effect	No effect
Environmental Justice	No effect	No effect	No effect
Land use	No effect	No effect	No effect
Soils	No effect	No effect	No effect
Water Resources	Slight increase in stormwater runoff.	Slight increase in discharge rates of Deadman's Creek.	Greater erosion potential of Monument Creek.
Vegetation and Noxious Weeds	Slight potential for increase in noxious weeds	No effect	No effect
Wildlife	No effect	No effect	No effect
Threatened and Endangered Species	No effect	No effect	No effect

Table 1. Contd. Direct, Indirect, and Cumulative Effects of Proposed Action			
Category	Direct	Indirect	Cumulative
Falconry Program	Accreditation by AAALAC Significant improvement in living conditions of falcons. Decrease in mold/pathogens in lofts. Lower stress levels of birds. Increase in general fitness of birds.	Strengthened falconry program Enhanced performance of birds.	Enhanced viability of program.
Safety and Occupational Hazards	Decrease in potential risk from asbestos-containing substances.	Improved morale by cadet falconers.	No effect
Accreditation	Retention of accreditation.	Continued use of vertebrate animals in Academy programs.	Cadets adequately prepared in biology, chemistry and behavior sciences.
Public Relations	Positive public perception of Academy commitment to progressive humane standards of falconry.	Enhancement of public perception to Academy in general.	No effect

Table 2 Direct, Indirect, and Cumulative Effects of No Action Alternative			
Category	Direct	Indirect	Cumulative
Climate	No effect	No effect	No effect
Air Quality	No effect	No effect	No effect
AICUZ	No effect	No effect	No effect
Noise	Temporary increase limited to construction period.	No effect	No effect
Historic Resources	No effect	No effect	No effect
Archaeological and Paleontological Resources.	No effect	No effect	No effect
Socioeconomics	No effect	No effect	No effect
Environmental Justice	No effect	No effect	No effect
Land use	No effect	No effect	No effect
Soils	No effect	No effect	No effect
Water Resources	No effect	No effect	No effect
Vegetation and Noxious Weeds	Slight potential for increase in abundance of noxious weeds.	No effect	No effect
Wildlife	Continued deterioration of lofts. Increasing health risks to birds.	No effect	No effect
Threatened and Endangered Species	No effect	No effect	No effect
falconry Program	Continued deterioration of mews. Increased stress levels in birds. Decrease in general wellness. Lower performance.	Lowered morale in falconry program.	No effect

Table 2. Contd. Direct, Indirect, and Cumulative Effects of No Action Alternative			
Category	Direct	Indirect	Cumulative
Safety and Occupational Hazards.	Increasing risk of asbestos contamination from deteriorating materials in buildings 2182 and 2183.	No effect	No effect
Accreditation	Loss of AAALAC accreditation. Poor public perception of falconry program.	Loss of use of vertebrate animals in Academy programs.	Poorly prepared cadets in biology, chemistry and behavioral sciences.
Public Relations	Negative public perception of Academy commitment to progressive humane standards of care.	Lower public esteem for Academy.	No effect

5.0 List of Preparers and Reviewers

Preparer:

Jonena Hearst, Ph.D., 10 CES/CEV

Reviewers:

Bryce Tobyne, 10CES/CEV
 Bonnie Blaser, HQ USAFA/CEPD
 Brian Muhlbachler, HQ USAFA/CECN
 Larry Reisinger, HQ USAFA/CECV
 Philip Marne, HQ USAFA/CECV
 Brian Bush, HQ USAFA/JA
 Edward Lee, HQ USAFA/PA
 James Imlay, Lt Col, 34 TRW/50ES
 Steven Niehoff, Lt Col, 10 MDG/SGPM

6.0 References

Air Force Manual 40-401 (I), The Care and Use of Animals in DoD Programs

Banks, R.E. DVM USAR. 2003. Meeting Minutes of the Academy Institutional Animal Care and Use Committee Sub-Committee on Falcon Care Facilities.

Code of Federal Regulations Title 50, Vol. 1, Parts 21, Subpart C, Sec. 21-29, Migratory Bird Permits, Specific Permit Provisions, Federal falconry standards.

Colorado Natural Heritage Program. 2003. Noxious Weed Survey of the U.S. Air Force Academy and Farish Outdoor Recreation Area.

Department of Defense directive 3216.1, Use of Laboratory Animals in DoD Programs.

Environmental Impact Analysis Process (EIAP).

Geocal, Inc. 2003. Site and Foundation Investigation, Falcon Mews, United States Air Force Academy.

GRW, Inc. 2000. United States Air Force Academy Area Development Plans.

GRW, Inc. 2000. United States Air Force Academy General Plan.

Hale, David, 2003. Memorandum for Academy Institutional Official from Academy Institutional Animal Care and Use Committee.

Hale, David. 2004a, Email to James Imlay, Lt Col. USAF regarding the consequences of No Action.

Hale, David. 2004b, Email to James Imlay, Lt Col. USAF regarding the consequences of No Action.

King, Brian. 2004. Email to Dr. Jonena Hearst, 10 CES/CEV regarding Academy Standard of Excellence

National Defense Authorization Act for Fiscal Year.

National Defense Authorization Act for Fiscal Year.

National Institute of Health Publication 96-1. The Guide for the Care and Use of Laboratory Animals.

Niehoff, Steven P. Lt Col. 2003a. Email to Lt Col. James Imlay regarding upgrading the falconry facilities.

Niehoff, Steven P. Lt Col. 2003b. Talking paper on legal requirements covering animal use in DoD facilities.

Niehoff, Steven P. Lt Col. 2004a. Email to Dr. Jonena Hearst 10 CES/CEV regarding historical data on falconry program.

Niehoff, Steven P. Lt Col. 2004b. Email to Dr. Jonena Hearst 10 CES/CEV regarding historical data on falconry program.

Regulation No. 8, Part B—Asbestos, Air Quality Control Commission, Colorado Department of Public Health and Environment.

Roupe, Kit. 2004. Email to Dr. Jonena Hearst, 10 CES/CEV regarding contributing status of falcon mews.

URS Group, Inc. 2003. United States Air Force Academy, Academy Floodplain Revision, Phase II, Contract Number: F41624-00-D-8028.

Varnes, David J. and Scott, Glenn R. 1967, General Engineering Geology of the United States Air Force Academy Site Colorado, Geological Survey Professional Paper 551, U.S. Government Printing Office, Washington, 93 p.

Walsh Environmental, 2004. Asbestos Inspection Buildings 2182, 2183, 2184 and 2185.

Wolfe, Mark. 2004. State Historic Preservation Officer. Letter to Col Thomas Hayden regarding effects of project to construct new mews on historic status of the Cadet Area.