Finding of No Significant Impact (FONSI)
Environmental Assessment for the Indoor Training Facility

United States Air Force Academy, Colorado

Introduction

This Finding of No Significant Impact (FONSI) was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA); the President's Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA, Title 40 of the Code of Federal Regulations (CFR) Parts 1500 – 1508; and the *Environmental Impact Analysis Process*, 32 CFR 989. The decision in this FONSI is based on information contained in the *Environmental Assessment for the Indoor Training Facility* (EA). The EA is incorporated into this FONSI by reference. The purpose of the EA was to determine the extent of environmental impacts that might result from the proposed Indoor Training Facility at the United States Air Force Academy (Academy) and evaluate whether these impacts, if any, would be significant.

The purpose of the Preferred Alternative is to construct an Indoor Training Facility. The current facilities are no longer adequate to support the year-round training and competition schedules of the Academy's 27 intercollegiate sports, 15 intramural sports, and ongoing physical education classes. The new Indoor Training Facility would be large enough to facilitate most of the sports played at the Academy and provide a safe training environment during severe weather conditions.

Description of the Preferred Alternative and Other Alternatives Considered

The alternatives that have been analyzed include two possible locations for the Indoor Training Facility. To be considered a reasonable alternative, an alternative should be located a reasonable walking distance from the Cadet Area and existing athletic facilities, and located outside the Preble's meadow jumping mouse conservation zone and the Cadet Area National Historic Landmark District (NHLD). The chosen alternative should also be accessible to existing utility lines, pose minimal impact to existing athletic training opportunities, comply with Academy safety standards, and meet minimum Anti-Terrorism/Force Protection requirements and size regulations for intercollegiate sports.

The Indoor Training Facility would accommodate a full football field and would be accessible to the majority of intercollegiate and intramural sports played at the Academy. The facility would consist of an approximately 96,000 square-foot, 75 foot-tall stand-alone building. A permanent walkway would facilitate access between locker rooms, practice fields, and the Indoor Training Facility. The facility would contain a small restroom and a 625 square-foot storage area. Under the Preferred Alternative, the Indoor Training Facility would be located on an undeveloped area adjacent to the existing field house. Under Alternative 2, the facility would be located on an existing multi-purpose grass field.

All alternatives considered for the action are analyzed in the EA. The No Action Alternative was analyzed in accordance with Air Force Regulations at 32 CFR 989.8(d).

Decision

After a review of the EA, the U.S. Air Force has decided to proceed with the construction of the Indoor Training Facility at the location specified in the Preferred Alternative. The potential impacts to the human and natural environment were evaluated relative to the existing environment. For each environmental resource or issue, anticipated direct and indirect effects were assessed, considering both short-term and long-term project effects.

During construction and operation, the Preferred Alternative would result in negligible or no effects to environmental justice and protection of children, floodplains, geology, groundwater, hazardous materials and waste, land use, noise, solid wastes, transportation, and wetlands.

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
10 MAY 2010	**N/A**	**-**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Environmental Assessment with Finding of No Significant Impact (EA/FONSI)for the Indoor Training Facility at the United States Air Force Acdemy	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 CES/CE 8120 Edgerton Drive, 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
The original document contains color images.

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**SAR**	**53**	

During construction, the Preferred Alternative would provide short-term socioeconomic benefits through the generation of construction jobs. During operation, the Preferred Alternative would provide benefits to safety and occupational health by reducing the risk of exposure to lightning and severe storm events during training.

Minor impacts may result from the Preferred Alternative to air quality, soils, surface water and stormwater, biological resources, utilities, and cultural resources. However, through the implementation of the following environmental protection measures or best management practices (BMPs), these impacts would be less than significant:

- An air pollution emission notice (APEN) will be obtained from the State of Colorado;
- Temporary and permanent erosion control BMPs will be implemented at the construction site to minimize wind and water erosion, protect endangered species habitat, and to comply with the Academy's soil protection goals;
- A site-specific Stormwater Pollution Prevention Plan will be developed and implemented for the construction site; and
- Any disturbed areas will be revegetated in accordance with the *USAFA Site Restoration, Revegetation, and Tree Care Specification* immediately after construction.

Conclusion

A draft EA was available for public review from 29 March to 28 April 2010. There were no comments received during this period. In accordance with the CEQ regulations implementing NEPA and the *Air Force Environmental Impact Analysis Process*, the U.S. Air Force concludes that the Proposed Action will have no significant impact on the quality of the human environment and that the preparation of an environmental impact statement is not warranted. The final EA is on file at the Academy Environmental Office:

10 CES/CECP
8120 Edgerton Drive
United States Air Force Academy, CO 80840

SIGNED:

DATE: 11 May 10

RICK J. LOCASTRO, Colonel, USAF
Commander, 10th Air Base Wing

FINAL

Environmental Assessment for the Indoor Training Facility

U.S. Air Force Academy Colorado Springs, Colorado

Prepared For:

United States Air Force Academy

Prepared By:

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May 2010

Cover Sheet

Environmental Assessment

U.S. Air Force Academy Indoor Training Facility

Colorado Springs, Colorado

Responsible Agency: The United States Air Force Academy (USAFA) Endowment

Proposed Action: Construct a new multi-purpose Indoor Training Facility at the U.S. Air Force Academy.

For more information, contact: Mark Hille, USAFA Endowment, 1975 Research Parkway, Suite 300, Colorado Springs, Colorado 80920

Report Designation: Final Environmental Assessment

Abstract: The United States Air Force Academy Endowment has prepared this Environmental Assessment (EA) to assess the potential environmental effects from constructing a new Indoor Training Facility at the U.S. Air Force Academy. The current facilities are no longer adequate to support the year-round training and competition schedules for the Academy's 27 intercollegiate sports, 15 intramural sports, and ongoing physical education classes. The new Indoor Training Facility would be large enough to facilitate most of the sports played at the Academy and provide a safe training environment during severe weather conditions.

Two sites are proposed as action alternatives. Not constructing the Indoor Training Facility is the No Action Alternative.

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SECTION 1.0

Purpose of and Need for Action

This section describes the purpose and need for the Preferred Alternative, summarizes the scope of the environmental review, and explains applicable regulatory requirements.

This Environmental Assessment (EA) has been prepared in accordance with U.S. Air Force (USAF or Air Force) obligations under the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] §4321 to §4370d), the Council on Environmental Quality's (CEQ's) NEPA-implementing regulations (Title 40 of the Code of Federal Regulations [CFR] Part 1500-1508), USAF NEPA-implementing regulations (32 CFR 989), and Department of Defense Instruction 4715.9 (Environmental Planning and Analysis).

1.1 Background

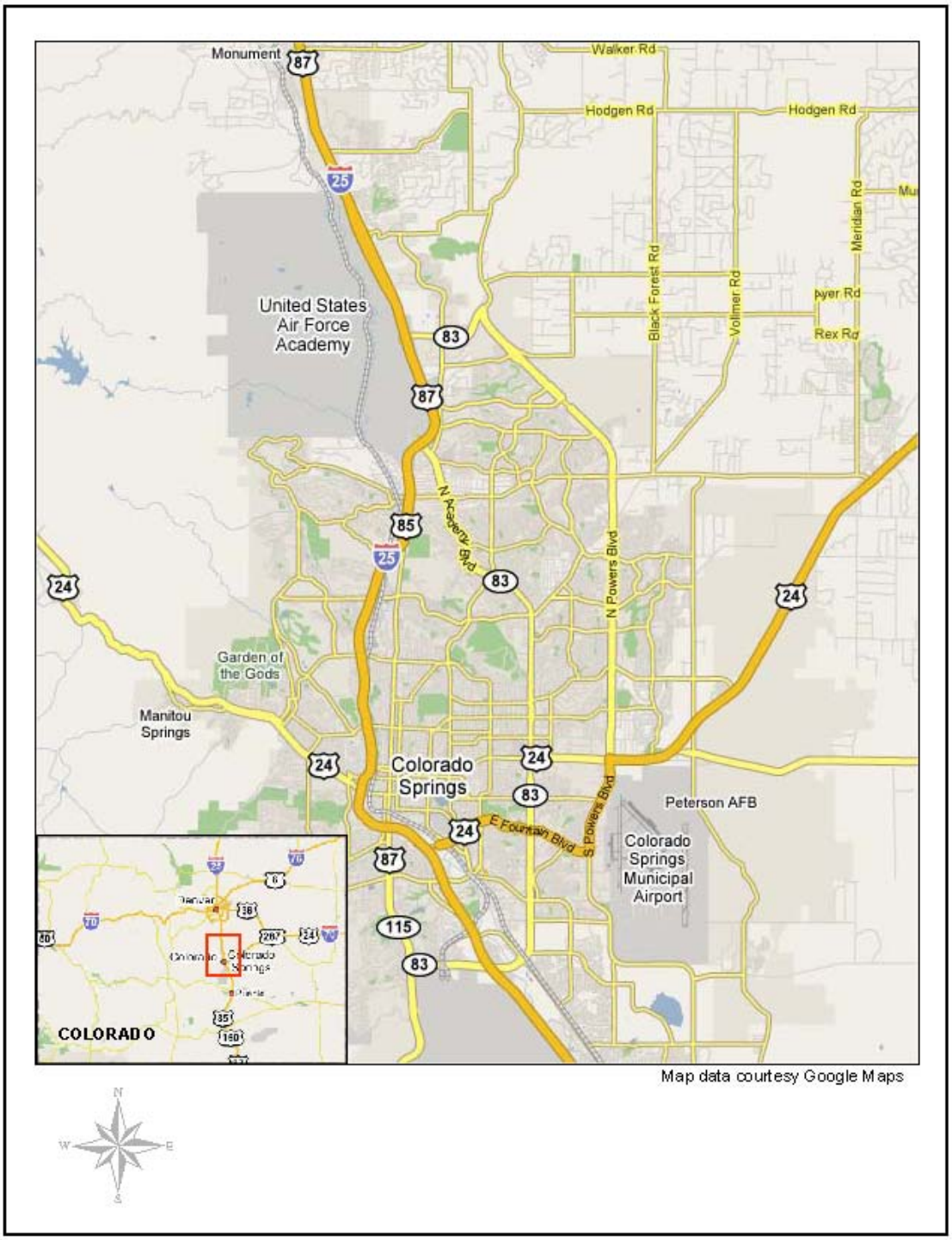
The United States Air Force Academy (USAFA or Academy) encompasses approximately 18,455 acres along the Rocky Mountain Front Range in Colorado, about 16 miles north of Colorado Springs and 60 miles south of Denver (Figure 1-1). The Academy opened in 1958 and supports approximately 4,400 cadets, 2,100 active duty military residents, and 1,400 community civilians. Sporting events, recreational opportunities, and scenery make the Academy a major tourist attraction in Colorado (USAFA, 2008).

The USAFA Endowment (Endowment) is a philanthropic organization whose purpose is to provide private funds in support of the Academy's mission to build leaders of character for the Air Force and the nation.

The Endowment proposes to construct a new multi-purpose Indoor Training Facility at the Academy. The Endowment would fund the project through private donations and then gift the building to the Academy for ownership, operation, and maintenance.

1.2 Purpose and Need for the Proposed Action

The Academy has identified the need to increase its available indoor athletic training space. The current facilities consist of a gymnasium and field house constructed in the 1960s and the Falcon Athletic Center constructed in the 1990s. Due to increased demand from increased enrollment since construction of the gymnasium and increased participation in intercollegiate and intramural athletics, these facilities are no longer adequate to support the year-round training and competition schedules for the Academy's 27 intercollegiate sports, 15 intramural sports, and physical education classes. Athletes and cadets overcrowd the current indoor facilities during inclement weather, and the field house is only accessible to track and field events from December through March. Colorado often leads the nation in the number of lightning-related fatalities each year (City of Colorado Springs, 2009). Consequently, Academy athletes and cadets require adequate indoor training fields during severe weather events to maintain their training schedules.



1 FIGURE 1-1
2 USAFA Regional Location Map
3 *USAFA Indoor Training Facility*

1.3 Objectives of the Action

The objectives of the Preferred Alternative are to build a multi-purpose Indoor Training Facility that must perform as follows:

- Provide indoor training capacity in addition to existing facilities
- Provide safe and continuous year-round training, including during severe weather events
- Meet seismic vulnerability and Anti-Terrorism/Force Protection criteria
- Consistent with the Academy's *General Plan* and United States Air Force Academy Instruction (USAFAI) 24-104, *Preserving the Heritage*
- Match Academy architecture and not adversely impact the Cadet Area National Historic Landmark District (NHLD)
- Support the Academy's goal to attract a competent and diverse student body
- Situated within the Academy's boundaries and within a reasonable walking distance from the Cadet Area

1.4 Resource Issues

Resource issues are divided into two groups: resources studied in detail and resources eliminated from further study. Issues studied in detail are defined as those resources that could be directly or indirectly affected by implementing the Preferred Alternative. Resources eliminated from further study are either not present at the proposed sites or the project would result in negligible potential impacts to these environmental resources.

This EA evaluates potential impacts to the following environmental resource areas:

- Air quality
- Soils
- Surface water, including stormwater
- Biological resources, including vegetation, wildlife, and threatened and endangered species
- Utilities
- Cultural and visual resources

The environmental resources eliminated from further study and the rationales for their elimination are summarized below.

Environmental Justice and Protection of Children: Executive Order (E.O.) 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, requires federal agencies, including the Academy, to consider potential effects of their actions on minority and low-income populations. The new Indoor Training Facility would be situated

within Academy boundaries and neither its construction nor its operation would affect surrounding communities, including minority and low-income populations.

E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires government agencies to address disproportionate risks to children that result from environmental health or safety risks. The locations of the action alternatives are away from areas where children are generally present, i.e., housing areas, child development centers, or schools. Construction sites can be attractive to children and are dangerous; however, the construction site, excavations, and materials would be properly secured during construction. Because housing areas where children are present are at least 1.5 miles from the locations for the action alternatives and because the construction site would be secured, the potential risks to children are minimal.

Floodplains: E.O. 11988, *Floodplain Management*, requires federal agencies, including the Academy, to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by floodplains. Neither of the action alternatives is located within an identified floodplain (Federal Emergency Management Agency, 1997). There is no potential to affect this resource area and floodplains are not evaluated further.

Geology: Due to the depth of the soils on the site, no modifications to geological formations and no removal of geologic units would occur. Therefore, no impacts to geology are expected. Potential impacts to soils are analyzed in section 4.1.

Groundwater: The Dawson Aquifer underlies most of the Academy, and alluvial aquifers are associated with Monument Creek and its tributaries. Water from the Dawson Aquifer generally occurs from 20 to 100 feet below ground surface (bgs), and water from the alluvial aquifers occurs between 5 and 20 feet bgs (portions of the aquifer are not perennially saturated) (USAFA, 2002). Excavation and foundation depths are not expected to reach the Dawson Aquifer and the considered alternatives are not within the alluvial aquifers. Therefore, potential effects to groundwater resources are not evaluated further. However, the contractor will develop a contingency plan prior to construction and will implement the plan if groundwater is discovered during construction. The contingency plan will include a list of BMPs to be implemented to prevent impacts to groundwater. The Academy will review and approve the contingency plan prior to construction.

Hazardous Materials and Waste: The Resource Conservation and Recovery Act (RCRA) of 1976 is the principal federal law governing the disposal and management of hazardous wastes. The State of Colorado has been delegated RCRA compliance oversight. In addition to listed hazardous waste, RCRA defines hazardous wastes as materials that exhibit one of the four following characteristics: ignitability, corrosivity, reactivity, or toxicity (EPA, 2009a). Typically, the types of materials and waste at the Academy that are considered hazardous include chemicals; dyes; gases (compressed and liquefied); pest-control agents; cleaning and polishing compounds; paints, varnishes, and related materials; preservatives and sealing compounds; adhesives; fuels (liquid and solid); liquid propellants; and oils and grease.

The construction and maintenance of buildings typically require the use of hazardous materials. Typical hazardous materials used for construction and maintenance activities

include aerosols, thinners, batteries, solvents, and polyvinyl chloride primer and glue. All hazardous materials would require authorization through the submittal of a completed AF Form 3952 and the Academy hazardous material acquisition approval process prior to purchase and use. The Academy strives to reduce the use of hazardous materials through alternative procurement. However, some hazardous materials do not have a correlating substitute with lesser or no hazardous characteristics. It is anticipated that construction and maintenance would result in consumptive use of most of the hazardous materials. Any unused materials would be transported to a hazardous material accumulation site located on the Academy and disposed as hazardous waste. In addition, the construction contractor would be required to provide a letter to the Academy Civil Engineering Squadron (10 CES), which certifies that all materials used in the construction of the Indoor Training Facility are free of asbestos.

Operation of the Indoor Training Facility would result in negligible use of hazardous materials. The lighting fixtures would be equipped to use low-mercury florescent light bulbs, which would be recycled when replaced.

All hazardous waste generated at the Academy by any organization (with the exception of District 20 schools and Colorado Springs Utilities' [Springs Utilities] water treatment plant) or contractor is managed through the Academy's Hazardous Waste Program, which complies with state and federal hazardous waste regulations. Hazardous waste associated with construction and maintenance of the new Indoor Training Facility would be used, stored, and disposed of according to Academy requirements and all applicable regulations. Because hazardous materials and wastes would be managed in accordance with all applicable regulations, they are not assessed further in this EA.

Land Use: The Academy *General Plan* (USAFA, 2005) guides land use at the Academy. The *General Plan* categorizes the manner in which land is used, and these land uses are an important component for future planning. The Academy has defined several land use categories, including Academics, Administration, Airfield Operations and Maintenance, Athletics, Community (Commercial), Community (Service), Field Training, Housing (Accompanied and Unaccompanied), Industrial, Medical, Open Space, Tourist Areas, and Water. Both action alternatives would be sited within a designated Open Space. The land use category for the project area would change to Athletics, which would not conflict with surrounding land uses. Because the Preferred Alternative would not result in a land use conflict, land use is not evaluated further.

Noise: Noise would be generated at the Indoor Training Facility site during construction; however, the considered project areas are away from noise-sensitive populations and approximately 1.5 miles from the housing areas. After construction is complete, there would be little or no change in existing noise conditions. The proposed Indoor Training Facility is not expected to alter current noise levels or be a major source of operational noise. Therefore, the evaluation of noise effects is eliminated from detailed analysis.

Safety and Occupational Health: The new Indoor Training Facility would be managed in accordance with federal, state, and USAF health and safety regulations and instructions. No additional occupational hazards would be encountered as part of the operation of the facility. The construction contractor would be required to develop and implement a Health and Safety Plan for construction of the Indoor Training Facility to ensure worker safety

during construction. The considered action alternatives would provide a safety benefit by reducing the risk of exposure to lightning and severe storm events during training. Because health and occupational safety issues would be minimal and also would be consistent across the considered alternatives, this resource area is eliminated from detailed analysis.

Socioeconomics: No change in local population would be expected from construction and operation of the Indoor Training Facility. One or two additional maintenance personnel may be hired to maintain the new facility, but the benefit to the local economy would be minor. There are adequate construction resources within the local workforce and outside contractors to complete the construction of the Indoor Training Facility, and no recruitment of additional construction workers is expected. Facility construction would result in a minor temporary beneficial impact to the local economy. Because the impacts on socioeconomics would be minimal and beneficial, this resource area is not further considered.

Solid Wastes: The construction contractor would be required to comply with all Academy requirements for solid waste disposal. Minimal solid wastes would be generated during construction of the Indoor Training Facility; the impact on solid waste disposal facilities is expected to be negligible because no demolition is required. Construction and operation practices would conform to Academy solid waste programs. Because impacts to solid waste handling and disposal would be minimal, this resource is eliminated from detailed analysis.

Transportation: Academy cadets have limited access to cars and the new Indoor Training Facility would be located within walking distance from cadet dormitories. As a result, changes to existing traffic patterns associated with the new Indoor Training Facility are not expected. No new parking areas or roads are associated with the building of the Indoor Training Facility. Therefore, transportation is eliminated from detailed analysis.

Wetlands: E.O. 11990, *Protection of Wetlands*, requires federal agencies, including the Academy, to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. Approximately 169 acres on the Academy are classified as wetlands (URS, 2002). Both of the action alternatives would be located outside of wetlands (USAFA, 2008). Therefore, no impacts to wetlands would result from implementation of either action alternative and wetlands are not considered further.

1.5 Applicable Regulatory Requirements and Required Coordination

This EA has been prepared in accordance with CEQ regulations, 40 CFR 1500-1508, as they implement the requirements of NEPA; 42 USC 4321 et seq., and the USAF Environmental Impact Analysis Process (EIAP) at 32 CFR 989. The EIAP specifies the procedural requirements for implementing NEPA and directs USAF officials to consider environmental consequences as part of the planning and decision-making process.

1.5.1 Regulatory Requirements

Environmental regulatory requirements established under the following statutes, among others, are assessed in the EA:

- Noise Control Act of 1972

- Clean Air Act of 1970
- Clean Water Act of 1972
- National Historic Preservation Act of 1966
- Archaeological Resources Protection Act of 1979
- Endangered Species Act of 1973
- Migratory Bird Treaty Act of 1918
- Resource Conservation and Recovery Act of 1976
- Comprehensive Environmental Response, Compensation and Liability Act of 1980
- Toxic Substance Control Act of 1970
- Native American Grave Protection and Repatriation Act of 1990
- Energy Policy Act of 2005
- Energy Independence and Security Act of 2007
- Occupational Safety and Health Act of 1970

Requirements also include compliance with the following Executive Orders (E.O.):

- E.O. 11988, *Floodplain Management*
- E.O. 11593, *Protection and Enhancement of the Cultural Environment*
- E.O. 11990, *Protection of Wetlands*
- E.O. 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*
- E.O. 12088, *Federal Compliance with Pollution Control Standards*
- E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*
- E.O. 13423, *Strengthening Federal Environment, Energy and Transportation Management*
- E.O. 13514, *Federal Leadership in Environmental Energy and Economic Performance*

1.5.2 Required Coordination

A no-effect determination for threatened and endangered species was made by Academy Natural Resources on March 9, 2010, and a courtesy copy of this determination was provided to the United States Fish and Wildlife Service (USFWS) Colorado Ecological Services office for its records.

The Academy obtained concurrence from the State Historic Preservation Office (SHPO) with a no adverse effect determination for the Preferred Alternative on May 3, 2010.

The Preferred Alternative is compliant with Section 106 of the National Historic Preservation Act (NHPA) and Section 7 of the Endangered Species Act (ESA).

1.6 Organization of the Environmental Assessment

This EA contains all of the required sections of the recommended outline in the CEQ and USAF NEPA-implementing regulations. The document is organized into the following parts:

- ***Section 1.0, Purpose of and Need for Action,*** provides background information about the installation; the purpose and need for the Preferred Alternative; resource issues; applicable regulatory requirements; and a brief description of how the document is organized.
- ***Section 2.0, Description of the Preferred Alternative and Other Considered Alternatives,*** presents the considered alternatives, screening criteria, and detailed descriptions of the No Action Alternative and the action alternatives, and screens the alternatives that meet purpose and need.
- ***Section 3.0, Affected Environment,*** provides a description of the existing conditions of the environmental resources potentially affected by the No Action Alternative and the action alternatives.
- ***Section 4.0, Environmental Consequences,*** presents an analysis of potential direct, indirect, and cumulative impacts to environmental resources resulting from the No Action Alternative and the action alternatives.
- ***Section 5.0, Consultation and Coordination,*** provides a list of agencies/individuals who were contacted for information in the preparation of this document and to whom the EA will be distributed.
- ***Section 6.0, List of Preparers,*** lists the names and qualifications of the document preparers.
- ***Section 7.0, Acronyms and Abbreviations,*** is a list of acronyms and abbreviations used in this EA.
- ***Section 8.0, References,*** provides a listing of the references used in preparing this EA.

SECTION 2.0

Description of the Preferred Alternative and Other Considered Alternatives

This section identifies and describes the No Action Alternative and the action alternatives, and discusses alternatives considered but dismissed.

2.1 Selection Criteria for Alternatives

Reasonable alternatives for an Indoor Training Facility should accomplish the following in a cost-effective manner, with minimal impact to human health and the environment:

- Located a reasonable walking distance from the Cadet Area and from existing athletic fields and locker facilities
- Located outside the designated Preble's Meadow Jumping Mouse (PMJM) conservation zone
- Pose minimal impact to existing athletic training opportunities at the Academy
- Accessible to existing utility lines
- Located outside of and pose minimal impact to the Cadet Area NHLD
- Meet minimum Anti-Terrorism/Force Protection requirements
- Comply with Academy safety standards
- Meet size regulations for intercollegiate sports (at least 400 feet by 210 feet, or 84,000 square feet [ft^2], for a regulation football or lacrosse field)

2.2 Alternatives Considered but Eliminated from Detailed Study

The following alternatives were considered but eliminated because they would not meet the project's selection criteria.

2.2.1 Location Alternatives

2.2.1.1 Locate New Facility on Outdoor Lacrosse Field or Tennis Courts

Locating the new Indoor Training Facility on an existing outdoor lacrosse field or tennis court would eliminate the few training facilities designated for lacrosse and tennis and greatly hinder the teams' ability to train.

2.2.1.2 Have Athletes Utilize Venues Outside the Academy

There are a few indoor sports facilities off Academy grounds in the Colorado Springs area that Academy athletes may be able to use during inclement weather, such as the World Arena or facilities at Colorado College. However, these facilities are not within walking distance of the Cadet Area and most do not meet minimum size requirements. Furthermore, no offsite facilities would meet minimum Anti-Terrorism/Force Protection requirements.

2.2.2 Construction Alternatives

2.2.2.1 Construct New Facility of Tensile Fabric

The original concept for the proposed structure consisted of a lightweight tensile fabric. However, in light of recent collapses of similar structures (Associated Press, 2009), it was determined that this type of structure would not meet Academy safety standards.

2.2.2.2 Construct an Addition to the Cadet Field House

The SHPO and National Park Service (NPS) expect compliance with Academy design standards for new construction around the Cadet Area NHLD. The existing Cadet Field House is adjacent to the Cadet Area NHLD but does not meet the National Historic Landmark (NHL) standards of high integrity (NPS, 2003). Consequently, the Academy determined that creating a new structure compliant with Academy design standards would have less of an impact to the Cadet NHLD than constructing an addition to the Cadet Field House.

2.3 Description of Considered Alternatives

This EA analyzes the No Action Alternative and two action alternatives. The proposed location of the Indoor Training Facility was selected because it is close to the existing athletic fields and facilities, and would have minimal impact to existing training fields.

2.3.1 No Action Alternative

Under the No Action Alternative, the new Indoor Training Facility would not be built. The Academy would continue to use existing sport facilities and outdoor fields. Athletes and cadets would be crowded into the existing indoor facilities during severe weather conditions and training would be inhibited. The Academy would potentially lose top athletic recruits to universities with state-of-the-art facilities.

The No Action Alternative is included in the alternatives evaluation to provide the baseline for evaluating potential environmental impacts of the Preferred Alternative.

2.3.2 Alternative 1: Preferred Alternative

The Preferred Alternative site encompasses 212,000 ft² at an elevation of approximately 7,200 feet. Under the Preferred Alternative, an approximately 96,000-ft² (423 feet by 227 feet), 75-foot-tall, stand-alone building (Figure 2-1) would be built north of the existing field house (Figure 2-2). The size of the site is approximately twice the size of the proposed Indoor Training Facility, to allow for the optimal orientation of the facility within the

desired footprint and to include the construction area, regrading and associated walkways within the project area.

The site and surrounding area currently consist of grass, shrubs, rocks, pavement, and a small portion of native trees such as ponderosa pine (*Pinus pondersoa*). The slope of the site ranges from 1.5 to 6.7 degrees, which would be graded to accommodate the new building. The earthwork involved in regrading the Preferred Alternative site would result in approximately 130,000 cubic yards of excess fill dirt (GE Johnson Construction Co. Inc., 2009), which would be reused on the Academy for ongoing environmental restoration projects. Approximately 2 acres of previously undisturbed soil would be converted to impervious surface for construction of the Indoor Training Facility. Natural landscape adjacent to the new facility would be preserved.

The proposed site would accommodate staging and laydown areas during construction, and include trenching for extension of nearby utility lines. A permanent, 15,000-ft^2 walkway to and from surrounding outdoor fields and buildings would facilitate access between locker rooms, the new Indoor Training Facility, and the outdoor practice fields.

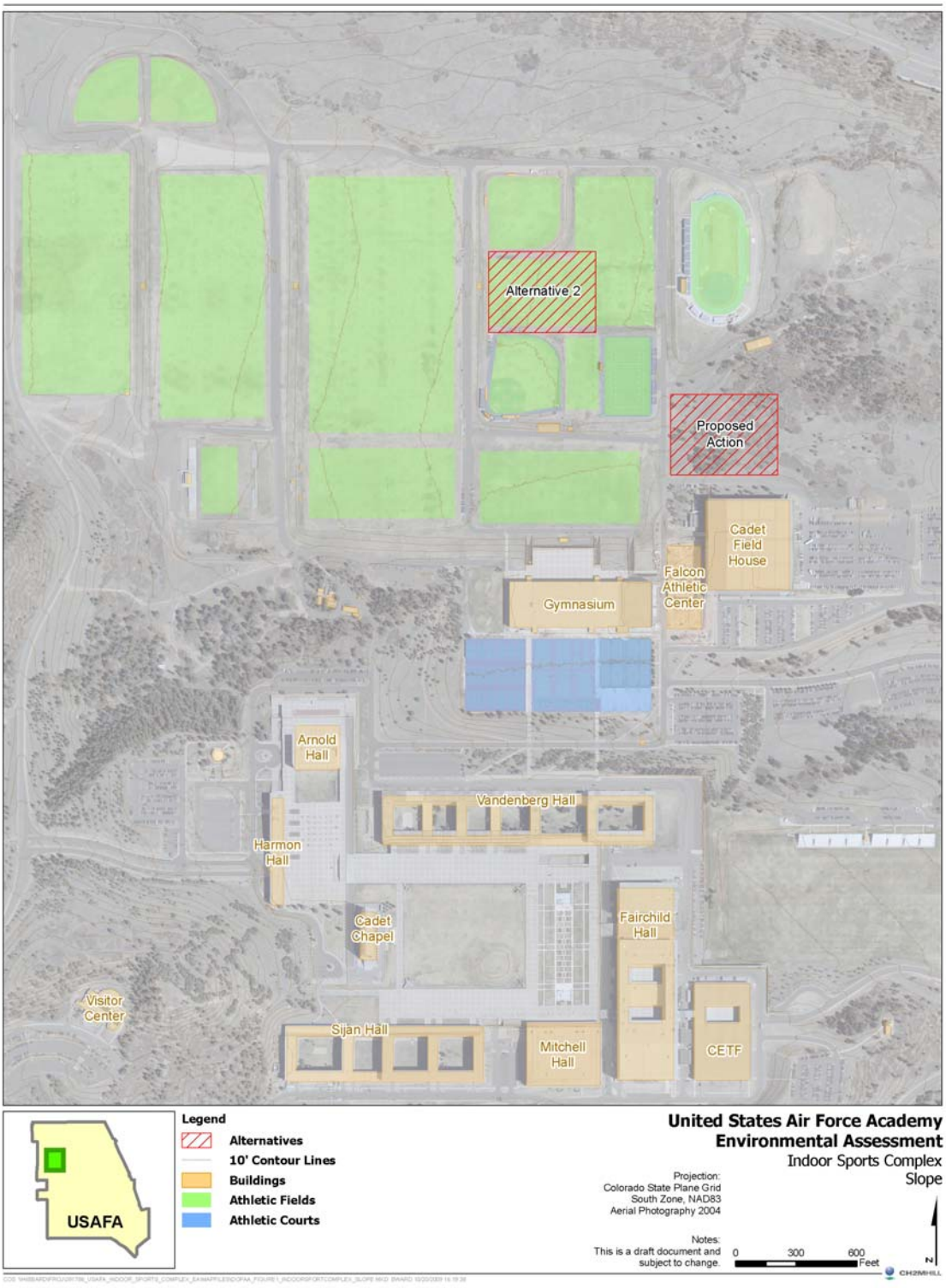
The Indoor Training Facility would accommodate a full football field and would be accessible to the majority of intercollegiate and intramural sports played at the Academy. The facility exterior would be white precast concrete, blue polycarbonate, aluminum and glass. The western façade would be made primarily of glass. The roof would be a simple thermoplastic polyolefin membrane with an aluminum cap. A balcony would be placed 15 feet above the ground and project horizontally 7 feet into the facility and 7 feet outside the facility. A small restroom, consisting of four sinks and three toilets, and a 625-ft^2 storage area would be located inside of the facility. The Indoor Training Facility would be designed to meet Academy emergency response procedure requirements

Full construction of the Indoor Training Facility would require approximately 7 months, with exposed disturbed ground occurring for about 4 of the 7 months.

FIGURE 2-1
Indoor Training Facility Rendering
USAFA Indoor Training Facility

2.3.3 Alternative 2

Alternative 2 is located approximately 600 feet northwest of the Preferred Alternative site. The design, construction, and site preparation for Alternative 2 would be similar to the Preferred Alternative. Under Alternative 2, the Indoor Training Facility would be placed on an existing outdoor multi-purpose grass field (Figure 2-2), and this outdoor field would not be relocated. The site currently consists of natural turf grass and has a slope of 0.9 to 1.4 degrees. The quantity of earth moved to grade the Alternative 2 site would be less than the Preferred Alternative site. Under Alternative 2, cadets would have to walk approximately a quarter mile farther in each direction as they transit from the Indoor Training Facility to their locker rooms during severe weather compared to the Preferred Alternative.



1 FIGURE 2-2
2 Preferred Alternative Site General Location
3 *USAFA Indoor Training Facility*

SECTION 3.0

Affected Environment

3.1 Air Quality

The Clean Air Act (CAA) of 1970 requires the Environmental Protection Agency (EPA) to identify National Ambient Air Quality Standards (NAAQS) necessary to protect public health and welfare. The following seven criteria pollutants are regulated by the EPA under the CAA:

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen oxides (NO_x)
- Particulate matter equal to or less than 10 microns in diameter (PM_{10})
- Particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$)
- Ground-level ozone (O_3)
- Sulfur dioxide (SO_2)

The NAAQS established by the EPA, are atmospheric concentration limits for these seven pollutants. When ambient air concentrations of a criteria pollutant are below the NAAQS, an area is designated as in attainment. If ambient air concentration for criteria pollutants are above the NAAQS, the area is designated as in nonattainment. Areas previously designated nonattainment, which receive no NAAQS violations over an extended period, may be re-designated as a maintenance area.

The Academy is located in El Paso County, Colorado, which is in attainment for all pollutants except CO. On August 25, 1999, El Paso County was designated a CO maintenance area. The *Colorado Springs Carbon Monoxide Maintenance Plan* was revised in 2009 and established a CO budget of 531 tons per day for mobile sources from 2010 and beyond (Colorado Department of Public Health and Environment [CDPHE], 2009).

3.2 Soils

Most soils on the Academy are derived from granitic parent material. The soils are generally very shallow and have little or fine organic material. On most areas of the Academy, rainstorms, steep topography, and coarse soil particle size create moderate to high erosion potential; however, areas with the greatest amount of human use tend to have slight to moderate erosion potential (USAFA, 2008).

The Academy has developed soil protection goals to sustain productive and stable soil resources, and maintain erosion and sedimentation at natural levels. To achieve these goals, the Academy established management objectives for soil protection. These objectives include:

- Implementing BMPs for controlling erosion, sedimentation, and excessive runoff;

- Coordinating construction projects to minimize the amount of time that bare ground is exposed;
- Revegetating in accordance with the *USAFA Site Restoration, Revegetation, and Tree Care Specification* (USAFA, 2010); and
- Ensuring that stormwater runoff from the Academy to off-base receptors does not exceed historical quantities (USAFA, 2008).

3.3 Surface Water and Stormwater

3.3.1 Surface Water

The Academy is within the Fountain Creek watershed in the upper Arkansas River drainage. Monument Creek, which runs from north to south on the east side of the Academy, is the predominant surface water feature. Monument Creek is a tributary to Fountain Creek. Eight perennial streams and 15 intermittent streams flow into Monument Creek near the Academy. Stream corridors are among the most important natural resource features on the Academy because they represent areas of concentrated biodiversity, and different wildlife habitat values overlap in these areas. Open water on the Academy consists of five recreational lakes and four non-potable reservoirs (USAFA, 2008).

3.3.2 Stormwater

Section 438 of the Energy Independence and Security Act (EISA) of 2007 requires that federal facility projects over 5,000-ft^2 must maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow (EPA, 2009b).

The Academy and its stormwater infrastructure were built in the 1950s and 1960s. Current development at the Academy reflects a proactive, sustainable approach (URS, 2006). The Academy stormwater system infrastructure consists of storm sewer pipes, inlets, outlets, culverts, outfalls, drainage ditches, and infiltration and detention facilities. The stormwater system also includes drainage basins, streams, creeks, and floodplains (USAFA, 2005).

The Academy discharges stormwater runoff through a Small Municipal Separate Storm Sewer System (MS4) into Monument Creek. The MS4 is operated under a National Pollutant Discharge Elimination System (NPDES) permit (Permit No. COR042000), which requires implementation of a stormwater management program. Under the Academy's NPDES, MS4 General Permit, the Academy is responsible for limiting erosion, sedimentation, and other pollutants from stormwater (*Federal Register* [FR], 2003).

3.4 Biological Resources

3.4.1 Vegetation

The Academy's vegetation resources encompass the elevation-related gradient from prairie grasslands to montane forests. Vegetation at the Academy is generally divided into foothill (6,000 to 8,000 feet elevation) and montane (8,000 to 9,000 feet elevation) zones. The presence

of various plant communities enhances the biodiversity at the Academy. About 70 percent of the flora of El Paso County and 20 percent of the flora in Colorado are present at the Academy (USAFA, 2008). Common plant species include Douglas fir (*Pseudotsuga menzeziesii*), ponderosa pine, scrub oak (*Quercus gambelli*), common juniper (*Juniperus communis*), and blue gramma (*Bouteloua gracilis*) (USAFA, 2008).

3.4.2 Wildlife

Topographic variation, high-quality riparian habitat, adjacency to undeveloped lands of the Pike National Forest, and the convergence of transition zones (north-south and plains-mountains) provide valuable wildlife habitat and high biodiversity on the Academy (USAFA, 2008). Undeveloped tracts of land on the Academy and the numerous vegetation types present there provide a high degree of connectivity between habitat types and maintain migration corridors. Mule deer (*Odocoileus hemionus*), elk (*Cervis canadensis*), black bear (*Ursus americana*), mountain lion (*Felix concolor*), wild turkey (*Meleagris gallopavo*), PMJM (*Zapus hudsonius preblei*), white-tailed deer (*Odocoileus virginianus*), numerous neotropical migratory birds, raptors, and various amphibians and reptiles are some of the wildlife species found on the Academy (USAFA, 2008).

3.4.3 Threatened and Endangered Species

Threatened and endangered species are federally protected plants and animals that are in danger of becoming extinct. The ESA of 1973 protects listed species against any action that would adversely affect them or their habitat. The Academy is required to perform threatened and endangered species surveys periodically and prior to any activities that disturb land potentially occupied by listed species (USAFA, 2008).

The PMJM is the only federally listed (threatened) species known to occur on the Academy (USAFA, 2008). The PMJM population on the Academy is one of the largest and most stable in the species' range. PMJM are most often found in dense herbaceous riparian vegetation and adjacent uplands. Suitable habitat on the Academy is generally defined as occurring within 300 feet of a 100-year floodplain (USAFA, 2007).

3.5 Utilities

3.5.1 Water Supply

Two water treatment plants owned and operated by Springs Utilities are located on leased Academy property. Both plants supply water to Colorado Springs and the Academy, and receive their raw water primarily from the 40,000-acre-foot Rampart Reservoir located approximately 3.5 miles from the Academy. The Academy requires less than 3 percent of Springs Utilities' total production (USAFA, 2005).

3.5.2 Sanitary Sewer

The Academy's wastewater treatment plant has a NPDES discharge permit (CO-0020974) for 1.4 million gallons per day (mgd) (peak flow) of influent based on a monthly average. The plant's NPDES permit allows effluent to discharge to Monument Creek and to the Academy's non-potable reservoirs. Currently, the peak flows to the plant are in the range of

only 1.0 mgd, below the 1.4-mgd NPDES permit limitation. The plant has not had any violations in meeting its effluent limits and has reserve capacity for future growth (USAFA, 2005).

3.5.3 Electricity

The Academy receives electrical power and natural gas from Springs Utilities. Electrical system capacity, as determined by the total substation transformer capacity, is approximately 55 megawatts (MW), three times the current peak demand of 18.5 MW (USAFA, 2005).

3.5.4 Communications

The Base Infrastructure Data Distribution System (BIDDS) program installed the fiber optic cables used for several communication systems on the Academy, such as the security system and fire alarms. BIDDS provided the Academy one host switch and three remote switches that are expected to satisfy the telephone requirements for the next 15 to 20 years. The Academy will periodically update the switches software and add additional lines as necessary (USAFA, 2005).

3.6 Cultural and Visual Resources

The term "cultural resources" encompasses historic properties, archaeological sites and artifacts and Native American sites and artifacts. Cultural resources are protected by a number of statutes and regulations at all levels of government and must be taken into consideration during the NEPA process. The NHPA of 1966 reflects the importance of those resources to our national, regional, and local culture.

Visual resources include the aesthetics and visual quality associated with a cultural resource. They encompass elements from both the built and natural environments, and can include buildings, other visible infrastructure, trees, bodies of water, corridors, and landscapes.

NHLs are sites protected under the NHPA, which the Secretary of the Interior has determined to be significant in American history. They are buildings, districts, structures, and objects associated with events, persons, and architectural styles that have made a significant contribution to the nation's history. They must possess exceptional value and a high degree of integrity. NHLs are listed in the National Register of Historic Places (NRHP), but are given a greater degree of significance and protection than most sites. NHLs are America's best and most significant historic resources.

The Academy was born in the first decade of the Cold War and provided the new military service with a trained and educated officer corps at a time when national policy placed unprecedented emphasis on airpower. Its campus, set at the foot of the Rampart Range of the Rocky Mountains, ranks among the finest examples of modern movement architecture by federal agencies during the post-World War II era (NPS, 2004). The historic context for the Academy includes significance associated with three different national contexts including:

- The creation of the Academy itself,

- An architecturally significant example of the Modernist Style in America, and
- Its association with important individuals (USAFA, 2004).

As such, the Department of the Interior's NPS designated the Academy Cadet Area as a NHLD on April 1, 2004.

The Cadet Area NHLD encompasses the buildings and landscapes that constitute the core educational mission of the institution. It consists of 10 contributing buildings, one contributing structure, and one contributing site, which is made up of significant components (Table 3-1). The architectural firm of Skidmore, Owings and Merrill designed the Cadet Area, completed in 1963. Within 2 years, the Cadet Wing expanded to nearly 2,000 students, requiring additional quarters and classroom space. This second construction phase, completed by the architectural firm of Leo A. Daly, Inc. and Henningson, Durham, and Richardson, included a new dormitory and additions to Fairchild Hall (Academic Building) and Mitchell Hall (Dining Hall). Following the expansion, completed in 1968, the Cadet Area has undergone few changes. The major exception was a library addition in 1981 that filled in an open section of Fairchild Hall. The district retains a high degree of integrity in regards to location, design, setting, materials, workmanship, feeling, and association. The Cadet Area NHLD boundaries exclude the Cadet Field House (Building #2169), which was built during the period of significance, but no longer meets the standards of high integrity (NPS, 2004).

TABLE 3-1
Cadet Area NHLD Contributing Resources
USAFA Indoor Training Facility

Resource Name	Type of Resource	Base Building Number	Construction Date
Planetarium	Building	2120	1959
Physical Education Building	Building	2170	1961
Arnold Hall	Building	2302	1959
Harmon Hall	Building	2304	1959
Cadet Chapel	Building	2306	1962
Sijan Hall	Building	2348	1968
Mitchell Hall	Building	2350	1958
Fairchild Hall	Building	2354	1959
Vandenberg Hall	Building	2360	1958
Aerospace Laboratory	Building	2410	1959
Retaining Walls	Structure	NA	1958
Terrazzo	Site	NA	1958
Court of Honor	Site	NA	1958
Parade Grounds	Site	NA	1958
Circulation System	Site	NA	1958

No Native American resources have been identified as being associated with Academy lands. If future investigations confirm that Native American tribes are associated with the Academy, the appropriate Native American agencies will be contacted, in accordance with all applicable guidelines (USAFA, 2004).

Archaeological cultural resource surveys were completed for the Academy, resulting in the identification of 164 archeological sites, of which 11 sites were deemed potentially eligible for the NRHP and 120 sites that were determined ineligible for the NRHP. Further study is being conducted on those sites that were deemed potentially eligible (USAFA, 2009).

SECTION 4.0

Environmental Consequences

4.1 Air Quality

4.1.1 No Action Alternative

No changes to air quality are expected under the No Action Alternative because the proposed facility would not be constructed.

4.1.2 Preferred Alternative

Construction of the Indoor Training Facility would take an estimated 7 months and require the use of various types of heavy equipment, including bulldozers, graders, and backhoes. The majority of heavy equipment work would take place during the estimated 4 months required for ground disturbance. There would be a temporary increase in CO emissions during the construction phase due to use of heavy construction equipment. However, the emissions associated with construction would be short term and localized, and should only negligibly affect the city's CO emission budget for mobile sources.

A minor increase in fugitive dust emissions (PM_{10} and $PM_{2.5}$) would result from ground-disturbing activities during construction. The potential impacts would be temporary and BMPs such as watering and revegetation of disturbed areas would be implemented. In accordance with CDPHE Regulation No. 1, *Emission Control for Particulate Matter, Smoke, Carbon Monoxide and Sulfur Oxides*, the contractor will submit an air pollution emission notice (APEN) along with associated fees to CDPHE (CDPHE, 2007). A copy of the APEN will be submitted to 10 CES for its files. Fugitive dust emissions are not expected to have a significant impact on the local air quality and the new Indoor Training Facility would not result in ongoing emissions of fugitive dust.

After construction, the new Indoor Training Facility would rely on a ventilation system for temperature control and an electric heater to avoid the freezing of pump equipment. Consequently, it would not require the use of combustion equipment that would generate significant criteria pollutant emissions. Additionally, Academy cadets have only limited access to cars, and the new Indoor Training Facility would be within walking distance from the cadet dormitories. As a result, there would be no changes in traffic patterns associated with the Preferred Alternative, and emissions associated with vehicle traffic would not change.

The new Indoor Training Facility is consistent with the Colorado Springs' Carbon Monoxide Maintenance Plan (CDPHE, 2009). Criteria pollutant emissions would only be generated during construction and would be short term and localized. Therefore, emissions should not cause an exceedence of any NAAQS. Impacts to air quality as a result of the Preferred Alternative are expected to be minor.

A conformity determination is required for each pollutant where the total of direct and indirect emissions in a nonattainment or maintenance area caused by a federal action would equal or exceed certain limits. For CO, this limit is 100 tons per year (tpy). Based on comparison to substantially larger construction projects in Colorado Springs (USAFA, 2007; U.S. Army Corps of Engineers, 2007), the CO emitted from construction activities related to the Preferred Alternative would be a fraction of the 100-tpy limit. Therefore, no conformity determination is required.

4.1.3 Alternative 2

Impacts associated with Alternative 2 would be identical to those described for the Preferred Alternative.

4.2 Soils

4.2.1 No Action Alternative

No changes to soils are expected under the No Action Alternative because the proposed facility would not be constructed.

4.2.2 Preferred Alternative

Soils at the proposed site are in the Jarre series: deep, well-drained soils that formed in alluvium derived from sandy sediment. These soils occur on alluvial fans or old terraces and are not overly prone to erosion. The Jarre series is a suitable substrate for construction because it is not prone to excessive shrinking and swelling (NRCS, 1974).

The Preferred Alternative would require the grading of existing slopes at the site and the transportation and reuse of excess excavated material. Once soils are disturbed and exposed, the potential for wind and water erosion would be increased. Wind erosion could occur under dry conditions when bare soils are disturbed to produce airborne particulate matter (fugitive dust). Water erosion could occur when stormwater runoff crosses exposed soils, resulting in either gully or rill erosion. Soil erosion can result in secondary impacts to water quality through excessive sedimentation in offsite receiving waters.

BMPs would be implemented at the construction site to minimize wind and water erosion, and to comply with the Academy's soil protection goals. BMPs for wind erosion include, watering bare soils and using chemical soil binders if an area would be exposed for an extended period. Fugitive dust is discussed in greater detail in Section 4.1, Air Quality. BMPs for water erosion include the use of fiber logs, silt fences, and hay bales during construction to reduce the speed of stormwater runoff and increase infiltration. For more detail on stormwater BMPs, see Section 4.3, Surface Water and Stormwater. All bare soil areas will be reseeded according to NRCS recommendations immediately after construction to enhance final soil stabilization.

The excess excavated material would be transported to the Academy Airfield and used in an identified restoration project at that site. If the material is stockpiled, standard erosion control BMPs, similar to those listed above, would be implemented to reduce soil movement.

Because BMPs would be implemented to minimize soil erosion, and the soils at the Preferred Alternative site are suitable for construction, impacts to soils from the Preferred Alternative are expected to be minor.

4.2.3 Alternative 2

The soils at the Alternative 2 site are in the Columbine series: deep, well-drained to excessively drained soils that formed in very gravelly alluvium. These soils are in terraces, floodplains, and alluvial fans, and in drainage ways. The Columbine series is also a suitable substrate for construction (NRCS, 1975).

The project design and footprint of Alternative 2 are similar to the Preferred Alternative. The erosion control BMPs described for the Preferred Alternative would be implemented during construction for Alternative 2 as well. However, because the location is already level, the site would not need to be regraded and there would be no excess excavated material.

4.3 Surface Water and Stormwater

4.3.1 No Action Alternative

No changes to surface water or stormwater flow are expected under the No Action Alternative because the proposed facility would not be constructed.

4.3.2 Preferred Alternative

The Preferred Alternative site is in the Deadmans Creek Watershed, which has a contributing drainage area of 5.2 square miles (3,328 acres) at its confluence with Monument Creek (URS, 2006). The Preferred Alternative site is located approximately 1,200 feet south of Deadmans Creek and about 300 feet south of Goat Camp Creek (a tributary of Deadmans Creek). Deadmans Creek is an intermittent stream flowing from west to east. Stormwater at the Preferred Alternative site currently drains toward the northwest and is conveyed to Goat Camp Creek via swales and a storm drain system (Figure 4-1).

Potential impacts to surface water quality from the Preferred Alternative are primarily associated with stormwater runoff resulting during construction activities and the potential for increased runoff from increased impervious surface area once the building is completed. Development within a watershed can lead to the erosion of the native soil surface and impacts to water quality through sedimentation. Proper implementation of construction and permanent stormwater BMPs and sustainable development methodologies reduce these impacts (URS, 2006).

In accordance with USAF Engineering Technical Letter 03-1: *Storm Water Construction Standards* (USAF, 2003) and the Academy's NPDES General Permit for Stormwater Discharges from Construction Activities (No. COR10000F), a site-specific Stormwater Pollution Prevention Plan (SWPPP) would be developed and implemented for the construction site. The construction SWPPP would be prepared as part of the project design, would include an analysis of potential stormwater generation and pollutant generation, and would identify the BMPs to be used (EPA, 2008). Construction BMPs are used at the project site to control erosion and sedimentation, handle spills, and manage waste. Additionally,

construction site inspections would be performed. Any disturbed soil areas outside the proposed building and sidewalk footprints would be revegetated to stabilize soils and provide for increased stormwater infiltration.

To reduce the impacts resulting from an increase in impervious surface, the Indoor Training Facility would include the construction of a stormwater detention pond and discharge system. The detention pond and discharge system would be designed to maintain historical runoff rates and would be constructed to detain stormwater flows from up to a 100-year storm event (Classic Consulting Engineers and Surveyor, 2009). Drainage patterns resulting from the development would continue to follow patterns toward Goat Camp Creek (Figure 4-2). There would be an increase in stormwater volume and duration resulting from the Preferred Alternative. However, by increasing the amount of time it takes the stormwater to drain offsite, the detention pond would reduce the erosion and sedimentation issues normally associated with an increase in stormwater volume and duration. There should be little to no effect on downstream water quality or the existing hydrology of the area. Section 438 of EISA was used as guidance in selecting the post-construction storm water BMPs described immediately above.

Impacts to surface water and stormwater associated with the Preferred Alternative would be minimal due to the above-stated measures.

4.3.3 Alternative 2

The Alternative 2 site is in the Deadmans Creek Watershed and is approximately 500 feet south of Deadmans Creek and about 900 feet west of Goat Camp Creek. Impacts associated with Alternative 2 would be similar to those described for the Preferred Alternative and the same BMPs would be implemented to reduce impacts to minimal levels.

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FIGURE 4-1
Existing Conditions Drainage Map - *Not to Scale*
USAFA Indoor Training Facility

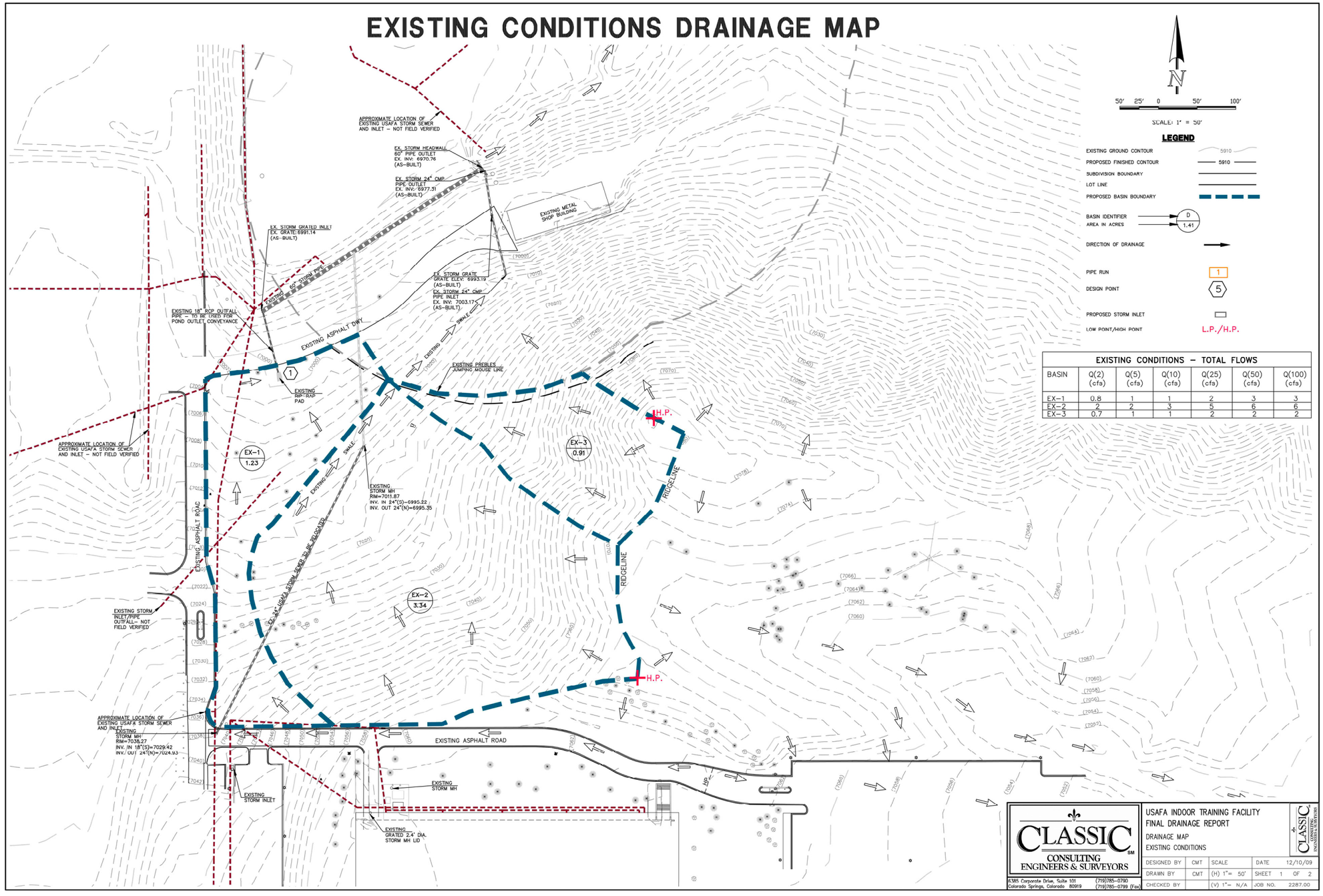
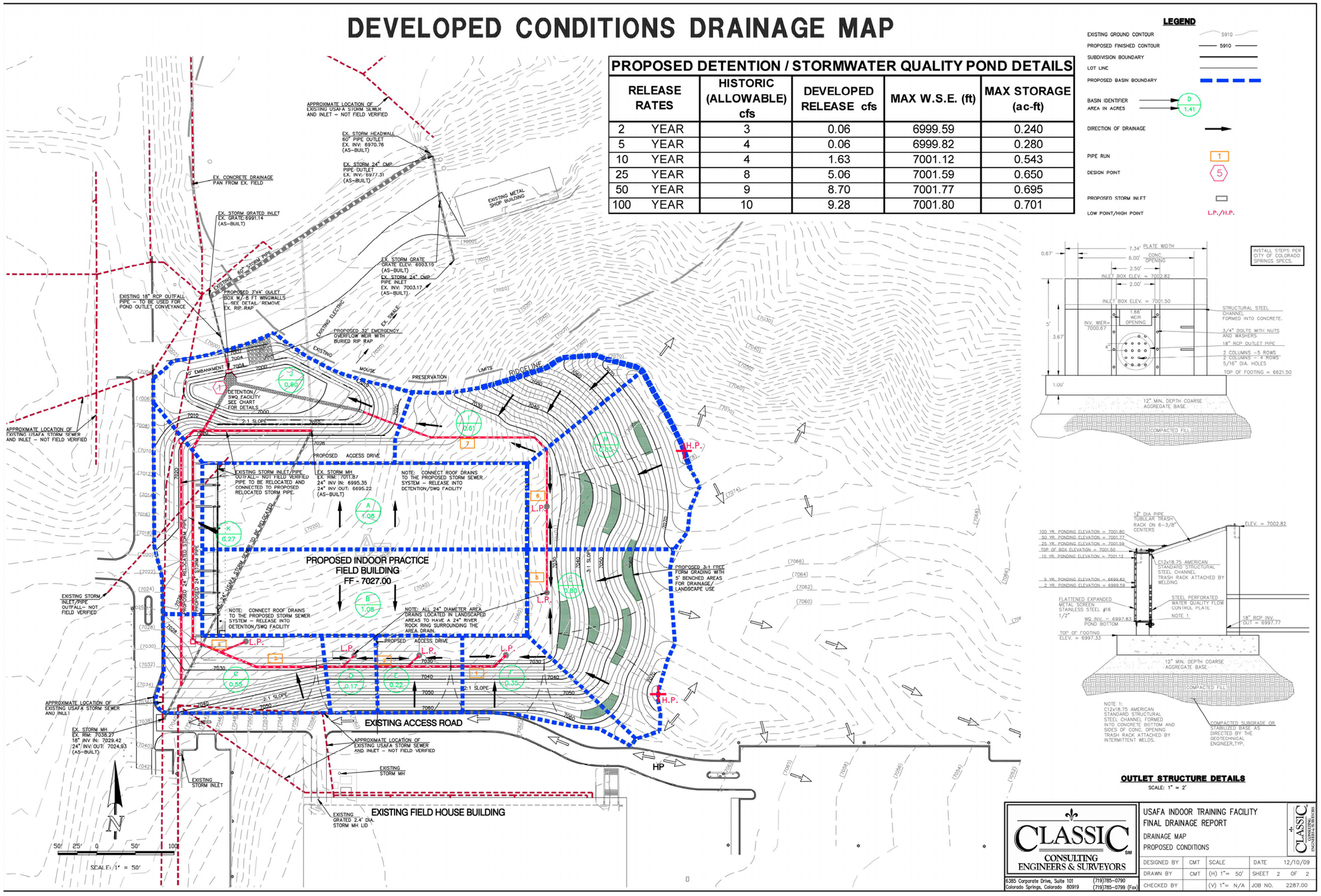


FIGURE 4-2

1 Developed Conditions Drainage Map - *Not to Scale*
USAFA Indoor Training Facility



4.4 Biological Resources

4.4.1 No Action Alternative

No changes to biological resources are expected under the No Action Alternative because the proposed facility would not be constructed.

4.4.2 Preferred Alternative

4.4.2.1 Vegetation

The proposed site for the Indoor Training Facility is in the foothill zone and designated upland forest vegetative cover (USAFA, 2008). The prominent vegetation on the site includes ponderosa pine, scrub oak, and various grass and shrub species. The Preferred Alternative would result in permanent impacts to vegetation from the clearing of the construction area and converting a natural area to a building and paved surface.

Approximately 2 acres, including trees, would be cleared. However, the Preferred Alternative site is adjacent to other developed areas, and due to the proximity to disturbance and human activity, does not represent high habitat value. No unique vegetation types are found on the site and the loss of 2 acres represents less than .02 percent of the vegetated area on the Academy (USAFA, 2008).

The Academy has a program to harvest ponderosa pine cones from its grounds to grow seedlings for reforestation efforts. This program facilitates reforestation of Academy stands with trees adapted to the local environment (USAFA, 2008). To maintain the genetic diversity from the trees that would be removed, Academy personnel would collect pine cones from up to 10 trees at the Preferred Alternative site for reforestation of other areas on the Academy (Strohm, 2009).

Numerous non-native and noxious weeds occur on Academy grounds. If any noxious or non-native weeds were found on the site during construction, spot weed treatment, either through hand removal or through an Academy-approved pesticide, would be implemented to reduce their potential spread.

Any areas disturbed and not required for the permanent facility would be revegetated in accordance with the *USAFA Site Restoration, Revegetation, and Tree Care Specification* (USAFA, 2010). Impacts to vegetation resulting from implementation of the Preferred Alternative are expected to be minor.

4.4.2.2 Wildlife

Typical wildlife in the area surrounding the Preferred Alternative site include elk, mule deer, Abert's squirrel (*Sciurus aberti*), black bear, coyote (*Canis latrans*), wild turkey, broad-tailed hummingbird (*Selasphorus platycercus*), Williamson's sapsucker (*Sphyrapicus thyroideus*), and pygmy nuthatch (*Sitta pygmaea*) (USAFA, 2008).

Approximately 2 acres of habitat would be converted to impervious surface and would be permanently lost because of the Preferred Alternative. Wildlife that use this area would be permanently displaced. Direct impacts from mortality to smaller, less-mobile species could

occur during construction if those species are present. However, because the proposed Indoor Training Facility site is near development and human activity, and the habitat is not of high value, impacts to wildlife due to the Preferred Alternative are expected to be minor.

4.4.2.3 Threatened and Endangered Species

The Preferred Alternative site is located outside of the PMJM buffer zone (Figure 4-3) and no riparian or aquatic habitats exist at the Preferred Alternative site. Therefore, PMJM would not be present on the site. Additionally, stormwater BMPs would be implemented to prevent excess stormwater and sediment from being transported to the PMJM Conservation Zone near Goat Camp Creek and Deadmans Creek (see Section 4.3). The Academy Natural Resources program made a no-effect determination for impacts to the PMJM, and a copy of the determination was sent the USFWS for its records (Appendix A).

4.4.3 Alternative 2

4.4.3.1 Vegetation

The Alternative 2 site is designated developed or disturbed vegetative cover (USAFA, 2008). The prominent vegetation on the site is landscaped turf grass. Alternative 2 would result in permanent impacts to vegetation from the clearing of approximately 2 acres for the construction area and converting a landscaped area to a building and paved surface. However, the Preferred Alternative site is in a developed area with substantial non-native vegetation and does not contain high habitat value. Noxious weeds would be treated as described under the Preferred Alternative and denuded areas would be revegetated in accordance with the *USAFA Site Restoration, Revegetation, and Tree Care Specification* (USAFA, 2010). Impacts to vegetation from implementation of Alternative 2 would be minor.

4.4.3.2 Wildlife

Disturbance to wildlife resulting from implementation of Alternative 2 is expected to be minor because the Alternative 2 site is in a currently developed area and used as a sports field.

4.4.3.3 Threatened and Endangered Species

Alternative 2 is also located outside of the PMJM habitat buffer and stormwater BMPs would be implemented to prevent impacts to PMJM conservation zone. Therefore, there would be no impacts to threatened or endangered species resulting from the implementation of Alternative 2.

1 FIGURE 4-3
2 PMJM Habitat
3 *USAFA Indoor Training Facility*

4

4.5 Utilities

4.5.1 No Action Alternative

Under the No Action Alternative, utility location and usage would not change.

4.5.2 Preferred Alternative

The Preferred Alternative site is near a developed area and adjacent to existing utility lines (Figure 4-4). Trenching and ground disturbance for utility supply to the proposed facility would be required. Locker rooms (and associated shower facilities) are not included in the Preferred Alternative. Cadets would be expected to use the existing facilities at the Field House and gymnasium. Additionally, the Indoor Training Facility would use a ventilation system for temperature control; no cooling systems would be installed and only a small electrical heating system would be installed to prevent pipes from freezing.

There would be an increased use of water, electricity, sanitary sewer, and communications from the Indoor Training Facility; however, the existing Academy utility system is operating well under capacity (USAFA, 2005) and could accommodate the increase in utility usage. The number of Academy residents and visitors is not expected to change with the construction of the Indoor Training Facility, and the impact on either Academy or regional utility supplies would be minimal.

4.5.3 Alternative 2

The Alternative 2 project site is also located adjacent to existing utility lines. Impacts associated with Alternative 2 would be identical to those described for the Preferred Alternative.

4.6 Cultural and Visual Resources

4.6.1 No Action Alternative

There would be no impacts to cultural and visual resources under the No Action Alternative because the Indoor Training Facility would not be built.

4.6.2 Preferred Alternative

The Preferred Alternative Area of Potential Effect (APE) is adjacent to the Cadet Area NHLD. The facility would be built adjacent to the Field House, which was added in the 1960s but with no regard to the architectural integrity of the Cadet Area and is not included in the NHL boundaries (NPS, 2004).

The proposed height for the facility is 75 feet to match the roofline height of the Falcon Athletic Center, constructed in the 1990s and compliant with NHL integrity standards, and the Physical Education Building, an NHL contributing resource. The facility would comply with Academy Design Standards and would be situated to create a framework for integrating the Field House back into the design of the Cadet Area. Aluminum would be used on all columns, beam cladding, and window frame trim to provide a visual connection

with other Cadet Area buildings. The facility exterior material would have an acid-etched finish to create a look similar to the white marble on the Physical Education Building. The expansive glass that would make up the west side of the facility would be tinted gray glass, similar to the glass used throughout the Cadet Area.

Sunshades would be used on the west side of the facility to govern solar heat gain and glare and to maintain building functionality. The addition of the sunshades would be a new design element for the Cadet Area and would be specific to this building. However, the sunshade configuration (Figure 2-1) was chosen because it would be made of materials compatible with other Cadet Area buildings, and because it would use a geometric precedent that exists in the Cadet Area (Cannon Design, 2009).

No archaeological resources have been identified on the Preferred Alternative site (McCorkle, 2010). If a previously unknown resource is discovered during construction, the contractor would immediately notify the Academy Cultural Resource Manager and the site would be handled in accordance with the NHPA, Archeological Resource Protection Act, and Native American Graves and Repatriation Act.

Because the facility would be designed to integrate into the Cadet Area NHLD, there would be no significant impacts to cultural or visual resources on the Academy. The Colorado SHPO was consulted regarding the Preferred Alternative and it found that the new facility would have no adverse effect on the Cadet Area NHLD (Appendix B).

4.6.3 Alternative 2

The design of the Indoor Training Facility would be identical to the Preferred Alternative and there are no archaeological resources identified on the Alternative 2 site. Impacts to cultural resources resulting from Alternative 2 would be similar to the Preferred Alternative. Impacts to visual resources would be slightly less because the site would be farther from the Cadet Area NHLD than the Preferred Alternative.

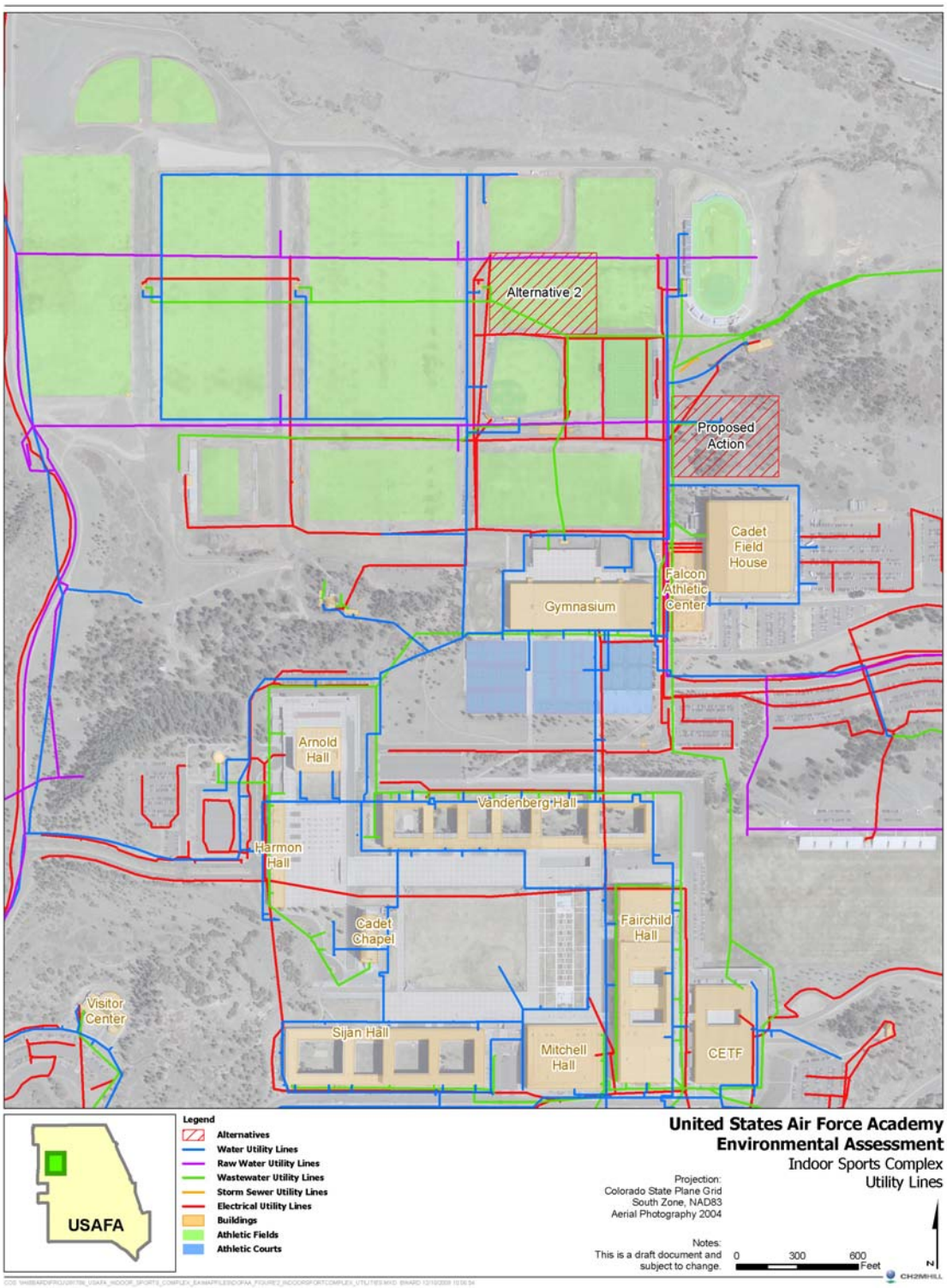


FIGURE 4-4
Utility Lines
USAFA Indoor Training Facility

4.7 Indirect Effects and Cumulative Impacts

4.7.1 Indirect Effects

Indirect effects are defined by the CEQ in 40 CFR 1508.8 as those "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." Indirect effects may include growth-inducing effects and other effects related to induced changes in land use patterns, population density, or growth rate. Indirect effects may also include growth-related effects on air, water, or other natural systems, including ecosystems.

Indirect effects of the Preferred Alternative and Alternative 2 have been addressed in the preceding resource-specific analyses. Implementing either alternative is expected to result in less than significant indirect impacts to environmental resources. The alternatives would not result in any growth-inducing effects, induced changes in population, or related effects. Potential impacts to health and safety would be beneficial.

4.7.2 Cumulative Impacts

Cumulative impacts are defined by the CEQ 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 impacts can result from individually minor but collectively substantial actions undertaken over a period of time by various agencies or individuals. Cumulative impacts must occur to the same resources, in the same geographic area, and within the same period for the Preferred Alternative and other projects.

Because project impacts are confined within the boundaries of the Academy, no projects from outside the USAFA are considered relevant to the cumulative impacts discussion. No actions in the last 5 years have affected resources within the project areas, and no present projects have added impacts to resources near the location of either the Preferred Alternative or Alternative 2. Based on the resource areas analyzed and the geographic scope of those resource areas, the following actions were determined to be relevant to future cumulative impacts:

- **The Center for Character and Leadership Development Building**: An EA is being prepared for the construction of a 47,000-ft^2 building located inside the Cadet Area NHLD, next to Arnold Hall. Construction is expected to take approximately 18 months and would likely begin in fiscal year (October-September) 2011.
- **Addition to the Cadet Gymnasium:** The Academy plans to construct a 65,000-ft^2 addition to the Cadet Gymnasium, which is also in the Cadet Area NHLD. Construction would begin in fiscal year 2010.
- **New Indoor Tennis Facility:** Plans are being developed to construct a new indoor tennis facility within the current Cadet athletic area. The project area has not yet been sited.

There is potential for short-term cumulative impacts to air quality from multiple construction projects occurring simultaneously. The projects listed above would not begin construction simultaneously and any overlap of construction would be minimized. Only short-term and minor impacts are expected to occur to air quality as a result of either action alternative; therefore, implementation of either of the action alternatives would not result in significant cumulative air quality impacts in conjunction with other proposed projects on the Academy.

The above-mentioned facilities would be held to the same soil protection goals and stormwater requirements as the Preferred Alternative. These requirements and associated BMPs would limit the potential for the projects to interact with the Preferred Alternative and create cumulative soil or stormwater impacts. Any cumulative impacts to soils would be minor and localized.

Developed areas in the Cadet Area contain fragmented habitat consisting primarily of non-native vegetation and landscape plants. The Preferred Alternative would result in the reduction of 2 acres of native vegetation habitat adjacent to the developed area. Alternative 2 would result in the loss of 2 acres of landscape vegetation and limited loss of native vegetation. Construction projects anticipated to occur on the Academy might also reduce habitat and vegetation cover. However, the projects would be constructed primarily in the developed area, where impacts to natural habitats and native vegetation would be minimized. The Academy has large expanses of contiguous habitat outside of the developed area, including habitat for the PMJM. Construction of the above-mentioned projects would occur within the developed area, thereby reducing the loss of contiguous habitat on the Academy. Any loss of natural habitat or native vegetation would be minor relative to the larger amounts of similar areas occurring on the Academy. Any cumulative biological impacts resulting from interaction with other actions would be minor.

The addition of the above-mentioned facilities would increase the utility usage on the Academy. However, the Academy is aggressively pursuing renewable energy projects, including a solar array, which would substantially reduce the Academy's electrical usage. Additionally, the Academy utility system is currently running under capacity and would be able to accommodate the additional usage without reduction in quality of service. Cumulative impacts to utilities resulting from the new facilities are expected to be minor.

Construction activities on the Academy that have the potential to affect important historic or archaeological resources are evaluated in compliance with Section 106 of the NHPA to determine if adverse effects could occur to those resources. Before any action is taken that could adversely affect important cultural resources, the Colorado SHPO is consulted and appropriate mitigation is identified and implemented. Because these procedures are in place, cumulative effects to cultural resources resulting from future actions are evaluated and considered before the action is taken. Consequently, cumulative cultural resource impacts are not anticipated to result from either of the action alternatives.

4.8 Special Procedures

The following mitigation measures and permits are necessary to reduce environmental impacts to insignificant levels:

- An APEN will be obtained from the State of Colorado (CDPHE, 2007).
- Temporary and permanent erosion control BMPs will be implemented at the construction site to minimize wind and water erosion, protect endangered species habitat, and to comply with the Academy's soil protection goals.
- A site-specific SWPPP will be developed and implemented for the construction site.
- Any disturbed areas will be revegeted in accordance with the *USAFA Site Restoration, Revegetation, and Tree Care Specification* (USAFA, 2010) immediately after construction.

4.9 Summary

Table 4-1 compares the impacts to environmental resources analyzed in this EA for the No Action Alternative, the Preferred Alternative, and Alternative 2. Both the resources studied in detail and the resources eliminated from further study are included in the table.

TABLE 4-1
Comparison of Environmental Impacts and Environmental Protection Measures
USAFA Indoor Training Facility

No Action Alternative	Preferred Alternative	Alternative 2	Environmental Protection Measure or BMP
Resources Studied in Detail			
Air Quality			
No change to current conditions	A minor increase in CO and fugitive dust emissions during construction	Same as the Preferred Alternative	Implement dust control BMPs and submit an APEN to the State of Colorado.
Soils			
No change to current conditions	Temporary soil erosion impacts may occur due to exposed soils during construction and transportation and reuse of excess fill	Construction impacts would be similar to the Preferred Alternative; however, there would be no excess fill resulting from Alternative 2	Implement construction and design BMPs to control water erosion.
No change to current conditions	A minor increase in fugitive dust during construction	Same as the Preferred Alternative	Implement BMPs such as watering and chemical soil binders to control wind erosion.
No change to current conditions	Potential soil erosion if excess fill material is stockpiled	There is no excess fill material to be stockpiled under Alternative 2	Place erosion control BMPs around stockpiled material.
Surface Water and Stormwater			
No change to current conditions	Potential for stormwater runoff resulting from construction activities	Same as the Preferred Alternative	Contractor will develop a SWPPP prior to construction. Temporary stormwater BMPs will be implemented on the construction site.
No change to current conditions	Runoff resulting from an increase of impervious surface	Same as the Preferred Alternative	Construct detention pond to maintain stormwater runoff from the site to historical levels.

TABLE 4-1
Comparison of Environmental Impacts and Environmental Protection Measures
USAFA Indoor Training Facility

No Action Alternative	Preferred Alternative	Alternative 2	Environmental Protection Measure or BMP
Biological Resources			
No change to current conditions	Loss of existing native vegetation, including trees	The Alternative 2 site is located on landscaped ground cover; native vegetation would not be impacted	Harvest pine cones from trees on the Preferred Alternative site to be used in Academy reforestation efforts.
No change to current conditions	Introduction of non-native and noxious weeds at the construction site	Same as the Preferred Alternative	Spot treat weeds with an USAFA-approved pesticide or removed by hand.
No change to current conditions	Loss of approximately 2 acres of wildlife habitat near a developed area	The Alternative 2 site is located on landscaped ground cover; wildlife habitat would not be impacted	Revegetate areas left disturbed after construction.
No change to current conditions	Impact to potential PMJM habitat resulting from stormwater runoff	Same as the Preferred Alternative	Implement stormwater BMPs to reduce sedimentation and stormwater flow into PMJM habitat.
Utilities			
No change to current conditions	Minor increase in utility usage	Same as the Preferred Alternative	Use energy efficient lighting.
Cultural and Visual Resources			
No change to current conditions	Impacts to the Cadet Area NHLD APE	Same as the Preferred Alternative	Design building to integrate the facility into the Cadet Area NHLD.
No change to current conditions	Potential discovery of unidentified archaeological resources	Same as the Preferred Alternative	The contractor will contact the Academy's Cultural Resource Manager immediately.

SECTION 5.0

Consultation and Coordination

Distribution List

10 CES/ CEV (2)
10 CES/ CEC
USAFA/ CECN
USAFA/ JA
USAFA/ PACV
USAFA/ PA
USAFA/ CECV
USAFA/ CEPD

Individuals Contacted

Jennifer Abernathy	10 CES/CEV
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Wayne Kellenbence	USAFA/ADS
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Greg Long	10 CES/CEA
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Jennifer McCorkle	10 CES/CEV
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Diane Strohm	10 CES/CEAN
David Swint	USAFA Endowment
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Vicki Williams	10 CES/CEAOP

Agencies Contacted

Colorado Office of Archeology and Historic Preservation
United States Fish and Wildlife Service

SECTION 6.0

List of Preparers

The following individuals contributed to the preparation of this EA.

TABLE 6-1
List of Preparers
USAFA Indoor Training Facility

Name	Role	Education	Years of Experience
Tom Cheney	Technical Editor	B.A., English Literature	33
Karin Lilienbecker	Senior NEPA Review	M.S., Biology B.S., Environmental Science	17
Richard Reaves	Senior Technical Review	Ph.D. Wildlife and Wetland Ecology B.S, Wildlife Ecology and Resource Management	17
Michelle Rau	Project Manager/ Lead Author	M.B.A. B.S., Ecology	13
Brian Ward	Geographic Information Systems (GIS)	M.S., Geography B.S., Professional Geography	9

SECTION 7.0

Acronyms and Abbreviations

10 CES	10th Civil Engineer Squadron
Academy	United States Air Force Academy
AF	Air Force
APE	Area of Potential Effect(s)
APEN	air pollution emission notice
bgs	below ground surface
BIDDS	Base Infrastructure Data Distribution System
BMP	best management practice
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
Springs Utilities	Colorado Springs Utilities
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EISA	Energy Independence and Security Act
Endowment	USAFA Endowment
E.O.	Executive Order
ESA	Endangered Species Act
ft^2	square feet
FR	Federal Register
mgd	million gallons per day
MS4	Municipal Separate Storm Sewer System
MW	megawatts
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHLD	National Historic Landmark District
NHPA	National Historic Preservation Act

1	NPDES	National Pollutant Discharge Elimination System
2	NPS	National Park Service
3	NRCS	Natural Resource Conservation Service
4	NRHP	National Register of Historic Places
5	PMJM	Preble's meadow jumping mouse
6	$PM_{2.5}$	Particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$)
7	PM_{10}	Particulate matter equal to or less than 10 microns in diameter (PM_{10})
8	PVC	polyvinyl chloride
9	RCRA	Resource Conservation and Recovery Act
10	SDD	Sustainable Design and Development
11	SHPO	State Historic Preservation Office
12	SWPPP	Stormwater Pollution Prevention Plan
13	tpy	tons per year
14	USAF	United States Air Force
15	USAFA	United States Air Force Academy
16	USAFAI	United States Air Force Academy Instruction
17	USC	United States Code
18	USGBC	United States Green Building Council
19	USFWS	United States Fish and Wildlife Service

SECTION 8.0

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APPENDIX A

Coordination with US Fish and Wildlife Service

Rau, Michelle/COS

From:	Mihlbachler, Brian S CIV USAF USAFA 10 CES/CEAN [Brian.Mihlbachler@USAFA.af.mil]
Sent:	Tuesday, March 09, 2010 1:32 PM
To:	Adam_Misztal@fws.gov
Cc:	Malone, Mark S CIV USAF USAFA 10 CES/CECE; McCorkle, Jennifer L CTR USAF USAFA 10 CES/CEV; Lewis, Matthew R CTR USAF USAFA 10 CES/CEV; Long, Gregory P CIV USAF USAFA USAFA/CEA; Marne, Philip C CIV USAF USAFA 10 CES/CEAN; Simpson, Christopher S CTR USAF USAFA 10 CES/CEC; Bush, Brian X CIV USAF USAFA USAFA/JA; Boyle, Duane A. CIV USAF USAFA USAFA/CEA
Subject:	No Effect Determination - Air Force Academy Indoor Training Facility
Signed By:	brian.mihlbachler@usafa.af.mil
Attachments:	ITF Design Plan.pdf; Indoor Training Facility and Preble's Conservation Zone.pptx; DSCF0018.JPG; DSCF0001.JPG; DSCF0002.JPG; DSCF0003.JPG; DSCF0015.JPG; DSCF0017.JPG; Site Restoration Revegetation and Tree Care Specification_March 2010.doc; Conceptual Rendering.JPG

Hello Adam –

The U.S. Air Force Academy proposes to construct an 84,000 square foot Indoor Training Facility (ITF) for the intercollegiate and intramural sports and physical education classes to use during inclement weather. The preferred location of the ITF is a site near the existing athletic facilities, which is adjacent to the Preble's Conservation Zone on Goat Camp Creek. The Academy has worked with the project designer to eliminate or minimize potential environmental impacts, and I have made a determination that the ITF project will have "no effect" on the Preble's meadow jumping mouse for the following reasons:

1. The construction footprint, including the building and all site grading, will not encroach on the Preble's Conservation Zone along Goat Camp Creek.
2. The preferred site supports relatively low quality upland habitat because of its proximity to roads, sports fields and a maintenance building.
3. A constructed detention basin will control the stormwater velocity discharged to Goat Camp Creek to below the historic rate of release (10 cfs), thereby preventing the likelihood of downstream erosion and habitat impacts. The detention basin's outfall pipe will connect to an existing 60" pipe that conveys stormwater and irrigation water from the cadet area and athletic fields to Goat Camp Creek at a much higher rate (estimated at 261 cfs at full capacity, 100-year event).
4. Due to the increase in impervious surface, the cumulative stormwater volume conveyed to Goat Camp Creek and Deadman's Creek will increase, but this is considered to be minor in comparison to the large volume of stormwater already conveyed to the creeks by the 60" pipe.
5. Best Management Practices (BMP's), including a barrier fence to delineate the mouse habitat boundary, will be used during construction to prevent erosion, sedimentation, and any inadvertent impacts to the Conservation Zone.
6. All disturbed areas will be seeded in accordance with the March 2010 USAFA Site Restoration, Revegetation and Tree Care specification.

Photo DSCF0001 – General overview of the hillside where the ITF will be constructed.
Photo DSCF0002 – Maintenance building and road on the north side of the ITF site.
Photo DSCF0003 – Close-up of ITF site; detention basin will be constructed in the foreground.
Photo DSCF0015 – Outfall of the 60" storm drain pipe into Goat Camp Creek.
Photo DSCF0017 – Goat Camp Creek Preble's habitat leading toward Deadman's Creek.

Photo DSCF0018 – Downstream view from the 60" storm drain outfall.

The above information is provided for your records; no response is necessary. However, if you have concerns or questions about the project and the "no effect" determination, please contact me as soon as possible.

Thanks for the assistance.

Brian S. Mihlbachler, Ph.D.
U.S. Fish and Wildlife Service
10CES/CEAN
8120 Edgerton Drive, Suite 40
USAF Academy, CO 80840-2400
(719) 333-3308
(719) 351-3730 cell

APPENDIX B

Coordination with Colorado State Historic Preservation Office

3 May 2010 CHS #56357

Lieutenant Colonel Justin C. Davey
Commander
10th Civil Engineer Squadron
8120 Edgerton Drive, Suite 40
USAF Academy, CO 80840-2400

RE: Indoor Training Facility, United States Air Force Academy, El Paso County

Dear Lt Col Davey:

Thank you for your recent correspondence dated 21 April 2010, concerning the proposed construction of a new multi-sport Indoor Training Facility within the boundaries of the Cadet Area National Historic Landmark District (5EP.4680). Our office has reviewed the submitted materials. The project will have no adverse effect on the Cadet District or on the nearby Cadet Gym/Building 2170 (5EP.3880).

If you have any questions, please contact Joseph Saldibar, Architectural Services Manager, at (303) 866-3741.

Sincerely,

Edward C. Nichols
State Historic Preservation Officer, and
President, Colorado Historical Society