DRAFT ENVIRONMENTAL ASSESSMENT
FOR
NORTH GATE/STRUTHERS
PERMANENT WATER QUALITY POND

UNITED STATES AIR FORCE ACADEMY, COLORADO

PREPARED BY:

Department of the Air Force
Federal Highway Administration
and El Paso County, Colorado

February 6, 2024

Letters or other written comments provided may be published in the Final Environmental Assessment (EA). As required by law, substantive comments will be addressed in the Final EA and made available to the public. Any personal information provided will be kept confidential. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the names of the individuals making comments and their specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

COMPLIANCE WITH CODE OF FEDERAL REGULATIONS, TITLE 40, CHAPTER V, SUBCHAPTER A, PART 1501, SECTION 1501.5 "ENVIRONMENTAL ASSESSMENTS", PARAGRAPH (f)

The above-cited regulation from the President's Council on Environmental Quality (CEQ) states, in part, that "The text of an environmental assessment shall be no more than 75 pages, not including appendices," and a CEQ proposed rule modification published in the July 31, 2023 Federal Register modifies this language, newly renumbered as paragraph (g), to say, "not including any citations or appendices."

Compliance by this Draft Environmental Assessment

The text of this Draft Environmental Assessment (EA) for North Gate/Struthers Permanent Water Quality Pond is 71 pages long, which includes three pages left intentionally blank for convenient pagination. Additionally, this EA has a front cover and five pages of frontispiece consisting of table of contents, list of acronyms, and this compliance statement page.

Including the frontispiece but excluding the blank pages, this Draft EA is 74 pages in total. Therefore, it is concluded that this Draft EA complies with the above-cited regulation.

Following page 71 of this Draft EA, there are two pages of citations, plus six appendices (labeled A through F) which do not count against the regulatory page limit.

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ABBREVIATIONS AND ACRONYMS*

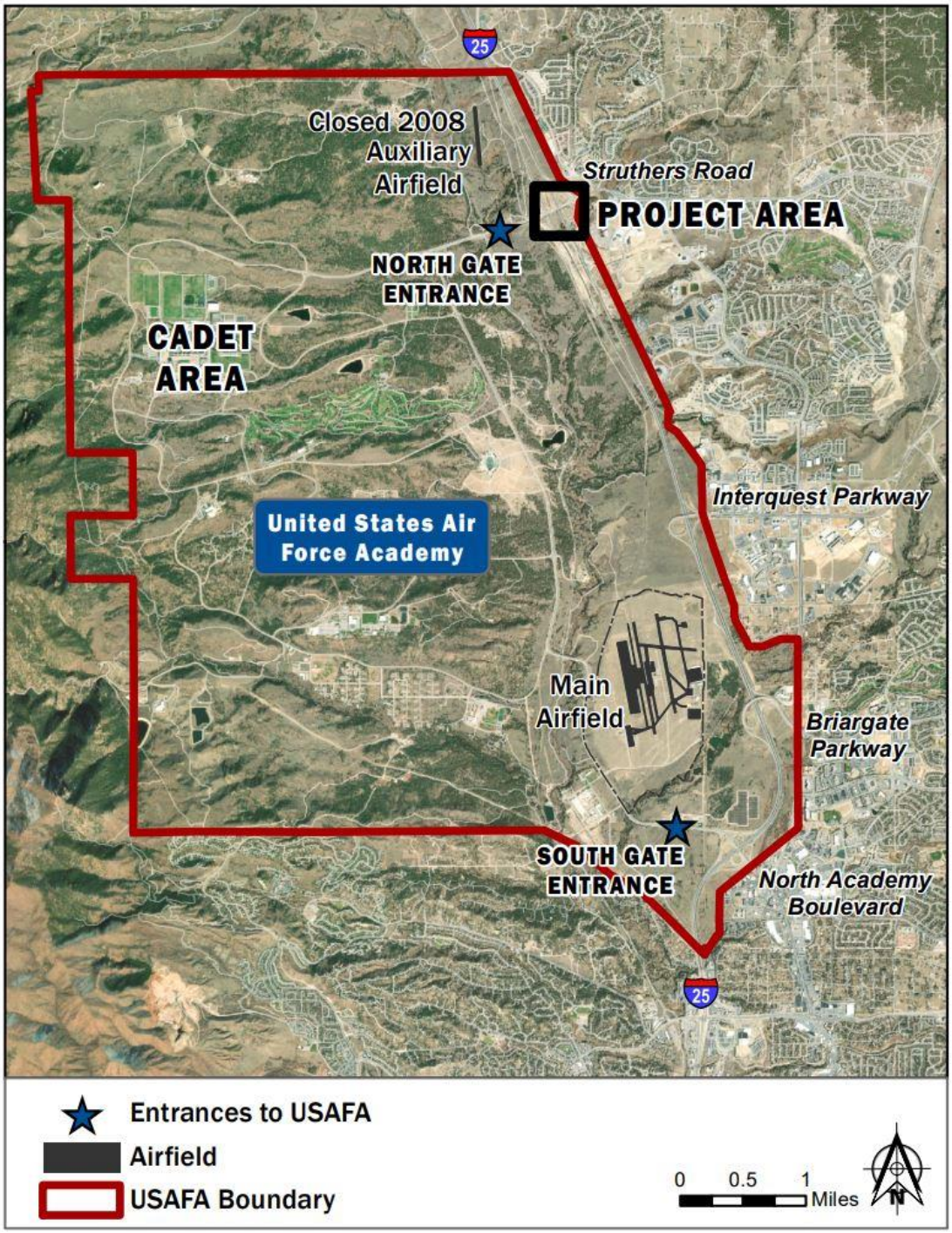
APE	Area of Potential Effect
BMP	Best Management Practice
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CLOMR	Conditional Letter of Map Revision
CPW	Colorado Parks and Wildlife
EA	Environmental Assessment
EDB	Extended Detention Basin
EIAP	Environmental Impact Analysis Process
EUL	Enhanced Use Lease
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
IPaC	Information, Planning, and Consultation (USFWS website)
I-25	Interstate Highway 25
INRMP	Integrated Natural Resources Management Plan
MS4	Municipal Separate Storm Sewer System
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
PMJM	Preble's Meadow Jumping Mouse
PWQ	Permanent Water Quality
ROI	Region of Influence
SHPO	State Historic Preservation Officer
THPO	Tribal Historic Preservation Officer
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USAFA	United States Air Force Academy
USFWS	United States Fish and Wildlife Service
WMMI	Western Museum of Mining and Industry
WQCC	Water Quality Control Commission

* Includes only acronyms used on multiple pages

1.0 PURPOSE OF AND NEED FOR ACTION

The United States Air Force Academy (USAFA) in central Colorado has been asked by El Paso County to allow construction of stormwater management infrastructure on USAFA-owned land in the vicinity of the Interstate 25 interchange at North Gate Boulevard. See **Figure 1**.

Figure 1. Location of the Project Area in Relation to the U.S. Air Force Academy



1.1 INTRODUCTION

The main public entrance to USAFA is its North Gate, on North Gate Boulevard, accessed from Interstate Highway 25 (I-25). This I-25/North Gate interchange (Exit 156) is located on USAFA-owned land where a transportation easement was granted for the construction of I-25 at the time that USAFA and the highway were built in the late 1950s. Over the past decade, I-25 was widened, the North Gate interchange was reconfigured, and substantial commercial development has occurred immediately east of the interchange, along Struthers Road in unincorporated El Paso County. Drainage infrastructure in this area has proven inadequate, resulting in minor local flooding of the North Gate intersection at Struthers Road. As a result, untreated stormwater from this area finds its way downgradient to the nearby receiving waters of Smith Creek. Smith Creek flows to the west as a tributary to south-flowing Monument Creek.

In 2015, El Paso County requested and received a $1 million water quality grant from the Colorado Department of Transportation (CDOT) to make infrastructure improvements that would capture stormwater runoff from a 57-acre subregional drainage basin in this vicinity. The sub-basin is situated on the north side of North Gate Boulevard and extends from the northbound lanes of I-25 easterly to Struthers Road, near Gleneagle Drive. Approximately 18 acres of the drainage area are located on USAFA-owned land maintained by CDOT in the I-25 right-of-way. The remaining 39 acres are east of I-25 in unincorporated El Paso County. See **Figure 2**.

Figure 2. I-25/North Gate/Struthers Sub-regional Drainage Basin of Smith Creek

Note: A refined, full-page depiction of the drainage area is presented later in Figure 11.

Stormwater in this sub-basin flows southward and westward onto USAFA property in the vicinity of the I-25/North Gate interchange. USAFA, El Paso County and CDOT are all subject to provisions of the Clean Water Act and support improved stormwater management in this vicinity.

In a related matter, USAFA has negotiated with the City of Colorado Springs (City) to allow annexation and development of a new USAFA Visitor Center and related development just west of the I-25/ North Gate interchange. As part of this agreement, the City will annex North Gate Boulevard. The City has agreed to assume maintenance responsibility for the proposed water quality pond discussed in this Environmental Assessment (EA) after it is built. In short, the respective roles of the various governmental entities in the proposed project are:

- El Paso County is the grant recipient and project proponent, desiring to address drainage problems that affect motorist safety, and to improve water quality.
- CDOT is providing funds for the project, to improve water quality and drainage at I-25 Exit 156 and has stewardship responsibility over this easement.
- USAFA is the lead agency for environmental evaluation because most of the project construction would occur on its property, near the USAFA North Gate main entrance.
- The Federal Highway Administration (FHWA) has jurisdiction over Interstate 25 and has agreed to be a Cooperating Agency for the environmental evaluation.
- The City of Colorado Springs would be responsible for maintenance/operation of the proposed stormwater detention facility.

At the time of the original El Paso County application for a CDOT water quality grant in 2015, there was uncertainty about the exact project location, and whether or not USAFA land would be needed. Subsequently, a Siting Application prepared by the county in 2016 indicated that feasible alternative sites would indeed affect USAFA land (El Paso County, 2016). A revised Intergovernmental Agreement between CDOT and El Paso County was eventually executed in 2019 for the water quality grant. A Design Kickoff Meeting was held on April 18, 2019, and the design process encountered substantial delays during the COVID-19 pandemic.

1.2 PURPOSE OF THE ACTION

The purpose of the Proposed Action is to achieve water quality improvement by treating the stormwater from a 57-acre subregional drainage basin located north and northeast of the I -25/North Gate interchange before it is discharged into Smith Creek on USAFA property. Some of this stormwater is generated on a USAFA-granted easement that is managed by CDOT, but most is from nearby private development in unincorporated El Paso County.

In addition to improving water quality, a Preferred Alternative should also:

- preserve visual aesthetics near USAFA's North Gate main entrance, where a $325 million mixed use development including a new USAFA public visitor center will be constructed by 2024.
- ensure that any newly provided water quality infrastructure is designed for ease of long-term maintenance, while avoiding and minimizing impacts to the threatened Preble's meadow jumping mouse (PMJM) that inhabits riparian areas along Smith Creek.

1.3 NEED FOR THE ACTION

For years, drainage in the Gleneagle Drive/ Struthers Road/ North Gate Boulevard/ I-25 area has been a significant problem, resulting in localized minor flooding and deposition of debris on affected roadways. In 2017, El Paso County prepared a drainage study and preliminary design of needed drainage improvements for this portion of the Smith Creek basin. Additional development has occurred in the area since the time that the 2017 drainage study was completed, thus increasing the amount of impervious surface in this drainage sub-basin. Action is needed to manage local stormwater in a safer manner and apply mitigative treatment before the water flows into Smith Creek.

Figure 3 shows stormwater and debris in the Struthers Road/North Gate Boulevard intersection following a heavy rain in the summer of 2019. El Paso County made curb and gutter improvements on Struthers Road later in 2019 to address this public safety hazard and nearby erosion, which were of key concern to the public. However, the improvements made to date do not fully resolve the drainage issues in the area, and do not include water quality treatment.

Figure 3. Flooding and Debris in the North Gate/Struthers Intersection

Photo: Wilson & Company, 2019.

1.4 DECISION TO BE MADE

Based on the information in this EA, together with any comments received from affected stakeholders and the public, USAFA will decide whether or not to approve construction of stormwater management infrastructure on its land within the easement that has been granted to CDOT for the I-25/North Gate interchange. USAFA will also decide whether or not the environmental consequences of any of the alternatives would be significant and determine whether

to prepare either a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS). Under the National Environmental Policy Act (NEPA) potential outcomes are:

- Continuing with current operations (the No-Action Alternative),
- Selecting an action alternative and preparing a FONSI; or
- Preparing an EIS if the action alternative(s) would result in significant environmental impacts.

1.5 COOPERATING AGENCY AND INTERGOVERNMENTAL COORDINATION/ CONSULTATIONS

This project was initiated by El Paso County, which received a water quality improvement grant from CDOT. I-25 at the North Gate interchange is on USAFA-owned land maintained by CDOT in accordance with an easement granted at the time that USAFA was established. As part of the Interstate Highway System, I-25 is under the jurisdiction of FHWA, which is part of the U.S. Department of Transportation. CDOT works closely with FHWA's Colorado Division to prepare environmental documentation for transportation projects in Colorado, pursuant to the NEPA.

1.5.1 Cooperating Agency: Federal Highway Administration

In 2004, an EA was prepared for the widening of 26 miles of I-25 was led by the Federal Highway Administration and prepared by CDOT, with USAFA involved as a Cooperating Agency, because approximately seven of the 26 miles were located on USAFA land. For this 2023 EA, however, USAFA is the lead agency and FHWA is a Cooperating Agency. This stormwater project does not affect traffic operations on I-25.

1.5.2 Interagency and Intergovernmental Coordination and Consultations

Federal, state, and local agencies with jurisdiction that could be affected by the alternative actions were notified and consulted during the development of this EA. Relevant correspondence with the agencies consulted during this analysis is found in **Appendix A** (FHWA, tribes and stakeholders), **Appendix C** (U.S. Fish and Wildlife Service) and **Appendix D** (Colorado State Historic Preservation Officer). No correspondence is included from the City of Colorado Springs and its Colorado Springs Utilities enterprise, which were also consulted.

1.5.3 Government to Government Consultations

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (November 2000), directs Federal agencies to coordinate and consult with Native American tribal governments whose interests might be directly and substantially affected by activities on federally administered lands. To comply with legal mandates, federally recognized tribes that are affiliated historically with the USAFA geographic region were invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes.

The tribal coordination process is distinct from NEPA consultation or the Interagency /Intergovernmental Coordination for Environmental Planning (IICEP) processes and requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct

from those of intergovernmental consultations. The overall USAFA point-of-contact for Native American tribes is the Installation Commander, but the point-of-contact for consultation with Tribal Historic Preservation Officers (THPOs) and the Advisory Council on Historic Preservation is the USAFA Cultural Resources Manager.

The Native American tribal governments that were consulted regarding this action are listed in **Chapter 5** of this EA. Responses received from tribes are found in **Appendix A**, Interagency/Intergovernmental Coordination and Public Participation.

1.6 PUBLIC AND AGENCY REVIEW OF EA

A Notice of Availability (NOA) of the Draft EA, FONSI and Finding of No Practicable Alternative (FONPA) was published in the newspaper of record (listed below), announcing the availability of the EA for review in February, 2024. The NOA invited the public to review and comment on the Draft EA. The 30-day public and agency review period ended in March 2024. The NOA and resulting public and agency comments are provided in **Appendix E**.

The newspaper of record for the Colorado Springs metro area, including USAFA and unincorporated El Paso County, is the Gazette, found online at gazette.com.

Copies of the Draft EA and FONSI were also made available for review at the following locations:

Pikes Peak Library District East Branch
5550 North Union Boulevard
Colorado Springs, CO

USAFA Base Library, 10 FSS/FSDL
5136 Redtail Drive, Suite H103
USAF Academy, CO

Monument Library
1706 Lake Woodmoor Drive
Monument, CO

USAFA's website
http://www.usafa.af.mil/Units/Mission-Support-Group/Civil-Engineering-Squadron/Environmental-Management

1.7 GRAPHICS NOTE

Some of the figures in this EA use aerial imagery or other available online maps that became outdated in late 2021 when a new freeway-to-freeway connection (Exit 155) was opened immediately south of the Interstate 25/North Gate Boulevard interchange (Exit 156). All analysis in this EA takes these new existing conditions into account, even if the new ramps are not reflected in some of the figures. This EA focuses largely on North Gate Boulevard, not the new ramps.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES (DOPAA)

Alternatives analysis for this project was initiated in 2016 by the project sponsor, El Paso County, in the form of a Siting Report that was submitted to USAFA for consideration. That report focused on potential locations for a water quality extended detention basin (EDB). That analysis preceded the formal NEPA process, and thus does not have official standing for the purpose of this EA. However, much of the information in that report remains valid and has been used in this EA to the extent applicable.

2.1 PROPOSED ACTION

The proposed action for this EA is construction of a storm sewer system to collect stormwater and to deliver it to an EDB where sediments can drop out for collection while cleaner water is gradually discharged to the receiving waters of Smith Creek. This proposed action is a permanent water quality Best Management Practice intended to mitigate the adverse effects of nearby past and ongoing development. Additional benefits may include flood mitigation for Smith Creek and decreased channel instability of Smith Creek within the USAFA property.

Per standard practice, the stormwater sewer pipes would be underground, under or along public roadways, to minimize acquisition of new property and to be accessible for maintenance or repair if needed. This means that these pipes would largely follow two existing streets in the area -- Struthers Road and North Gate Boulevard.

Stormwater from this subregional drainage basin ("subregional" means an area less than 130 acres) currently flow to Smith Creek without water quality treatment, carrying sediments resulting from erosion. There is no logical alternative to Smith Creek as the receiving waters, as it is downgradient from the subregional drainage-basin.

The EDB, or permanent water quality (PWQ) "pond", would normally be dry, but would receive and temporarily hold water after a precipitation event, gradually releasing cleaner water into Smith Creek over several days. Operated passively by gravity, the PWQ pond must be located downgradient from most of the drainage area, but upgradient from Smith Creek.

In addition to having the capacity to receive 100-year stormwater from the drainage sub-basin, the EDB must be designed to be maintainable in a reasonably efficient manner, which would require having appropriate vehicular access for a truck and other motorized equipment. Due to the need for routine maintenance, without which water quality improvement would not occur, the PWQ pond itself should not become a wetland or habitat that would limit maintenance feasibility.

The proposed action indicates what is needed, but does not specify exactly how (and importantly, where) it might be done. There can be several alternative ways to accomplish the proposed action. Accordingly, alternatives have been considered and evaluated. These are discussed in following sections regarding selection standards and screening of alternatives.

2.2 SELECTION STANDARDS

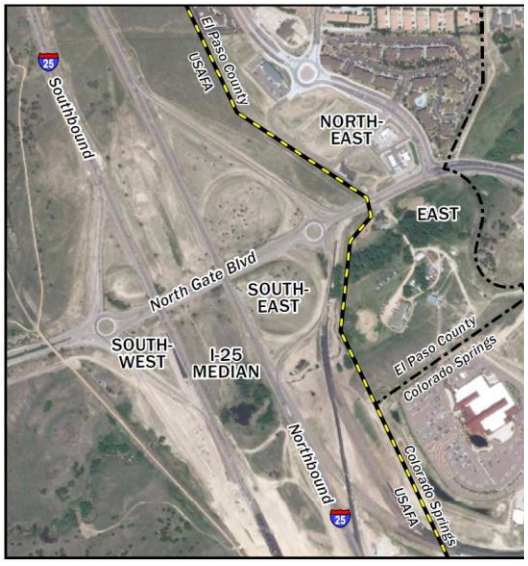
NEPA-implementing Council on Environmental Quality (CEQ) regulations mandate the consideration of reasonable alternatives for a proposed action. "Reasonable alternatives" are those that also could be utilized to meet the purpose of and need for the proposed action. Per the requirements of 32 Code of Federal Regulations (CFR) §989, the USAF Environmental Impact Analysis Process (EIAP) regulations, selection standards are used to identify alternatives for meeting the purpose and need for the USAF action.

The four evaluation criteria identified in the 2016 El Paso County Siting Report for this project were carried forward into this NEPA alternatives analysis. These are hydrology and hydraulics, land use, environmental impacts, and constructability, as discussed below.

- Hydrology and Hydraulics – to meet the project purpose and need, the alternative must be able to accommodate and treat the stormwater volume that would result within the North Gate/Struthers drainage sub-basin from a 100-year flood event.
- Land Use – a feasible alternative should represent a reasonable use of the land, compatible with surrounding existing and planned land uses.
- Environmental Impacts – as the project area is known to include protected environmental resources (including historic properties, wetlands, and endangered species habitat), a feasible alternative should avoid and minimize adverse impacts, recognizing that there are often tradeoffs among resources.
- Constructability – the alternative should allow for reasonable and cost-effective constructability, not requiring extreme or disruptive construction methods, and the EDB should be context-sensitive in design.

The 2016 Siting Report indicated the need to accommodate a 98-acre subregional drainage basin, but subsequent investigation has refined the understanding of existing conditions, and it is now understood that the capacity of the PWQ pond only needs to serve 57 acres, because an existing CDOT 42-inch stormwater pipe serves I-25 north of North Gate Boulevard.

Figure 4. Location of EDB Potential Sites Identified in 2016



2.3 SCREENING OF ALTERNATIVES

El Paso County's 2016 Siting Report identified five potential locations for an EDB, including two sites outside of USAFA's boundary and three sites within the boundary, as shown in **Figure 4.** Labeled and named based upon their location relative to the center of the I-25/North Gate interchange, the five sites are: Northeast; East; Southeast; I-25 Median; and Southwest.

Ground-level photos of these sites are shown in **Figure 5**.

1

Figure 5. Current Photos of Potential Sites Identified by El Paso County in 2016

Northeast – now developed, no longer feasible

East – owned by Mining Museum

Southeast – northbound off-ramp from I-25

I-25 Median – south of North Gate Blvd.

Southwest – southbound on-ramp to I-25

Since 2016, however, the Northeast site has been converted to commercial development, and is no longer available as an option. Therefore, it is not included in this NEPA alternatives analysis. That location includes a small water quality detention area, which was required as a condition for development, but does not have space available for the detention capacity needed by this project.

Accordingly, the following four potential alternatives that might meet the purpose and need were considered:

- The East site is located on the southern side of North Gate Boulevard, on property owned by the Western Museum of Mining and Industry (WMMI).
- The Southeast site is located within the CDOT easement on USAFA property, inside of the I-25 loop ramp which is no longer in use.
- The I-25 Median site is located south of North Gate Boulevard in the median between the northbound and southbound lanes of I-25.
- The Southwest site is located south of North Gate Boulevard, between the I-25 southbound through lanes and the I-25 southbound on-ramp from North Gate Boulevard.

The selection standards described in Section 2.2 were applied to these alternatives to determine which alternative(s) could meet the criteria and would fulfill the purpose and need for the action. The results are shown in **Table 1**.

Table 1. Results of Alternative Screening Process

Alternative	Meets Project Selection Criteria			
	Hydrology and Hydraulics	Land Use	Environmental Impacts	Constructability
No-Action Alternative	N/A	Yes	N/A	N/A
East	Partial	No	No	Yes
Southeast	Yes	Partial	Yes	No
I-25 Median	Yes	Yes	Partial	Yes
Southwest	Yes	No	Partial	Partial

In this table, “Yes” indicates that the alternative could fully meet the project need and goals without a major concern. “Partial” indicates that there are known issues at the screening level that would require careful consideration. “No” indicates that the alternative has a serious issue that could render it infeasible. These issues are discussed in the following section. “N/A” means Not Applicable.

The **No-Action Alternative** would be compatible with existing and planned land use but would fail to provide any stormwater management and water quality improvement.

The **East Alternative** would make use of land that is owned by the WMMI. Smith Creek is adjacent to that property, limiting the available land for detention to less than one acre. This could be partially beneficial but would not be able to address the full detention needs of the 57-acre subregional drainage basin. Additionally, it is known that the museum is considering changing its existing roadway access, which is discussed in the Cumulative Effects section of this EA. The WMMI land parcel is part of a former ranch that is listed on the Colorado Register of Historic Places and has been determined officially eligible for listing in the National Register.

The **Southeast Alternative** would make use of the land inside a former I-25 loop ramp. This location offers sufficient land to accommodate a two-acre detention basin, upgradient from Smith Creek, thus meeting the hydrology and hydraulic criterion. A significant land use concern is that it would be immediately adjacent to the northbound ramps for motorists arriving from the south (Colorado Springs), via either I-25 or the new Powers Boulevard extension, giving them a closeup view of the detention basin as their first impression of arriving at USAFA.

Although this Southeast site is located within USAFA's designated Conservation Zone for the threatened Preble's meadow jumping mouse, there would be minimal environmental concerns because the land south of the loop ramp (along Smith Creek) was stripped bare in 2021 as part of the North Powers Boulevard interchange ramps construction. The land was reseeded, and the new vegetation is becoming established. The biggest drawback of the site, however, is its elevation with respect to Smith Creek. This parcel would require extensive and expensive excavation to reach the needed floor of the detention basin, resulting in substantial quantities of earth to be hauled away.

The **I-25 Median Alternative** has sufficient room to accommodate a detention basin of approximately two acres, fully meeting the hydrology and hydraulics criteria. Additionally, there is a CDOT 42-inch stormwater pipe underground that discharges into Smith Creek. Making use of this existing pipe would avoid the need for creating a new discharge location. The site is between the northbound and southbound lanes of I-25, on land that has no potential use apart from its ecological value. Virtually the entire median is located within the USAFA PMJM Conservation Area, but the northern half is sparsely vegetated, and the basin could fit in that northern half. The topography here slopes downhill toward Smith Creek, offering attractive constructability and also making the basin less visible from North Gate Boulevard. Excavated material could largely be retained on-site for grading, with re-vegetation, and would not need to be hauled off-site.

The **Southwest Alternative** includes an existing CDOT detention basin for I-25 that could be expanded and significantly deepened if necessary. An additional outlet structure would be required to accommodate the increased depth. An existing non-jurisdictional wetland would be eliminated. Extensive excavation would be needed, and the excavated materials would have to be hauled away, further increasing the expense. Additionally, this site would be highly visible as it is immediately adjacent to the freeway ramps taking motorists from North Gate Boulevard southward to Colorado Springs via I-25 or North Powers Boulevard.

The discussion above supports the findings shown in **Table 1**, indicating that three of the potential alternatives would not meet the site selection criteria: East, Southeast and Southwest.

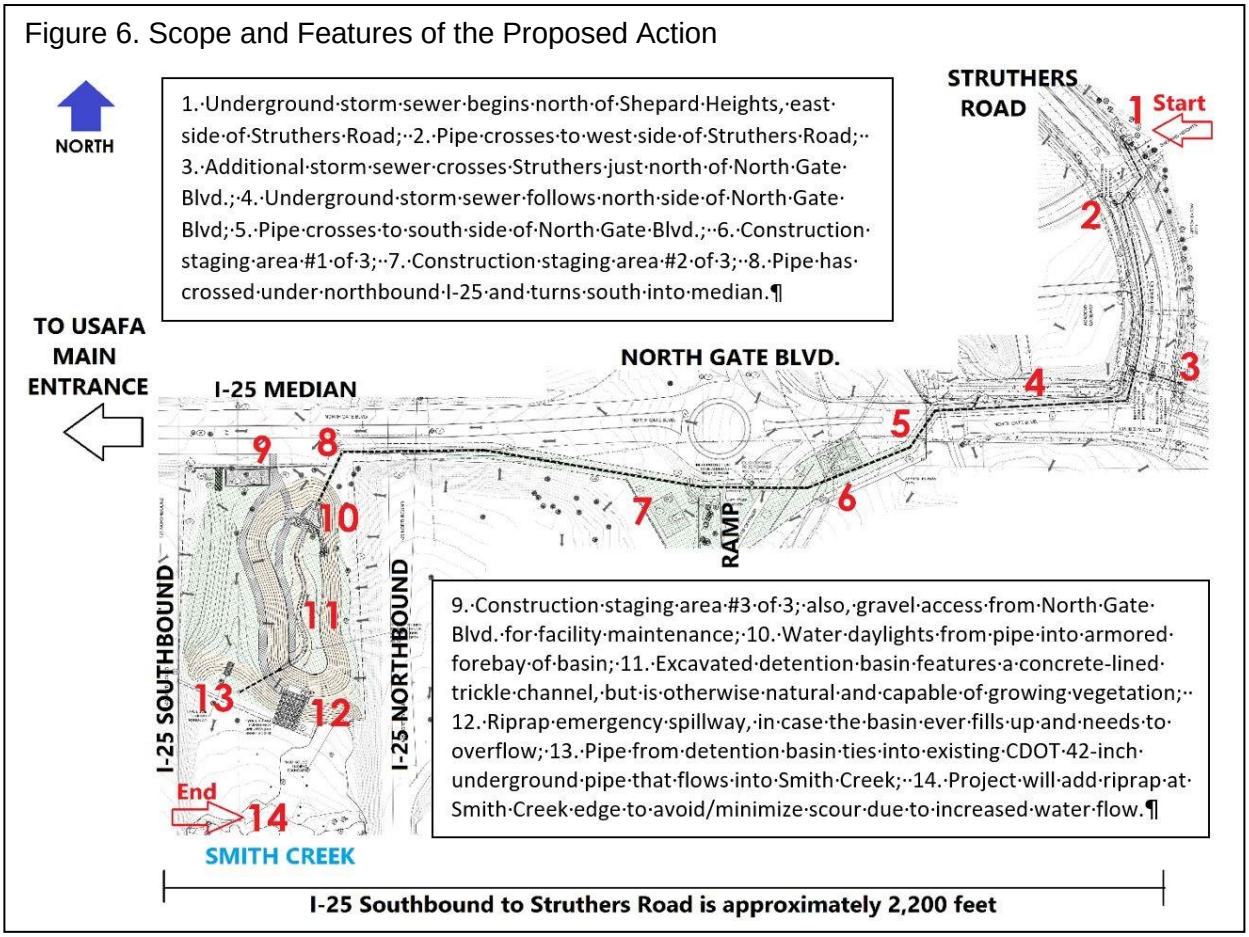
2.4 DETAILED DESCRIPTION OF THE ALTERNATIVE(S)

Only the I-25 Median Alternative meets all the Site Selection Criteria, and therefore it was retained for detailed analysis in this EA as the Preferred Alternative. Additionally, NEPA regulations require consideration of the No-Action Alternative in an EA, even though the No-Action Alternative typically does not meet the purpose and need for the proposed action.

2.4.1 I-25 Median (Preferred Alternative)

The Preferred Alternative is shown in Exhibit 6. It would provide drainage improvements along Struthers Road south of Gleneagle Drive to North Gate Boulevard, continuing along North Gate Boulevard from Struthers Road intersection to the median between the northbound and southbound lanes of Interstate 25. These improvements would consist of storm drain system that would intercept storm water runoff from the contributing area and convey it through an underground concrete pipe network to a water quality EDB ("pond" although normally dry) located in the I-25 median south of North Gate Boulevard.

Figure 6. Scope and Features of the Proposed Action



Consistent with USAFA aesthetic needs, the EDB would not be an engineered, geometric shape, but instead more natural in appearance. Its approximate overall dimensions would be 420 feet long (north/south) and 200 feet wide (east/ west), while the pond bottom would be 280 feet long and up to 100 feet wide. The project would involve approximately 4.6 acres of disturbance, of which the EDB actual footprint would represent about half. The elevation of the pond bottom would be approximately 6,665 feet above sea level. The average differential between existing grade and the facility bottom would be an estimated 8.5 feet, and the facility would be able to hold a maximum water volume estimated to be 6.9 acre-feet.

The design will provide temporary storage of water quality capture volume and excess urban runoff volume from existing and planned impervious areas within the project area. The basin will be designed to release water at less than historic rates and controlled velocities, thereby protecting Smith Creek and reducing adverse effects of the current drainage situation.

The proposed EDB has been designed to ***detain***, not retain, stormwater. All stormwater would be released within approximately 72 hours (3 days), in compliance with the Colorado Springs Drainage Criteria Manual (City of Colorado Springs, 2023). The basin would be dry at all other times except for a small micropool, which is part of the outlet structure. The micropool would have an approximate surface area of 10 square feet and a depth of 2.5 feet. Its purpose is to improve the sediment trap efficiency of the detention basin and absorb the initial surcharge volume of a runoff event. The Proposed Action is expected to minimize flooding and improve safety for vehicular traffic and pedestrians. Additionally, the project would help alleviate flooding and sediment deposition problems in the vicinity of USAFA property.

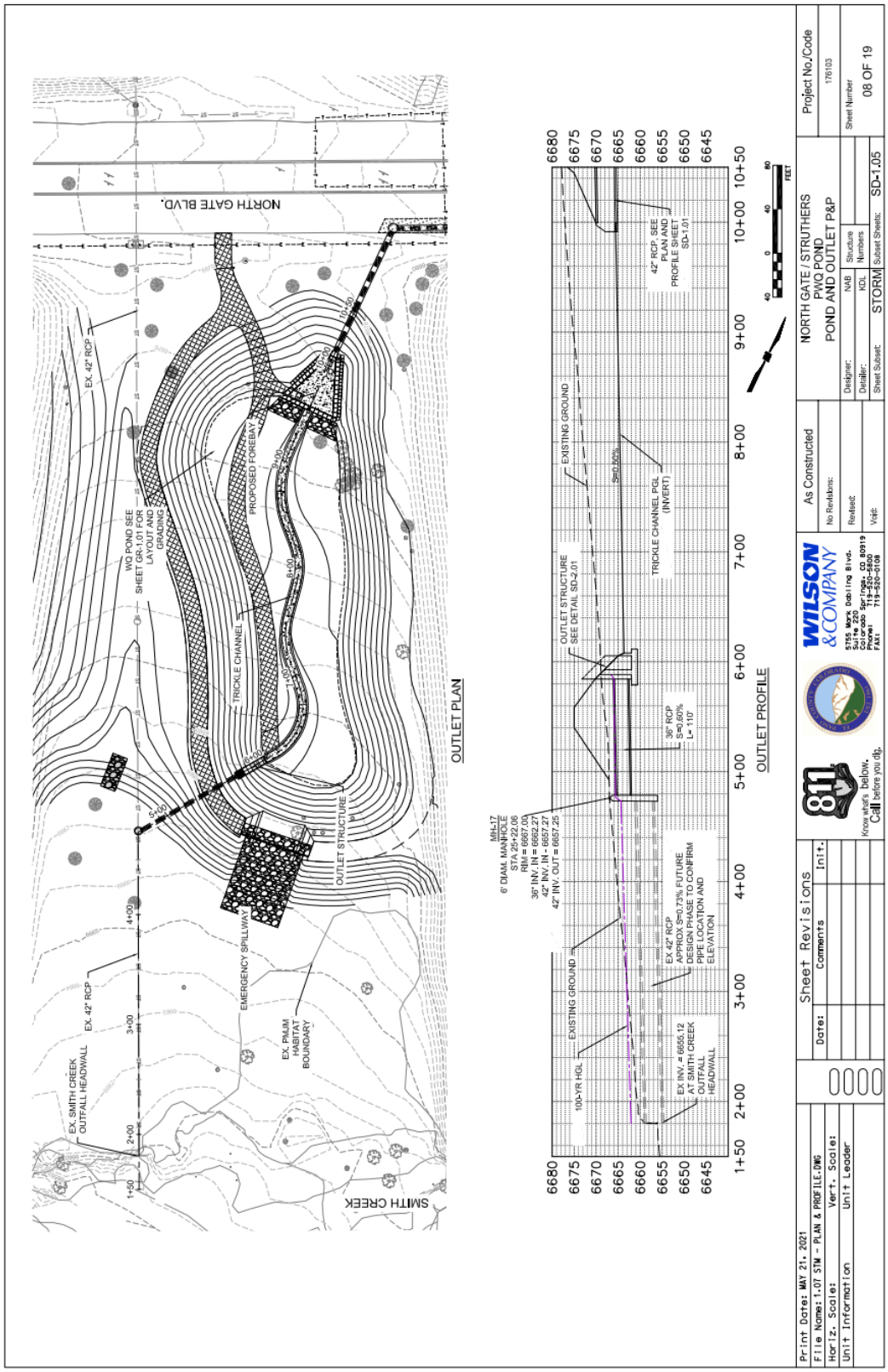
Figure 7 provides a closer view of the EDB. This plan page was prepared in a landscape orientation and has been turned sideways. The result is that the north/northeast direction is “up” but some of text (e.g., “North Gate Blvd.”) appears upside-down. A more user-friendly version with additional details is provided later in this EA as **Figure 23**.

Because the improved access road to the I-25 median site could attract trespassers and the detention basin would create a potential hazard if trespassers drove into it, a simple chain barrier and sign may be installed at the maintenance access road entrance (or slightly farther from North Gate Boulevard) to advise unauthorized persons not to enter the median. No evidence of trespassing has been observed during multiple site visits for this project.

Including planning, engineering design and construction costs, the Preferred Alternative is expected to cost approximately $4 million, paid for by El Paso County and utilizing a CDOT $1 million water quality grant. USAFA provided in-kind services in the development and review of this Environmental Assessment.

After El Paso County constructs the detention facility, the City of Colorado Springs will be responsible for the ongoing obligation to maintain it. The details of the maintenance obligations are being determined for incorporation into the applicable intergovernmental agreement(s).

Figure 7. Plan and Profile for Preferred Alternative EDB ("PWQ Pond")



El Paso County's 2015 water quality grant application indicated that an operational and maintenance manual and maintenance agreement would be prepared to address the following:

- Specify what maintenance actions are needed, when they will be performed and how often they will be performed, inspection checklists and follow-up repair timetables
- The routine and non-routine activities to be employed
- The equipment and materials needed for maintenance
- An identification of responsible parties/funding sources for routine maintenance, non-routine maintenance, inspections and repairs
- Inspection of the pond at least twice annually
- Removal of sediment, debris and litter from the detention area as required to minimize routine maintenance requirements and clogging of the outlet
- Mowing as needed to maintain appropriate height and control weeds
- Removal of sediment from the forebay and trickle channel annually
- Remove sediment from the bottom of the basin when accumulated sediment occupies about 20% of the water quality design volume or when sediment accumulation results in poor drainage within the basin
- Repair and/or replace basin inlets, outlets, trickle channels, embankments, emergency spillway, and all other structural components required for the basin to operate as intended. Repair and vegetate eroded areas as needed following inspection

In addition to mowing as listed above, USAFA expects the maintenance agreement to include herbicide treatment of noxious weeds.

2.4.2 No-Action Alternative

Under the No-Action, no new stormwater management infrastructure would be constructed beyond the work that El Paso County completed along Struthers Road in 2019 to address critical erosion and flooding problems. Stormwater from existing and planned further development within the 57-acre subregional basin would continue to flow to Smith Creek without water quality treatment through existing outfalls, carrying sediment that degrades water quality in Smith Creek.

2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

As the East, Southeast and Southwest alternatives that were considered would not meet the project's purpose and need, including its environmental and aesthetic goals, they were eliminated from further consideration in this EA.

Accordingly, the remainder of this EA will examine only the No-Action Alternative and the Preferred Alternative, sometimes referred to as the "project".

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The Region of Influence (ROI) for the project is the area shown earlier in **Figure 2**, unless otherwise specified below for a particular resource area where a resource would have a different ROI.

This chapter describes the potential environmental consequences that are likely to occur as a result of implementation of all alternatives that are being considered and analyzed, including short-term impacts and long-term impacts. Short-term impacts are those that would result from the activities associated with a project's construction and/or demolition phase, and that would end upon the completion of those phases. Long-term impacts are generally those resulting from the operation of a proposed project. Anticipated impacts are based on a 90 percent design level for the project.

3.1 SCOPE OF THE ANALYSIS

This chapter describes the current conditions of the environmental resources, either man-made or natural, that would be affected by implementing the Preferred Alternative or the No-Action Alternative. NEPA requires federal agencies to consider environmental consequences in their decision-making process. CEQ regulations for implementing the procedural provisions of NEPA in 40 CFR Parts 1500-1508 mandate that all federal agencies use a systematic, interdisciplinary approach to environmental planning and the evaluation of actions that might affect the environment.

3.1.1 Regulatory Requirements

This document has been prepared in accordance with NEPA (Title 42 United States Code 4321 et seq.), the CEQ's regulations for implementation of NEPA (40 CFR Parts 1500-1508), and the Air Force's EIAP and associated procedures (32 CFR Part 989). These federal regulations establish both the administrative process and substantive scope of the environmental impact evaluation designed to ensure that deciding authorities have a proper understanding of the potential environmental consequences of a contemplated course of action.

This EA is intended to provide USAFA and the public with the information needed to understand the potential environmental consequences of installing stormwater management facilities in the vicinity of the I-25/North Gate interchange. Implementation of this proposed infrastructure would only commence upon USAFA approval of this EA and issuance of a FONSI and FONPA for construction in either wetlands or floodplains, as defined in Executive Order 11990, *Protection of Wetlands*, and/or Executive Order 11988, *Floodplain Management*.

If the EA process identifies potentially significant impacts, an EIS would need to be conducted and the project would only proceed upon its completion and issuance of a Record of Decision. Alternatively, the involved agencies could decide to not undertake the project.

3.1.2 Issues with Minimal or No Impacts

Based on the scope of the project, issues with minimal or no impacts were identified through a preliminary screening process. The following describes those resource areas not carried forward for a detailed analysis, along with the rationale for their elimination. Regardless of the alternative selected, the following resources would not be affected by the project and are not discussed in detail in this EA:

Air Installation Compatible Use Zone: The USAFA Air Installation Compatible Use Zone Study (AICUZ) includes areas immediately adjacent to an airfield installation that are managed for compatible uses. The project area is outside of critical AICUZ use zones for the active USAFA airfield, located approximately 3.1 miles south of the project. The Aardvark airfield located northwest of the project area was closed in 2008 and there are no current operations that require an AICUZ. The short-term construction and long-term use activities would not violate land use restrictions imposed by the AICUZ and as a result, USAFA anticipates no short or long-term impacts to airfield operation. Accordingly, this topic was not carried forward for detailed analysis in this EA.

Regarding airspace and range management, the project would not involve or affect flying operations at the active USAFA airfield, nor the use of airspace by USAFA aircraft. In addition, USAFA designated ranges are at least 10,000 feet from the project area, and activities resulting from the project would not affect range operations. As a result, USAFA anticipates no short or long-term adverse impacts to airspace and range management from this project. Accordingly, this topic was not carried forward for detailed analysis in this EA.

Noise: The project would involve noise from heavy equipment temporarily during its construction, but ongoing use of the new infrastructure would generate no noise. The proposed EDB would be located in a noisy area since the adjacent interstate highway carries an average of 110,000 vehicles per day, split evenly between the northbound and southbound directions, including substantial volumes of heavy trucks. Accordingly, this topic was not carried forward for detailed analysis in this EA.

Safety and Occupational Health: Standard safety precautions would be followed during construction of the project and during ongoing future maintenance of the stormwater infrastructure. No ongoing use of chemicals or hazardous materials would be involved. The proposed EDB would be located in an area that is not open to the public. Accordingly, this health and safety topic was not carried forward for detailed analysis in this EA.

Hazardous Materials/Waste: The project involves installing stormwater sewer pipes under existing roadway shoulders and creating an EDB on USAFA land in the vicinity of the I-25/North Gate interchange. All affected USAFA land has been used for the Interstate highway for six decades and was undeveloped ranchland before that. No prior land uses of current USAFA property would have contaminated the soil or groundwater in the project area.

CDOT completed a database records search in 2023 that confirmed the above. No spills of hazardous materials along I-25 are reported in in the project area by the search results. On non-USAFA land, to the east, there is a gasoline/convenience store at the northwest corner of North Gate Boulevard and Struthers Road, at 229 Gleneagle Gate View. Built in 2018, this business has

one or more underground storage tanks for gasoline, but there have been no reported leaks from these new tanks.

Socioeconomic Resources/Environmental Justice: All federal agencies are required by Executive Order 12898 to incorporate environmental justice into their missions. The requirement includes identifying and addressing any disproportionately high and adverse human health or environmental effects of federal agency programs on minority populations and low-income populations. The project would take place within publicly owned transportation right-of-way, directly affecting no residences or businesses, not affecting population or employment, and not affecting any governmental tax base. The project would result in no significant adverse impacts to any human populations - minority, low income, or otherwise. Therefore, this EA does not further analyze potential Environmental Justice impacts.

Earth Resources: Land that would be affected by the project is located within public transportation rights-of-way, not used for mining and not characterized by topographical constraints. Soil types in the area are known from U.S. Geological Survey, and do not pose construction challenges, such as shallow bedrock. There is no prime or unique farmland present. Additionally, several past investigations by CDOT (I-25 has been extensively modified in the past decade) have not identified any paleontological resources in the project area. Accordingly, this topic was not carried forward for detailed analysis in this EA.

Air Quality: The project would involve soil excavation and grading for the EDB during construction, but the system's ongoing future use would not generate pollution emissions. It is anticipated that some excavated materials would be used for regrading on-site, thus minimizing the need to haul dirt off-site. The land would be reseeded with native vegetation. As ongoing maintenance, accumulated sediments would be removed from the basin periodically and taken to an existing, approved landfill off-site.

The North Gate/Struthers PWQ Pond would involve temporary, short-term construction activity followed by periodic maintenance over the long term. It would be a passive facility that would not generate greenhouse gas emissions on a daily basis in order to accomplish its function. One-time activities required for the project include the following approximate activity levels:

- Excavate 18,000 cubic yards of soil and reuse it on-site to the extent allowable under USAFA's Erosion Control, Revegetation and Tree Care Standards (USAFA, 2019)
- Trench 3,300 linear feet and install pipe
- Grade and reseed approximately 4.6 acres of land
- Construct detention basin infrastructure, including a new gravel access road approximately 0.2 mile long, for pond maintenance

El Paso County does not have any history of violating the National Ambient Air Quality Standard for particulate matter ten microns or smaller in diameter (PM-10) and thus is classified as an attainment area. Pursuant to Section 176 of the Clean Air Act, a regulation called the General Conformity Rule requires air quality analysis for federal actions in a nonattainment or maintenance area, which El Paso County is not.

Additionally, the regulations exempt certain types of federal projects from air quality analysis. USAFA has determined that one of these exemptions would apply to the North Gate/Struthers PWQ project, and therefore air conformity analysis is not required. Specifically, Title 40 CFR, §93.153 (c)(2) exempts "Actions which would result in no emissions increase or an increase in emissions that is clearly *de minimis*," including*:*

> (x) Actions…with respect to existing structures, properties, facilities and lands where future activities conducted will be similar in scope and operation to activities currently being conducted at the existing structures, properties, facilities, and lands.

The U.S. Air Force has developed an automated screening tool to perform a simplified General Conformity Analysis for non-transportation actions and projects. This tool is the Air Conformity Applicability Model (ACAM). This model is updated periodically, and the current version is called ACAM 5.0.18b. This tool was used to prepare a Record of Conformity Analysis (ROCA) for the North Gate/Struthers PWQ Pond, documenting that the project is exempt from General Conformity Analysis.

The two-page ROCA is provided as **Appendix B** to this EA. It provides estimated emission impacts for nine types of air pollution: volatile organic compounds; oxides of nitrogen; carbon monoxide, sulfur oxides; coarse particulate matter (PM10); fine particulate matter (PM2.5), lead, ammonia, and carbon dioxide equivalents (CO2e).

Greenhouse Gas Emissions and Climate Change: Interim Guidance issued by the Council on Environmental Quality in January 2023 directs federal agencies to address greenhouse gas emissions and climate change in NEPA documents, guided by the "rule of reason" with regard to the depth of analysis necessary.

As noted above, the ACAM-generated ROCA for this project reported out the estimated annual CO2 equivalent emissions attributable to the project due to construction activity. The total estimated CO2e emissions are 1,187.2 tons, which were assumed to occur partly in 2023 and partly in 2024.

In an effort to put CO2 emission amounts into a context understandable by the public, more than a dozen agencies of the U.S. government have participated in an Interagency Working Group on Social Cost of Greenhouse Gases. A 2021 Technical Support Document produced by that group yielded estimates ranging from $14 to $76 per metric ton of CO2 in 2020, increasing to $17 to $83 in 2025 (IWGSCGG, 2021). Since a metric ton is 1.1 English tons, the roughly 1,100 English tons estimated by ACAM would be roughly 1,000 metric tons. Using the mid-range value of $50 per ton for 2025, 1,000 metric tons would have a total social cost of $50,000. Compared to the estimated construction cost for the project, at approximately $3.6 million, this represents an additional 1.4 percent.

Regarding climate change, a publication by the U.S. Environmental Protection Agency ("What Climate Change Means for Colorado") indicated that Colorado has been getter warmer and drier over time, with adverse effects statewide and beyond (EPA, 2016). For example, reduced snowpack in the Rocky Mountains could harm the state's economically important ski industry, and reduced flows in the Colorado River could result in water shortages for several states downstream, including Nevada, California and Arizona. USAFA's 2023-2028 Integrated Natural

Resources Management Plan suggests that increasing temperatures could result in more drought stress for riparian areas, with a resulting loss or contraction of habitat for the threatened Preble's meadow jumping mouse (USAF, 2023).

An expectation of increased drought conditions may suggest that the Nort Gate/Struthers PWQ Pond designed today would provide adequate capacity for future needs. The purpose of the facility is to collect sediments during and after precipitation events to improve water quality in Smith Creek, and the facility would be dry more often than it would hold water. Constructing the facility would improve the resiliency of Smith Creek by slightly moderating peak water volumes.

3.2 WATER RESOURCES

This section discusses groundwater, surface water, wetlands, and floodplains.

3.2.1 Methodology

A geotechnical consultant performed multiple borings in the I-25 median to determine existing groundwater levels. Surface water resources were determined by field inspection and review of online mapping products, plus a review of the latest water quality impairment analysis from the Colorado Department of Public Health and Environment (CDPHE). Wetlands were assessed via field investigation by a qualified biologist, following procedures established by the U.S. Army Corps of Engineers. Floodplains were investigated using Federal Emergency Management Agency (FEMA) online maps, also considering a 2019 Conditional Letter of Map Revision (CLOMR) that was prepared for Smith Creek.

3.2.2 Existing Water Resources

This subsection describes existing conditions. Impacts and mitigation are discussed in following subsections. According to USAFA's 2023-2028 Integrated Natural Resources Management Plan, USAFA has a semi-arid climate, receiving approximately 15 inches of annual precipitation as rainfall and snow, based on data collected at the USAFA airfield (3.75 miles south of North Gate Boulevard) between 1967 and 2022 (U.S. Department of the Air Force, 2023).

Groundwater: Groundwater beneath the project area generally occurs in the heterogeneous, unconfined, unconsolidated Quaternary sediments (collectively referred to as alluvium) found on top of the underlying Dawson Arkose geologic unit. Based on surface water features and geological characteristics in the area, shallow groundwater is likely influenced by topography and major surface water features such as Smith Creek. Shallow groundwater in the Project Area is expected to flow towards the west and south.

Below the shallow groundwater-bearing alluvium, groundwater is stored within the Denver Basin, which is comprised of four aquifers including (from shallowest to deepest) the Dawson, Denver, Arapahoe, and Laramie-Fox Hills. Confining layers isolate the individual aquifers from each other and surficial recharge which limits inter-connection and results in the aquifer-bound groundwater being considered non-renewable. Wells installed west of I-25 are 300 feet and 1,100 feet deep, tapping the Dawson, Denver, and Arapahoe aquifers. There are no water wells in the I-25 median. The nearest well to the I-25 median is approximately 1,900 feet to the southwest.

A groundwater investigation was conducted in 2018 with follow-up borings and analysis in 2022-23 at the location of the proposed stormwater detention basin. Borings were made in the northern, center and southern portions of the site. Groundwater was found at 4.5 to 13 feet below ground surface, with the highest groundwater levels found at the northernmost borings (Terracon, 2023). This information was used in designing the EDB.

Surface Water: The project area is located within the Fountain Creek Watershed with Hydrologic Unit Code (HUC) 11020003. Smith Creek, south of North Gate Boulevard, flows from east to west vis culverts to enter and exit the I-25 median. It is a tributary to Monument Creek, which runs from north to south on the eastern side of USAFA. USAFA is within the Arkansas River basin and comprises 12.4% of the 148,830-acre Monument Creek Watershed. The headwaters of Monument Creek are in springs in the Rampart Range north and west of USAFA. Nearly 75% of the watershed's drainage flows through Monument Creek before exiting USAFA's southern boundary.

Monument Creek and its perennial tributaries are important natural resource features at USAFA, representing areas of concentrated biodiversity and important habitats. Monument Creek and its tributaries offer important habitat for the Preble's meadow jumping mouse (PMJM), federally listed as a threatened species. All tributary streams flowing into Monument Creek from the east, including Smith Creek, have been impacted by urban development which produces increased stormwater runoff resulting in erosion and sedimentation.

The North Gate/Struthers PWQ project would not cross any surface waters, but its outfall would flow into Smith Creek in the median of I-25. In recent years, a beaver dam created a small pond in Smith Creek, as seen in **Figure 8**. However, this dam washed away in 2023.

Figure 8. Smith Creek Pond Created by Beaver Dam in the I-25 Median, 2019*

*Photo: Wilson & Company. *Beaver dam washed away in 2023.*

Smith Creek and Monument Creek on USAFA property are not classified as being impaired by the Colorado Department of Public Health and Environment and have not previously been listed as impaired by the Colorado Water Quality Control Commission (WQCC, 2022). The Colorado WQCC 2022 Integrated Water Quality Monitoring and Assessment Report defines this portion of the tributary streams within the Air Force Academy Lands and within the study area as Segment COARFO03a_A. This group of tributary stream segments leading to Monument then Fountain Creek is not listed on the CDPHE 303(d) List of Impaired Waters and Monitoring and Evaluation List.

The WQCC has classified Smith Creek and other tributaries to Monument Creek within the Air Force Academy Lands as follows:

- Aquatic Life Cold Water Class 1 – Waters that (1) currently are capable of sustaining a wide variety of cold-water biota, including sensitive species, or (2) could sustain such biota but for correctable water quality conditions. Waters shall be considered capable of sustaining such biota where physical habitat, water flows or levels, and water quality conditions result in no substantial impairment of the abundance and diversity of species.
- Recreation E – Surface waters are used for primary contact recreation or have been used for such activities since November 28, 1975.
- Agriculture F – Surface water that is suitable or intended to be suitable for irrigation of crops usually grown in Colorado and which are not hazardous as drinking water for livestock.

Wetlands: In accordance with Executive Order 11990, Protection of Wetlands, and Air Force Manual 32-7003, Environmental Conservation, a wetland delineation and an approved jurisdictional determination from USACE are necessary for any proposed projects that could affect a wetland or water of the United States. Any project that is anticipated to impact wetlands must receive approval and the appropriate permits from USACE. However, a Supreme Court ruling (Sackett versus Environmental Protection Agency) in May 2023 greatly changed the prior legal definition of Waters of the United States (WUS). It is understood that the USACE is not making jurisdictional determinations at this time.

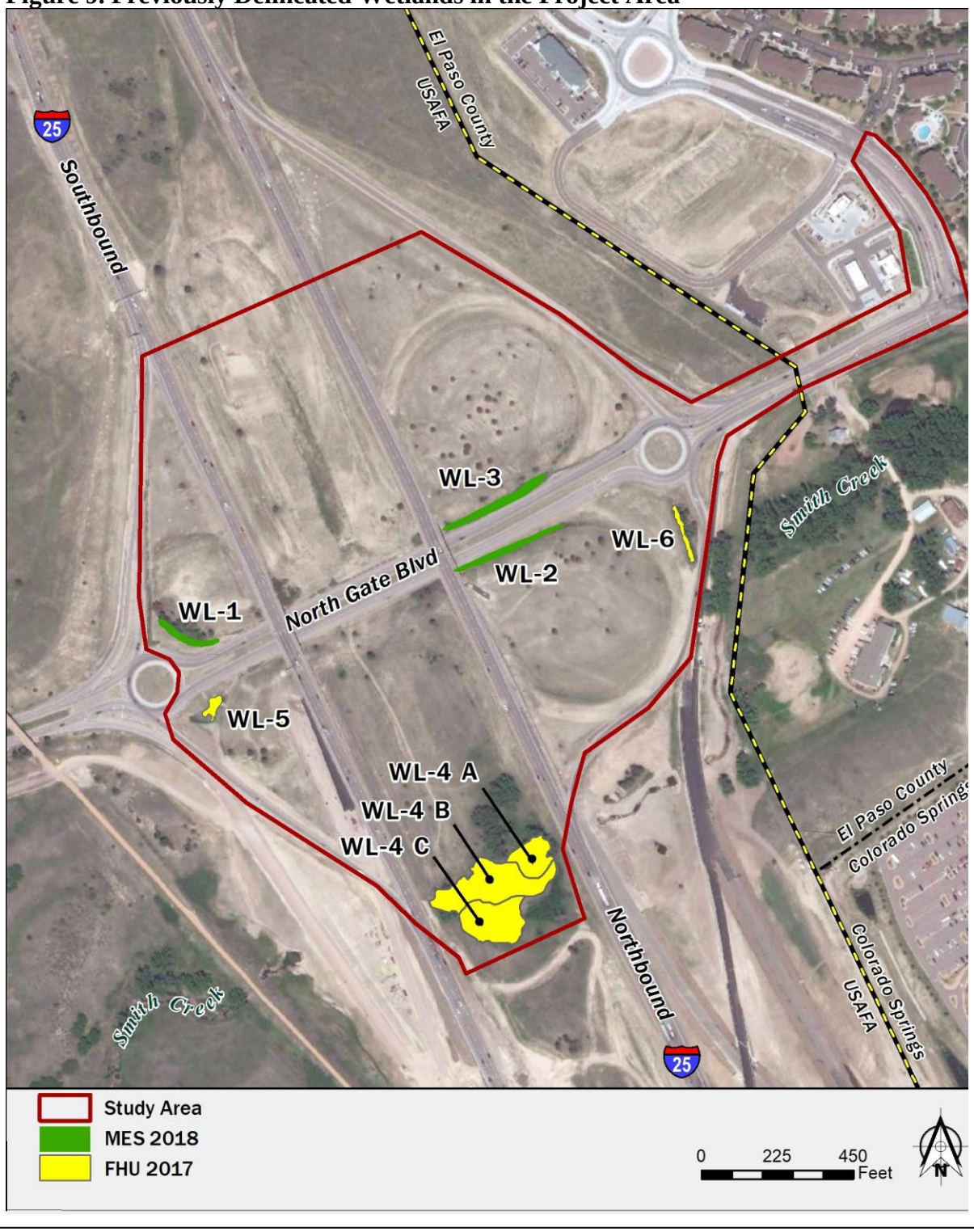
Wetlands in the I-25 interchange area were formally delineated by qualified biologists from Felsburg, Holt and Ullevig (FHU) in 2017 and Matrix Environmental Services (MES) in 2018, in support of two other NEPA documents:

- CDOT 2019 EA Re-evaluation for the I-25/North Powers Interchange project
- USAFA 2019 TrueNorth Commons Enhanced Use Lease Area EA

The previously delineated wetlands in the project area are shown in **Figure 9**. One of these resources, roadside ditch WL-2, did not meet all three USACE wetland criteria in 2019, but met two of them and was close on the third. USACE requires that a delineation used for permitting purposes be not more than three years old, because wetlands can change over time. For example, a beaver dam on Smith Creek washed away in 2023. Therefore, wetland re-delineation was undertaken in 2022. As of 2022, Wetland WL-2 still does not meet the third criterion and therefore it has now been determined to not be a wetland. Therefore, the project would only affect one jurisdictional wetland, which are is labeled as WL-4 (parts A, B and C, but only part B would be

affected by the project). The size of wetland WL-4B is 0.48 acre, but only a very small northernmost portion of it would be affected by the Preferred Alternative.

Figure 9. Previously Delineated Wetlands in the Project Area



Smith Creek would likely be considered a Water of the United States (WUS) within the Clean Water Act jurisdiction as defined by 33 Code of Federal Regulations Part 328. The specific WUS indicators include relatively permanent waters (RPWs) that flow directly or indirectly into a Traditional Navigable Water (TNW) and wetlands directly abutting RPWs that flow directly or indirectly into a TNW. Smith Creek is an RPW that flows into Monument Creek and then into Fountain Creek, which is a major tributary to the Arkansas River and identified as a known TNW. Wetlands directly abutting or connected to RPW would likely be considered jurisdictional as well. For this EA, USAFA is assuming that Wetland 4-B is jurisdictional and is proceeding on that assumption.

Floodplains: Floodplains at the Academy are found along riparian corridors and are most prevalent along Monument Creek and its tributaries (including Smith Creek). The national online floodplain map of the Federal Emergency Management Agency shows a floodplain along Smith Creek east of the USAFA eastern boundary, but FEMA's map specifically excludes USAFA property.

In conjunction with the 2019 EA reevaluation prepared for the I-25/North Gate interchange, a consulting firm called Felsburg, Holt and Ullevig newly assessed. floodplains along Smith Creek to include any impacts of that project. This resulted in a CLOMR that was submitted to FEMA in June 2019. **Figure 10** shows the CLOMR's recommended floodplain boundaries for Smith Creek in the I-25 median, reflecting the impact of the newly built I-25/North Powers Interchange (Exit 155) ramps to the I-25/North Gate Interchange (Exit 156).

Generally, the northern edge of the floodplain is at least 400 feet south of North Gate Boulevard. The proposed PWQ pond is outside of the 100-year floodplain, but within the 500-year floodplain. Only its connection to the existing outfall at Smith Creek is within the 100-year floodplain.

CDOT maintains a separate storm sewer system in the median of I-25. This system collects runoff from the median and some highway pavement of I-25 and routes it to Smith Creek in a 42-inch diameter storm sewer. The existing CDOT storm sewer system is thought to have been constructed with the North Gate Boulevard / I-25 interchange in the late 1950s.

Figure 10. Smith Creek Floodplain in the I-25 Median

Pursuant to the Clean Water Act and its National Pollutant Discharge Elimination System, USAFA operates under an EPA-issued Multi Sector General Permit as well as a Municipal Separate Storm Sewer System (MS4). CDOT, El Paso County and the City of Colorado Springs also have MS4 permits. Within USAFA and these other jurisdictions, planning and implementation of Best Management Practices is required to protect water quality.

Stormwater: Existing drainage infrastructure in the North Gate/Struthers sub-basin includes stormwater inlets, storm sewers, roadside ditches and two stormwater detention ponds. The existing storm sewer systems have two primary outfalls to Smith Creek, east of I-25, and not on USAFA property. Stormwater runoff from a portion of the watershed is routed through the existing ponds and then to Smith Creek through existing storm sewers and ditches. Runoff from the remainder of the watershed discharges uncontrolled to Smith Creek through existing storm sewers and ditches. The existing drainage improvements were constructed incrementally with various watershed development projects that occurred over the last 20 years. Existing drainage improvements and general stormwater flow directions are shown in **Figure 11**.

As noted earlier, Annual precipitation in the project area averages approximately 15 inches.

3.2.3 Impacts to Water Resources

The No-Action Alternative would not change groundwater, surface water, wetlands, floodplains, or stormwater management in the vicinity of Smith Creek. El Paso County could surrender its $1 million CDOT water quality mitigation grant to be repurposed elsewhere in the State of Colorado.

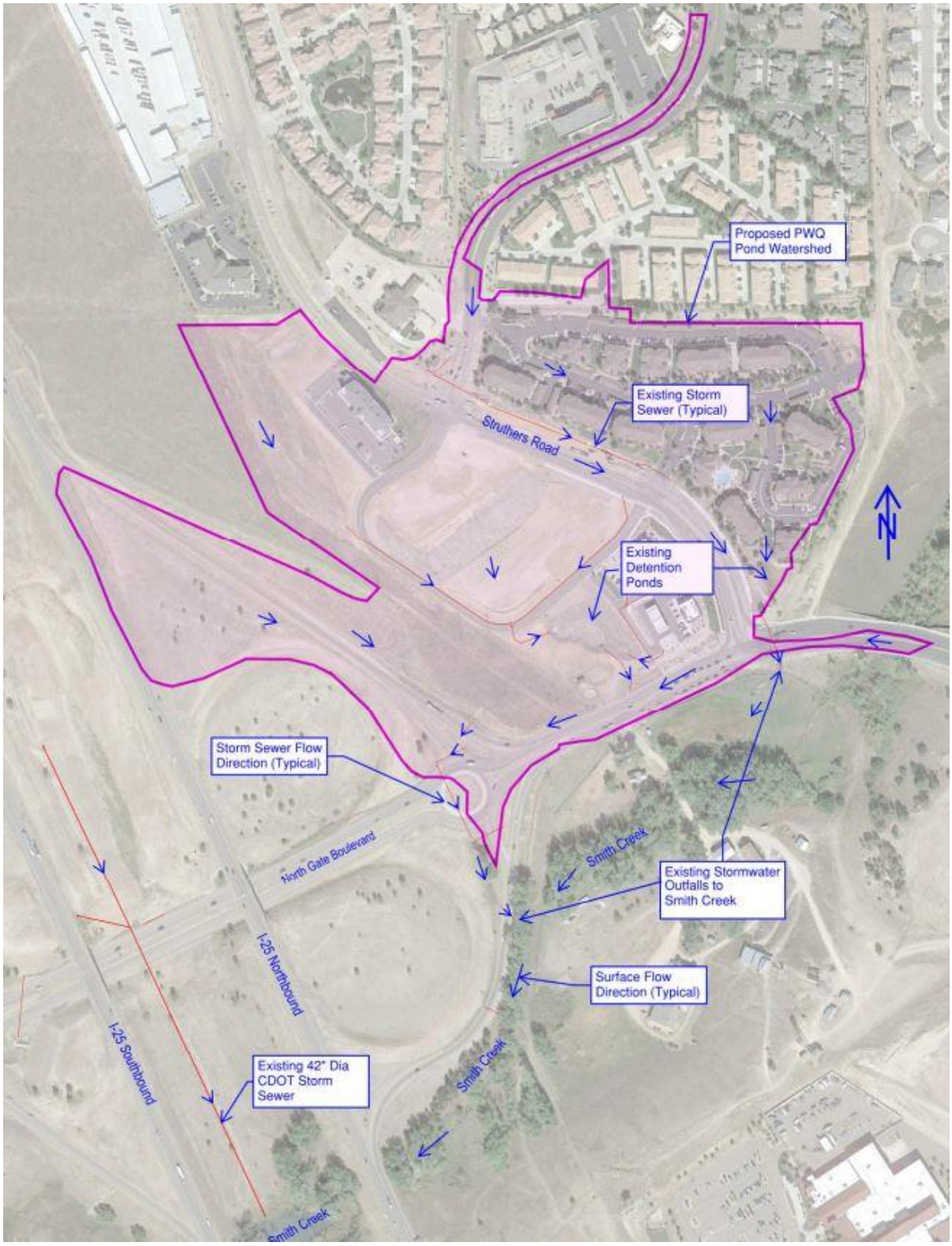
The Preferred Alternative would not consume, deplete, or contaminate groundwater. The proposed EDB is a considered a permanent water quality Best Management Practice (BMP), and temporary BMPs will be used during its construction.

To prevent groundwater from seeping into the water quality detention basin, a drain system has been designed at the northern end of the proposed facility. A construction dewatering permit would be needed to facilitate construction of this drainage system. There would be no need for permanent dewatering operations at the site.

Water needed for dust suppression during construction would be brought in from elsewhere, not taken from Smith Creek. The EDB would have a concrete-lined trickle channel but otherwise would have a natural bottom.

Stormwater collected in the basin would slowly flow, treated, into Smith Creek via an existing CDOT 42-inch pipe, normally within three days after a precipitation event. An emergency spillway channel at the southern end of the detention basin would release water in a controlled manner in case of a major deluge.

Figure 11. Existing Drainage Infrastructure in the Project Area



Source: Wilson & Company Engineers, Inc., 2022.

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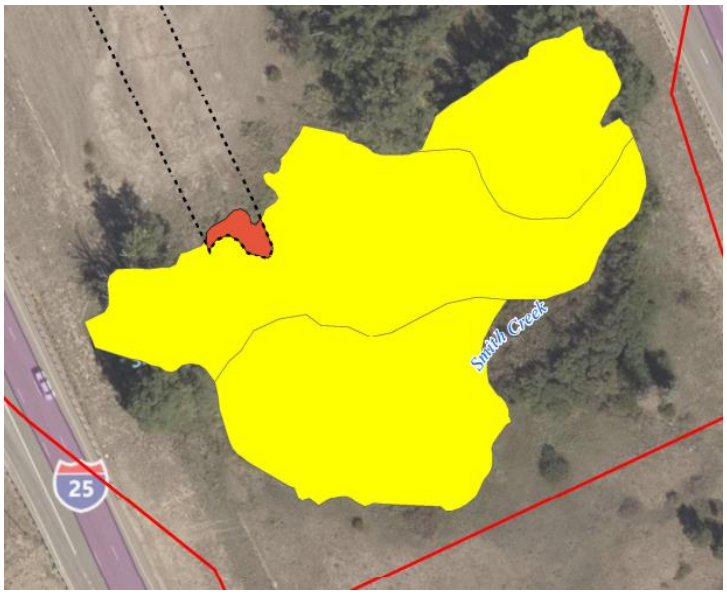
The only body of surface water directly affected by the Preferred Alternative is Smith Creek, which currently receives the same stormwater from the 57-acre drainage basin. The proposed infrastructure would intercept the stormwater and remove sediments before discharging it into Smith Creek. Currently, most of the runoff in the drainage basin finds other ways into Smith Creek.

The Preferred Alternative would have temporary adverse impacts to one wetland, and permanent beneficial impacts to it. This is wetland WL-4, shown in **Figure 12.** Part B of this wetland is along the northern side of Smith Creek where the existing CDOT outfall structure discharges water from the existing CDOT 42-inch pipe (Refer back to **Figure 11**). This palustrine emergent wetland is dominated by broadleaf cattail (*Typha latifolia*).

Figure 12. Wetland #WL-4 Impact Area Photo and Location (impacted area shown in red)



Source: CORVUS Environmental Consulting LLC, 2022.

The Preferred Alternative would have a temporary adverse effect at wetland WL-4B for the purpose of installing energy-dissipating riprap at the existing CDOT pipe outfall. It would be necessary to use construction equipment such a small loader to deposit the riprap material. Best management practices would be undertaken to minimize this temporary impact, and the affected area would regain its beneficial functions after construction.

A long-term beneficial impact to wetland WL-4 would result from the fact that the proposed detention basin would trap sediments and discharge cleaner stormwater than currently reaches receiving waters. Cleaner water entering the receiving waters is beneficial to wetlands. The project would not contribute to any measurable loss of flood control capacity.

The Preferred Alternative has the potential to affect only one floodplain, which is on the northern side of Smith Creek in the I-25 median. It would make use of an existing CDOT pipe and outfall and therefore not build any new structure within a floodplain and would not alter the floodplain.

Temporary construction activity would occur within the floodplain to install riprap at the existing outfall location.

3.2.4 Mitigation for Impacts to Water Resources

The Preferred Alternative is a stormwater management action intended to improve water quality in Smith Creek, funded in part by a CDOT water quality mitigation grant. The stormwater systems would collect flows from a 57-acre drainage basin that currently has inadequate water quality mitigation features. The drainage basin would allow sediments to drop out of the water rather than be carried into the creek. The sediment would then be removed periodically from the normally dry basin and transported offsite to an approved landfill or other suitable location that would not adversely affect any protected biological or historic sites.

Stormwater best management practices would be used during construction to avoid adverse water quality effects to the receiving waters of Smith Creek, in accordance with El Paso County's MS4 permit. El Paso County would coordinate with USAFA and CDOT to ensure that its construction BMPs are consistent with their MS4 requirements as well. The EDB has been designed for compliance with the City of Colorado Springs Drainage Manual requirements because ethe City would be responsible for its long-term maintenance and operation.

Wetlands temporarily disturbed would be restored after construction, and the 0.02 acre of permanent loss would be mitigated and documented with a USACE Nationwide Permit.

3.3 BIOLOGICAL/NATURAL RESOURCES

This section discusses vegetation, riparian areas, noxious weeds, wildlife, special status species including PMJM, eagles, and birds of conservation concern. Wetlands were discussed previously with regard to water resources.

3.3.1 Methodology

The assessment of biological resources for this EA was prepared by a professional biologist from CORVUS Environmental Consulting LLC, using available data from various sources and several site visits. A major focus of this effort was evaluation of potential impacts to one threatened species, the Preble's meadow jumping mouse (*Zapus hudsonius preblei*), which inhabits riparian and upland habitat along Smith Creek. Mouse-related analysis was performed in close coordination with a U.S. Fish and Wildlife Service (USFWS) subject matter expert, Dr. Brian Mihlbachler, who is stationed at USAFA. The Biological Assessment and USFWS Biological Opinion for this project are provided in **Appendix C** to this EA.

3.3.2 Existing Biological/Natural Resources

Vegetation: USAFA is situated within the foothills of the Colorado Front Range, which serves as an ecological transition zone between the Great Plains and Rocky Mountains characterized by high species diversity within a mosaic of habitat types. USAFA's foothill zone includes various plant communities between 6,000 and 8,000 feet above mean sea level, including the Douglas fir (*Pseudotsuga menziesii*)/white fir (*Abies concolor*) woodlands, ponderosa pine (*Pinus ponderosa*) woodlands, oak shrubland, grasslands, and riparian areas. The elevation of the North Gate/Struthers PWQ project is approximately 6,700 feet above mean sea level.

The vicinity of the I-25/North Gate interchange is considered to be Western Great Plains Foothill and Piedmont Grassland, according to the Colorado Natural Heritage Program (CNHP, 2018).

USAFA's 2023 Integrated Natural Resources Management Plan includes a vegetation map which graphically classifies the North Gate/Struthers PWQ Pond Project Area as being a Ruderal Grass Alliance and Riparian Forest Alliance.

The majority of USAFA's eastern boundary, including the North Gate/Struthers PWQ pond area, is plains grassland dominated by short-grass prairie species including:

- blue grama (*Bouteloua gracilis*)
- little bluestem (*Schizchyrium scoparium*)
- fringed sage (*Artemisia frigida*)
- Spanish bayonet (*Yucca glauca*)
- mountain muhly (*Muhlenbergia montana*)
- Parry oatgrass (*Danthonia parryi*)
- big bluestem (*Andropogon gerardii*)
- western wheatgrass (*Pascopyrum smithii*)
- prairie sandreed (*Calamovilfa longifolia*)
- needle-and-thread grass (*Hesterostipa comata*)

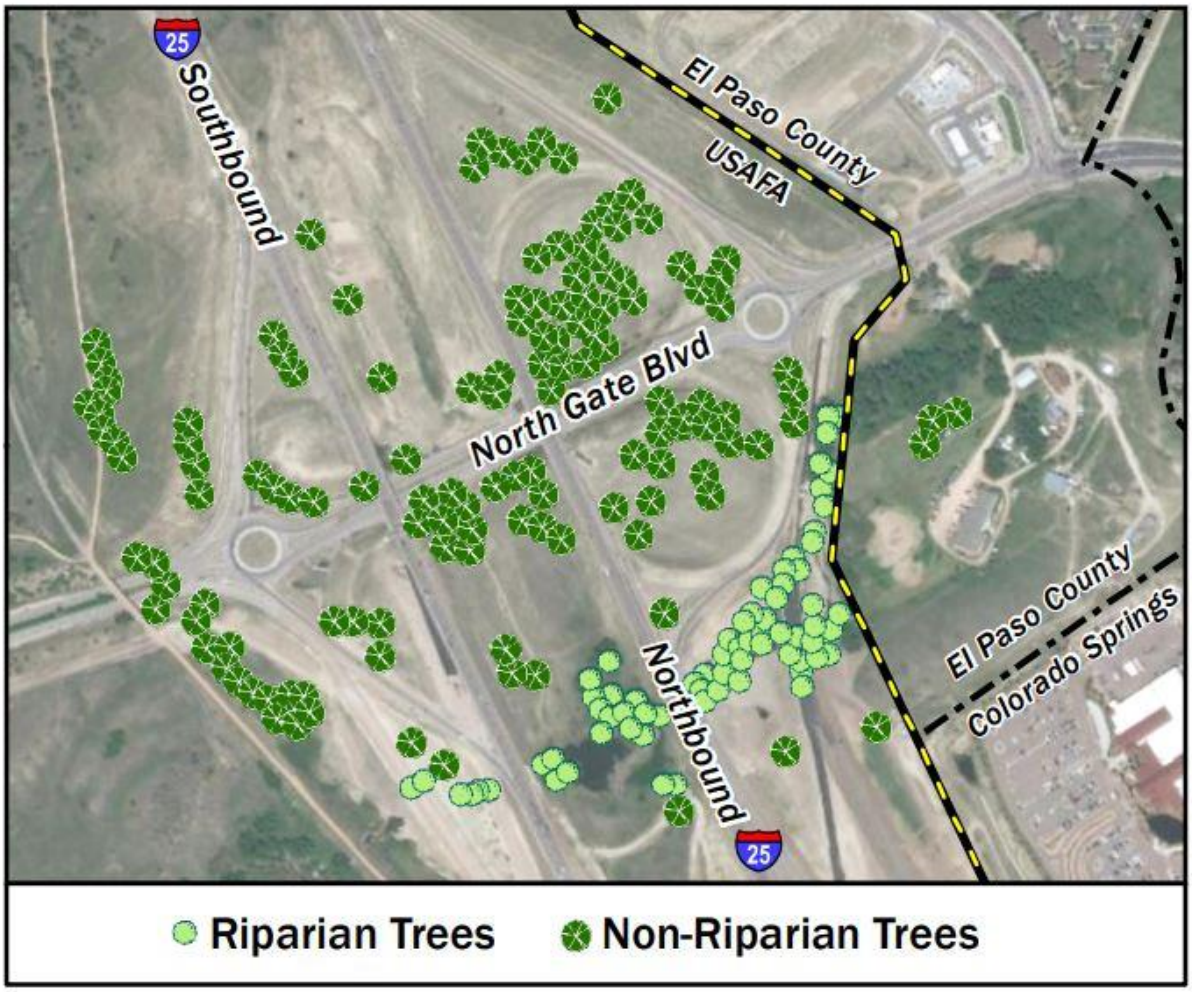
Figure 13 shows typical grassland vegetation in the I-25 median where the EDB would be located.

Figure 13. Typical Grassland Vegetation in the I-25 Median, South of North Gate Blvd.

Photo: Wilson & Company, 2019.

The Biological Resources Report for the I-25/North Powers Interchange EA Re-evaluation (Copper Ridge Metropolitan District, 2019) contains mapping of riparian and non-riparian trees and shrubs in the Project Area, shown in **Figure 14**.

Figure 14. Riparian and Non-Riparian Trees and Shrubs in the Project Vicinity



Riparian Areas: Monument Creek and its major tributaries, including Smith Creek in the I-25 median, have riparian plant communities including:

- cottonwoods (*Populus angustifolia* and *Populus deltoides*)
- willows (*Salix exigua* and *Salix amygdaloides*)
- shooting star (*Dodecatheon pulchellum*)
- bunchberry (*Chamaepericlymenum canadense*)
- twinflower (*Linnea borealis*)

Monument Creek and its tributaries are ranked as category B2, Very High Biodiversity Significance, by the Colorado Natural Heritage Program, which is based at Colorado State University in Fort Collins. This designation does not afford legal protection to these areas but informs decisionmakers that conservation of natural resources in these areas would be very much in the public interest.

Noxious Weeds: Noxious weed monitoring reports have been prepared annually for USAFA by the Colorado Natural Heritage Program (CNHP) since 2005. Noxious weeds and other invasive plant species often occur **in** areas where soil disturbance causes a loss of native vegetative cover. Surveys on USAFA property have identified 30 noxious weed or other invasive plant species at more than 14,400 locations. Most of these species are included on the Colorado State Noxious Weed List.

Noxious weeds including diffuse and spotted knapweed, Canada thistle, musk thistle, yellow toadflax, common St. Johnswort, common teasel, houndstongue, and bull thistle have all been observed in or near the Project Area. The most recent monitoring report indicates that the I-25/North Gate interchange area (reference grid #B-7) has recently experienced occurrences of houndstongue and Dame's rocket (CNHP, 2022).

USAFA's 2023 Integrated Noxious Weed Management Plan (INWMP) includes a combination of weed control strategies to protect and/or achieve lasting restoration of native plant communities and the natural processes that support them in the most efficient and effective manner.

The portion of the Preferred Alternative that is within USAFA's boundary is located within one of USAFA's Special Weed Management Areas, meriting careful noxious weed management attention. Weed management efforts should be designed to avoid adverse effects to the threatened Preble's meadow jumping mouse that is known to occur along Smith Creek.

Noxious weed seeds can be spread by vehicles on roadways, especially Interstate highways. The USAFA main entrance west of the I-25/North Gate interchange attracts visitors from all parts of the nation, and beyond. CDOT's ongoing Noxious Weed Mapping Program reported diffuse knapweed and common mullein along I-25 in the nearby area in 2019.

Wildlife: USAFA contains a variety of wildlife species due to its natural habitat diversity at the convergence of north-south and plains-mountains transition zones, topographic variation, the presence of high-quality riparian areas, and proximity to the undeveloped Pike National Forest and its active preservation of large uninterrupted wildlands.

Common Species: While the majority of animal species observed at USAFA are associated with certain habitats, a few species occupy such a diverse range of habitat that they can potentially be found across USAFA, including mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*) and beaver (*Castor canadensis*), as well as the short-horned lizard (*Phrynosoma douglassi*), bull snake (*Pituophis melanoleucus*), and Western rattlesnake (*Crotalus viridis)*.

Grassland Species: USAFA's grassland communities include mammals such as coyote, red fox, cottontail rabbits, Gunnison's prairie dog (*Cynomys gunnisoni*), spotted ground squirrel (*Spermophilus spilosoma*), northern pocket gopher (*Thomomys talpoides*), and Western harvest mouse (*Reithrodontomys megalotis*) and birds such as the rough-legged hawk (*Buteo lagopus*), prairie falcon (*Falco mexicanus*), Western kingbird (*Tyrannus tyrannus*), Western bluebird (*Sialia mexicana*), vesper sparrow (*Pooecetes gramineus*), red-tailed hawk (*Buteo jamaicensis*), wild turkey (*Meleagris gallopavo*), and scrub jay (*Aphelocoma coerulescens*). Reptiles such as the short-horned lizard (*Phrynosoma douglassi*) and western rattlesnake (*Crotalus viridis*) also occur in these areas.

In comparison to USAFA's larger blocks of grassland, the immediate vicinity of the I-25/North Gate interchange has less wildlife diversity, as it is disturbed by the passage of 110,000 vehicles per day, split evenly between I-25's northbound and southbound directions. Apart from the Smith Creek riparian corridor, the I-25 median offers minimal cover for wildlife, as seen in **Figure 15**. Most instances of I-25 roadkill in this vicinity involve deer, but CDOT roadkill records also reflect vehicle-caused deaths of elk, a bobcat and one bear in the nearby area. Remains of a deceased bear were observed near Smith Creek during a 2021 site visit.

Figure 15. Grassland Habitat at the Proposed PWQ Pond Site in the I-25 Median

Above: Facing south, from North Gate Boulevard
Below: Facing east, from Southbound I-25

Photos: Google Maps

Riparian Species: Wildlife in USAFA's riparian zones include mammals such as white-tailed deer, beaver (*Castor canadensis*), several bat species, muskrat (*Ondatra zibethica*), gray fox (*Urocyron cinereoargenteus*), cottontail rabbit (*Sylvilagus audubonii*), raccoon (*Procyon lotor*), meadow vole (*Microtus pennsylvanicus*), Montane shrew (*Sorex monticolus*), Preble's meadow jumping mouse (*Zapus hudsonius preblei*); birds such as the great blue heron (*Ardea herodias*), spotted sandpiper (*Actitis hypoleucos*), orange-crowned warbler (*Vermivora celata*), common

yellowthroat (*Geothylpis trichas*), Wilson's warbler (*Wilsonia pusilla*), yellow warbler (*Dendroica petechia*), American goldfinch (*Carduelis tristis*), and broad-tailed hummingbird (*Selasphorus platycercus*); and amphibians such as the chorus frog (*Pseudacris triseriata*) and northern leopard frog (*Lithobates pipiens*).

Aquatic Species: USAFA's creeks include both warm-water and cold-water aquatic habitats. The warmer waters of Monument Creek contain native nongame fish including white sucker (*Catostomus commersoni*), longnose sucker (*Catostomus catostomus*), longnose dace (*Rhinichthys cataractae*), creek chub (*Semotilus atromaculatus*), brook stickleback (*Culaea inconstans*), fathead minnow (*Pimephales promelas*), Central stoneroller (*Campostoma anomalum),* bigmouth shiner (*Notropis dorsalis*), and green sunfish (*Lepomis cyanellus*). Smith Creek is a cold-water creek.

Beaver ponds within USAFA support various waterbirds including green-winged teal (*Anas crecca*), mallard (*Anas platyrhynchos*), American coot (*Fulica americana*), Canada goose (*Branta canadensis*), great blue heron (*Ardea herodias*), and belted kingfisher (*Ceryle alcyon*).

Special Status Species: The USFWS Information, Planning, and Consultation (IPaC) System and the Colorado Parks and Wildlife (CPW) website were reviewed for the most up-to-date information concerning federally and state threatened and endangered species that have the potential to occur within or near the project area. **Table 2** identifies nine federal and state threatened and endangered species listed by the USFWS and CPW that were determined likely to be present in El Paso County or that could be affected by projects in El Paso County. The table includes the listing status and whether potential habitat is present in the project area.

Table 2. Federally Threatened and Endangered Species Potentially Found in the Project Area or with Potential to Be Affected by the Project

Species[1]	Preferred Habitat[2]	Status	Presence
Preble's Meadow Jumping Mouse (Preble's) (*Zapus hudsonius preblei*)	Well-developed riparian habitat with adjacent, relatively undisturbed grassland communities, and a nearby water source. Well-developed riparian habitat includes a dense combination of grasses, forbs and shrubs; a taller shrub and tree canopy may be present. Preble's has been found to regularly use uplands at least as far out as 100 meters beyond the 100-year flood plain.	Threatened	Known to occur in the I-25 median along Smith Creek

Table 2, continued. Federally Threatened and Endangered Species Potentially Found in the Project Area or with Potential to Be Affected by the Project

Species[1]	Preferred Habitat[2]	Status	Presence
Tricolored Bat *(Perimyotis subflavus)*	Primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees, or among easter red cedar pine needles within artificial roosts.	Candidate	Not known to occur in project area
Eastern Black Rail (*Laterallus jamaicensis jamaicensis*)	Isolated breeding population in Colorado and Kansas and migrates to Texas in the winter. In Colorado, suitable habitat includes dense or thick emergent wetland vegetation (such as cattail marshes) with high vegetation density as well as a mixture of new and residual growth.	Threatened	Marginal habitat south of Smith Creek will be avoided
Piping Plover (*Charadrius melodus*) [3]	Plovers in the Great Plains make their nests on open, sparsely vegetated sand or gravel beaches adjacent to alkali wetlands, and on beaches, sand bars, and dredged material islands of major river systems.	Threatened	No suitable habitat
Whooping Crane (*Grus americana*)[3]	Breeds, migrates, winters, and forages in a variety of wetland and other habitats in the central Great Plains.	Endangered	No suitable habitat
Greenback Cutthroat Trout *(Oncorhynchus clarki stomias*)	Cold water streams and cold-water lakes with adequate stream spawning habitat present during spring.	Threatened	Not known to occur in Smith Creek
Pallid Sturgeon (*Scaphirhynchus albus*)[3]	Pallid sturgeon is a bottom-oriented, large river obligate fish inhabiting the Missouri and Mississippi rivers and some tributaries from Montana to Louisiana.	Endangered	No suitable habitat
Monarch Butterfly (*Danaus plexipuus)*[4]	Temperate climates with pollination access and access to obligate host plant: milkweed.	Candidate	No suitable habitat
Ute Ladies'-Tresses Orchid (*Spiranthes diluvialis*)	Moist meadows associated with perennial stream terraces, floodplains, oxbows, and human-modified wetlands such as gravel pits and irrigation canals at elevations between 4,300 and 6,850 feet.	Threatened	No suitable habitat
Western Prairie Fringed Orchid (*Platanthera praeclara*)[3]	Found most often on unplowed, calcareous prairies and sedge meadows.	Threatened	No suitable habitat

[1]List of threatened and endangered species potentially found in the project area
[2]Habitat descriptions from USFWS Environmental Conservation Online System (ECOS) Species Profile
[3] Water-related activities/use in the N. Platte, S. Platte, and Laramie River basins can affect listed species in Nebraska, but Smith Creek is instead part of the Arkansas River basin.
[4] Candidate species are those under consideration for official listing; however, they do not have any Section 7 requirements.

Extensive surveys for rare species were conducted on USAFA between 1992 and 2012 (USAFA, 2018). Based on the survey results and existing habitat within the ROI, the PMJM was the only federally listed species initially considered as potentially occurring on USAFA. The PMJM has the potential to occur within the ROI. Additional information on the evaluation and elimination from further consideration for other federal and state threatened and endangered species potentially occurring in El Paso County is detailed in the Biological Assessment conducted for the Project (CORVUS, 2022).

Preble's Meadow Jumping Mouse: Listed as Threatened by USFWS in 1998, the PMJM is a small golden rodent with a conspicuous dark dorsal band, large well-developed hind legs and feet, and an extremely long tail. See **Figure 16**. PMJM habitat is typically comprised of well-developed riparian vegetation with adjacent, relatively undisturbed grassland communities. PMJM upland habitats are usually immediately adjacent to the riparian habitats.

The PMJM generally occurs below an elevation of 7,800 feet in foothills and lowlands with medium to high moisture along permanent or intermittent streams from southeastern Wyoming to central Colorado in the North Platte, South Platte, and Arkansas River watersheds. The Monument Creek Watershed in Northern El Paso County is the southernmost end of the animal's current range.

Figure 16. Preble's Meadow Jumping Mouse

https://www.usafa.af.mil/About-Us/Prebles-Meadow-Jumping-Mouse/

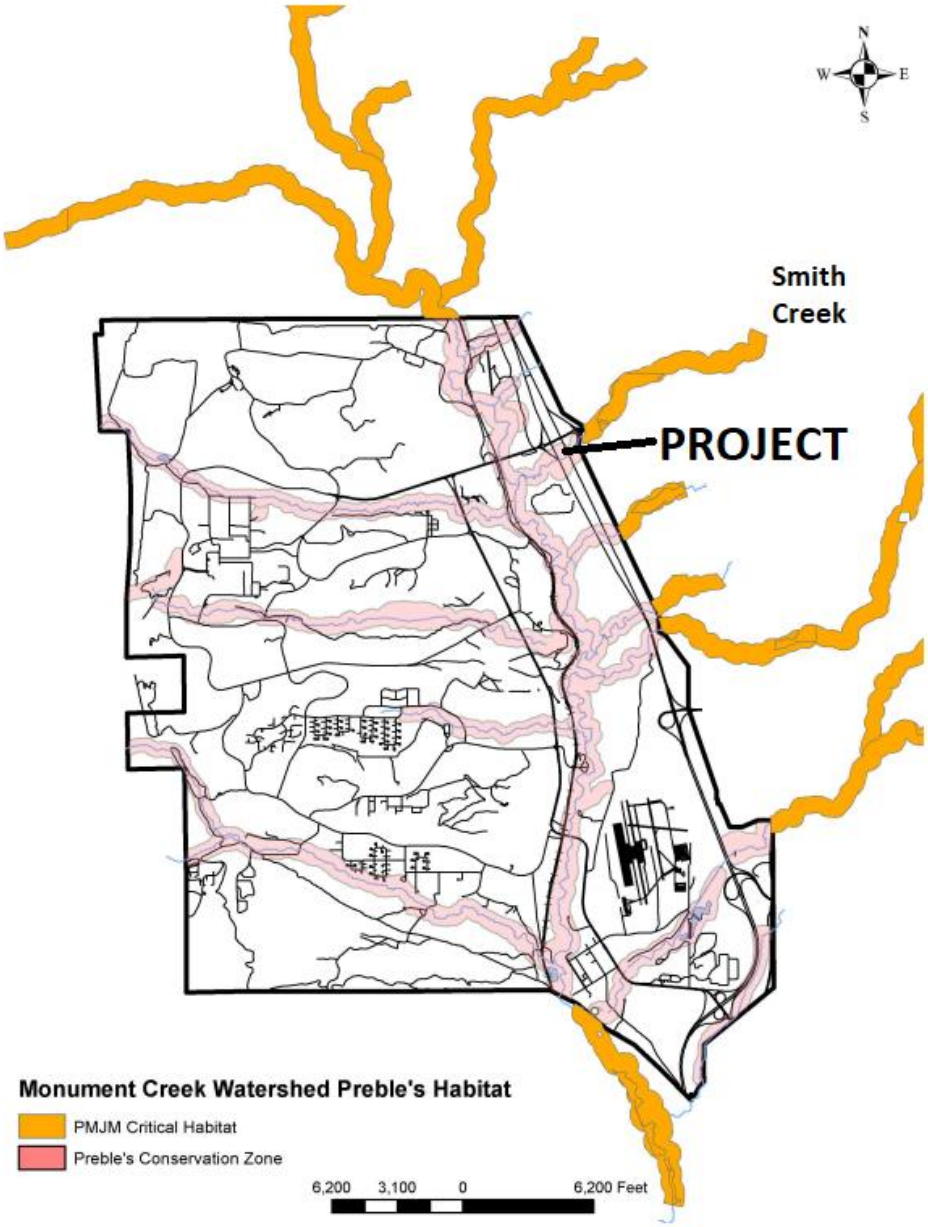
In Colorado, one of the largest and most stable populations occurs along USAFA riparian areas, typically within the 100-year floodplain of Monument Creek and its tributaries, such as Smith Creek. Since professional biologists have captured PMJM (see **Figure 17**) along Smith Creek in the I-25 median in recent years, no new trapping was performed for this EA. Instead, it is assumed that the species is still present.

Initially found on USAFA in 1994, the PMJM was listed as threatened by the USFWS in May 1998. Following listing, USAFA entered formal consultation with the USFWS on the PMJM, as required by Section 7 of the Endangered Species Act. In April 2000, the USFWS rendered a "no jeopardy" Biological Opinion for USAFA's anticipated actions in the PMJM habitat and declined to designate Critical Habitat for the PMJM on USAFA land. Critical habitat for this species has been designated near USAFA including portions of Monument Creek and Smith Creek upstream of I-25 but is not designated within the installation due to a Department of Defense exemption under 16 U.S.C. 1533 (a)(3)(B)(i) and 50 CFR Part 424 pertaining to the implementation of an approved Integrated Natural Resources Management Plan (INRMP).

Conditions of the "no jeopardy" Biological Opinion included the development of a Conservation Agreement, which USAFA and USFWS signed in June 2000. Since initiation, USAFA has adhered to the terms and conditions of the PMJM Conservation Agreement, renewing every five years with the latest renewal approved in 2015. USAFA's renewal of the Conservation Agreement is pending a complete update and revision in coordination with the USFWS. The Agreement remains in effect for ongoing MJM conservation and management activities.

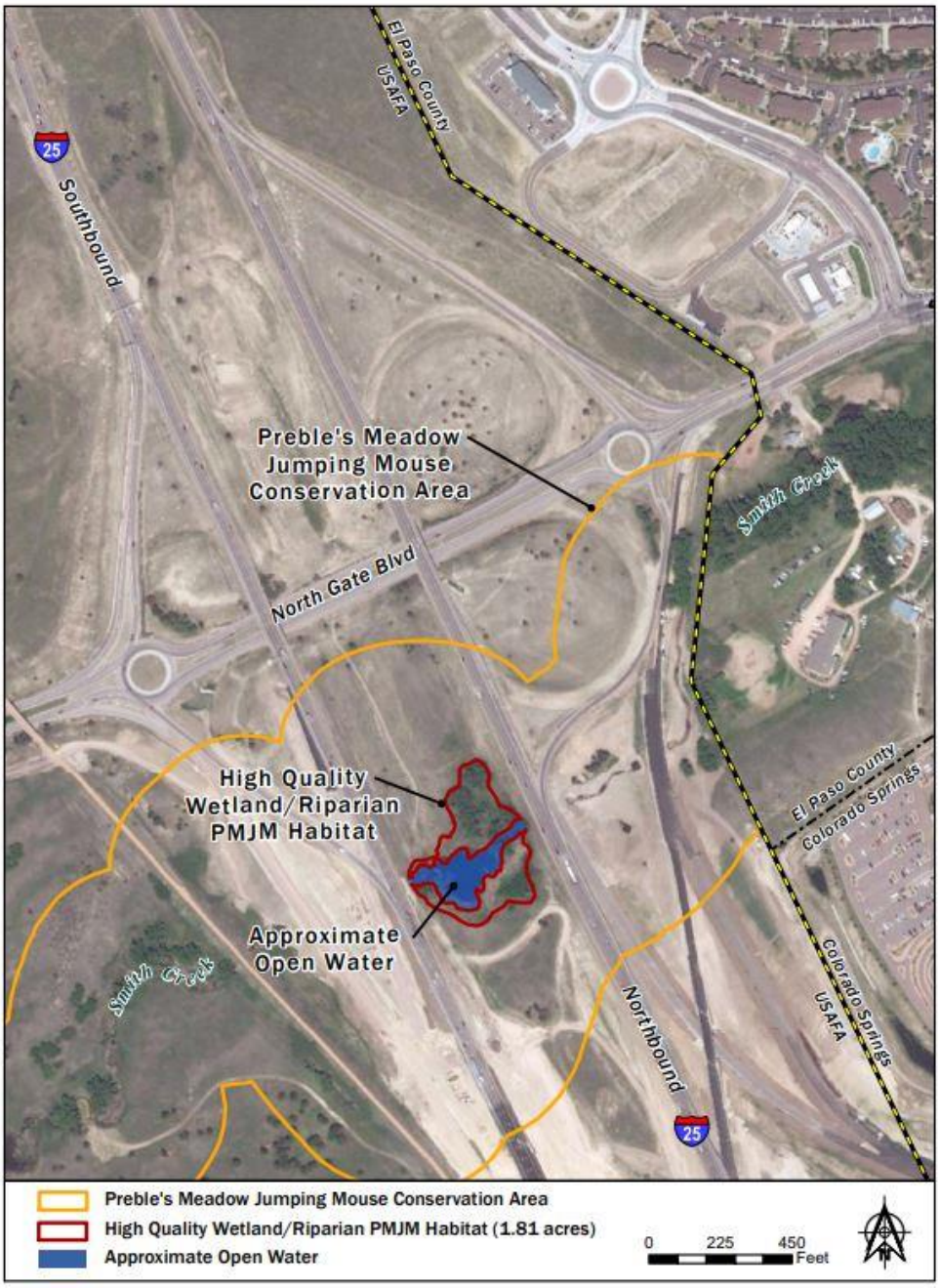
The USAFA/USFWS Agreement established a PMJM Conservation Area based on a delineation of habitat within 300-feet of the upper edge of a 100-year floodplain. **See Figure 17**. This Conservation Area includes both riparian and adjacent upland mouse habitat totaling approximately 3,300 acres of the campus.

Figure 17. Monument Creek Watershed PMJM Habitat



Much of the area south of North Gate Boulevard, within the I-25 median, is located within the USAFA PMJM Conservation Area. This conservation area is shown in **Figure 18**, together with an indication of field-verified habitat quality within this zone.

Figure 18. PMJM Habitat Quality in the I-25 Median



Source: CORVUS Environmental Engineering LLC.

Eagles: Bald eagles live near large bodies of water for foraging, with forested habitat for nesting and roosting. Golden eagles forage in open habitats, but usually nest on cliffs and steep escarpments. According to CPW 2017 species mapping data, the Project Area does not currently support nesting or roosting sites for bald eagles and is not within known bald eagle forage zones. No eagle or eagle's nest has been observed in the median of busy I-25 during multiple visits to the site.

Birds of Conservation Concern: USAFA is located on the boundary of two USFWS- designated Bird Conservation Regions (BCRs), BCR 16 (Southern Rockies/Colorado Plateau) and BCR 18 (Shortgrass Prairie). Recent investigations at USAFA identified 28 species considered Birds of Conservation Concern using the USFWS IPaC system; however, only six species of Birds of Conservation Concern have potential to occur within the proposed development area, based on suitable habitat as summarized in **Table 3**.

Table 3. Birds of Conservation Concern with Potential to Occur in the Project Area

Species	Habitat	Resident Type
Lewis's Woodpecker *Melanerpes lewis*	Conifer forest; wetland/riparian areas	Year-round
Long-eared Owl *Asio otus*	Woodlands; grasslands; shrublands	Year-round
Pinyon Jay *Gymnorhinus cyanocephalus*	Pinyon-juniper woodland; shrubland, and occasionally conifer forests	Year-round
Rufous Hummingbird *Selasphorus rufus*	Grasslands and woodlands	Migrant
Veery *Catharus fuscescens subpallidus*	Deciduous forests; wetlands/riparian	Breeding
Willow Flycatcher *Empidonax trailii*	Wetlands/waterbodies	Breeding

Biologists and botanists with USAFA and CNHP have conducted several inventories for rare plants, animals, and plant communities. The 2012 Biological Inventory of USAFA (CNHP, 2012) observed several species of special concern at USAFA, including the Gunnison's prairie dog (*Cynomys gunnisoni*), Hops azure butterfly (*Celastrina humulus*), northern leopard frog (*Lithobates pipiens*), and Ovenbird (*Seiurus aurocapillus*).

CNHP identified Monument Creek as a significant natural heritage wildlife resource and a Potential Conservation Zone due to its support of important native fish communities and habitat provision for significant species including PMJM, southern Rocky Mountain cinquefoil (*Potentilla ambigens*), New Mexico cliff fern (*Woodsia neomexicana*), Cedar Waxwing (*Bombycilla cedrorum*), Gray Catbird (*Dumatella carolinesis*), and northern leopard frog (*Lithiobates pipiens*). Monument Creek is about 3,000 feet downstream from the I-25 median, along Smith Creek.

The 2012 Biological Inventory also indicated that shortgrass and mixed grass prairies of USAFA may provide habitat for the rare pocket mouse (*Peromyscus fasciatus infraluteus*), although the species has not been documented on USAFA property (Siemers et al., 2003).

3.3.3 Impacts to Biological/Natural Resources

The No-Action Alternative would not cause any change to biological resources.

The Preferred Alternative would disturb approximately 4.6 acres of grassland in the median of a busy Interstate highway. USAFA's Integrated Natural Resources Management Plan classifies this land as "Developed/Disturbed". Much of this land to be affected by the Preferred Alternative is

within USAFA's designated PMJM Conservation Area because it is within 300 feet of the Smith Creek floodplain.

The primary biological impact of the Preferred Alternative would be the permanent loss of low-quality PMJM upland habitat, as shown in **Table 4** (see previous photos in **Figures 12 and 14**). An extensive menu of construction Best Management Practices would be deployed to avoid, minimize, and mitigate these impacts, as detailed in the Biological Assessment for this project (CORVUS, 2022).

Table 4. PMJM Habitat Impact Summary

Proposed Activity	Low-quality PMJM Habitat		High-quality PMJM Habitat		Total Impacted Acres, by Activity
	Acres of Permanent Impact	Acres of Temporary Impact	Acres of Permanent Impact	Acres of Temporary Impact	
Grading, temporary access to stream outfall	0	1.66	0	0.01	1.67
Riprap spillways	0.12	0	0	0	0.12
Access roadways, forebay, detention basin, trickle channel	1.75	0	0	0	1.75
Total	**1.87**	**1.66**	**0**	**0.01**	**3.54**

The affected I-25 median area is located within USAFA's designated noxious weed management area, due to the known presence of various noxious weeds. The area disturbed by the Preferred Alternative would be cleared of vegetation and reseeded with native species, providing temporary improvement, but over the longer-term, noxious weeds may be reintroduced by the passage of motor vehicles on I-25.

Following the temporary disturbance during construction, the stormwater detention basin would offer the same type of grassland habitat that exists today. However, the EDB would be subject to periodic maintenance, and therefore it would be considered a permanent loss of habitat.

The I-25 median would not become notably more or less attractive to wildlife and thus would not have a meaningful effect on I-25 roadkill potential. The Preferred Alternative would not permanently disturb the Smith Creek riparian area, which is the portion of the median most attractive for wildlife.

The Preferred Alternative would result in removal of at least one dozen trees, some of which are Ponderosa pines. No bird nests have been observed in these trees, but the trees would be inspected prior to construction to ensure avoidance to any active nests.

3.3.4. Mitigation for Impacts to Biological/Natural Resources

Impacts to Preble's mouse habitat will be mitigated by restoring and enhancing disturbed habitat with native seeding, containerized plantings of shrubs and forbs, or willow staking. Mitigation for

permanent impacts will occur within the action area to restore Preble's mouse habitat near areas that would be directly disturbed by the project.

Mitigation for temporary impacts includes habitat restoration and enhancement to 1.66 acres of low-quality Preble's mouse habitat and 0.01 acre of high-quality Preble's habitat (total of 1.67 acres) in-place where disturbance occurs within the project area. On-site mitigation for permanent impacts is proposed along Smith Creek within the action area and includes habitat restoration and enhancement to offset 1.87 acres of low-quality Preble's mouse habitat.

- If feasible, riparian vegetation in the "permanent impact" areas will be mowed or cut to a height of 4 to 6 inches above the ground during the active season, while Preble's are still active and can move away (May-August). This will create a less desirable habitat for hibernation, which usually starts by late September.
- Areas of temporary disturbance will be reseeded with seed mixes prescribed by USAFA.
- Habitat areas, specifically high-quality Preble's habitat such as dense willow areas, will be identified and impacts to these areas will be minimized to the fullest extent feasible.
- Native seed mixes and vegetation will be used in all revegetation efforts to reduce erosion and replace habitat value, and the site will be promptly revegetated.
- CDOT will coordinate with Colorado Parks and Wildlife to accomplish Senate Bill 40 certification because this project is funded in part by a CDOT water quality funds. Appropriate Best Management Practices will be identified and implemented pursuant to January 2022 guidelines agreed upon by those two state agencies (CPW, 2022).

As noxious weed management, the County will adhere to USAFA's 2019 Erosion Control, Revegetation and Tree Care Standards (USAFA, 2019). Among other things, these standards require that all areas to be revegetated shall be top-soiled with at least three-inches of imported, weed-free topsoil.

3.4 CULTURAL RESOURCES

Significant cultural resources, whether they be prehistoric, historic, or traditional in nature, are referred to as "historic properties". Under 36 CFR Part 800, historic properties are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Properties (NRHP). This can include artifacts, records, and remains that are related to and located within such properties. The term "eligible for inclusion in the National Register" includes properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria. Sites that meet the criteria, but are not yet evaluated, may be considered potentially eligible to the National Register and are afforded the same regulatory consideration as listed historic properties.

3.4.1 Methodology

Assessment of cultural (historic and archaeological) resources for this project was conducted by a qualified historian, Dianna Litvak of Mead & Hunt, in compliance with the National Historic Preservation Act (NHPA), using archival research and field investigation. Appropriate documentation was prepared for Section 106 consultation that was subsequently conducted by USAFA, resulting in concurrence from the State Historic Preservation Office (SHPO).

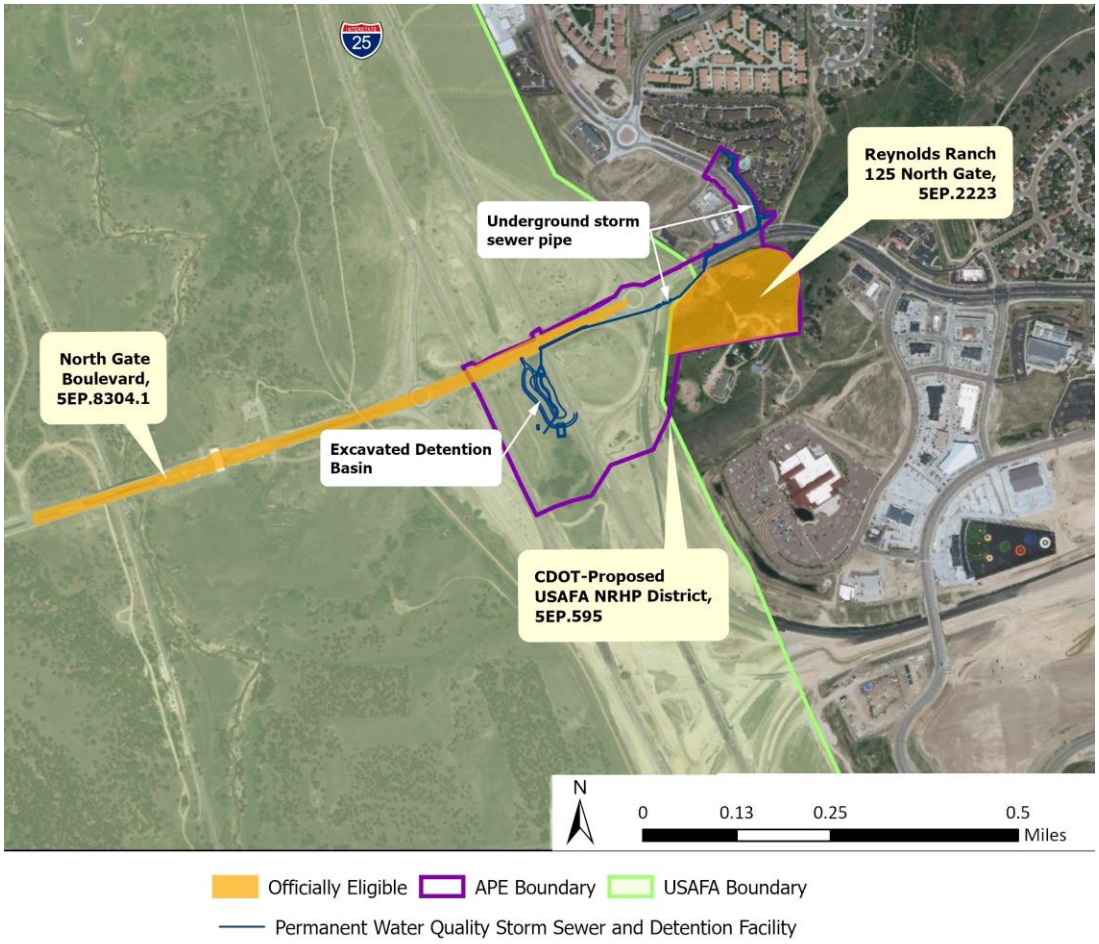
Much of the PWQ Pond project area has been evaluated several times previously in support of NEPA documents for other projects, so cultural resources in the project vicinity are well documented. The cultural resources assessment prepared for this EA brings the relevant information together specifically regarding this Preferred Alternative in support of USAFA official consultation with the Colorado SHPO and other interested stakeholders.

3.4.2 Existing Cultural Resources

Cultural resources include historic and archaeological properties, including those of significance to federally recognized tribes who are stakeholders to USAFA's compliance with the NHPA. The USAFA initiated NHPA Section 106 consultation for the Preferred Alternative on February 1, 2023. By March 7, 2023, the Colorado SHPO and consulted tribes concurred with this project's Area of Potential Effects and adequacy of historic properties inventory (see **Appendix D**).

The cultural resources ROI for this EA is the Area of Potential Effects (APE) determined under Section 106 of the National Historic Preservation Act, shown in **Figure 19.** The APE is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. It includes the anticipated disturbance areas for proposed construction and operation activities including grading, access roads, and equipment staging. This APE is different from the ROI considered for most other

Figure 19. Cultural Resources within the Area of Potential Effect



resources in this EA, particularly because it had to include two potentially historic resources: a segment of North Gate Boulevard west of I-25 and the Reynolds Ranch (now WMMI) property east of I-25.

The Historic Resources Inventory Report for this project (Mead & Hunt, 2022) examined several I-25-related resources, specifically the I-25 bridges crossing over North Gate Road and the culverts which convey Smith Creek under I-25's separate northbound and southbound lanes. All these structures have been determined to be ***officially not eligible*** for listing in the National Register of Historic Places (National Register). The six-mile segment of I-25 that exists on USAFA property is not named in the final list of nationally and exceptionally significant features of the Interstate Highway System as outlined in the 2005 ACHP's Interstate Highway Exemption and therefore is exempt from further review under Section 106 as an individual resource. In 2020, CDOT re-evaluated the U.S. Air Force Academy, 5EP.595, and determined that the I-25 corridor that runs through the eastern border of the USAFA is non-contributing to the USAFA.

Another known cultural resource in the general vicinity is located outside of the APE. This is the old Santa Fe Railroad grade (5EP1003.2), which now is used as the Santa Fe regional trail. This resource was considered in the analysis to determine whether or not it might be indirectly affected by the Preferred Alternative. It was not included within the APE because it is 650 feet west of the edge of the project area, is blocked from view by southbound I-25, and because the proposed facility will be approximately 18 feet below the current southbound lanes of I-25.

Resources that were determined to be not eligible or outside of the APE are not shown in **Figure 18**. Within the APE, the figure identifies three cultural resources that are listed in **Table 5** and then discussed in further detail.

Table 5. Resources Considered Eligible for Listing in the National Register

Site Number*	Site Name	National Register/State Register **
5EP.595**	U.S. Air Force Academy (USAFA)**	CDOT proposed National Register eligible under Criterion A: Military History, Agriculture, Community Development, and Transportation, and Criterion C: Architecture**
5EP.2223	Reynolds Ranch (Hagen Farmhouse; Twin Oaks Ranch) historic ranch/museum 225 North Gate Boulevard	Officially National Register eligible under Criterion C: Architecture; State Register listed
5EP.8304.1	North Gate Boulevard, segment	Officially National Register eligible under Criterion C: Engineering, non-contributing segment

** In these "Smithsonian trinomial" codes, 5 means Colorado and EP means El Paso County.*
*** USAFA has not concurred with CDOT's eligibility recommendation on 5EP.595*

5EP.595, U.S. Air Force Academy: The Cadet Area of USAFA was designated a National Historic Landmark District in 2004 for its landscape, architecture, and historic importance as a military academy. Past studies have raised the possibility of documenting the entirety of USAFA as a "Campus Area", but this concept has not been approved by USAFA. As a general approach, it is prudent to consider the total USAFA landscape/overall setting as a context for evaluating individual, potentially historic properties/sites within it.

5EP.2223, Reynolds Ranch (Hagen Farmhouse; Twin Oaks Ranch)/historic ranch/museum 225 North Gate Boulevard: This property was originally recorded in 1995, listed in the State Register in 1997, and determined eligible for the National Register in 2005. The property includes a residence constructed in 1894, two outbuildings or bunkhouses constructed in 1919, and two historic barns and a chicken coop of undetermined age. Reynolds Ranch is significant under Criterion C for Architecture, as a distinctive example of a nineteenth century farmstead.

5EP.8304.1, North Gate Boulevard, segment: Section 106 consultation was conducted in conjunction with the USAFA TrueNorth Commons Enhanced Use Lease (EUL) Area EA regarding the potential eligibility of North Gate Boulevard (resource number 5EP8304.1). That effort concluded that North Gate Boulevard as a whole (5.1 miles from USAFA to State Highway 83) is officially eligible for listing in the National Register under Criterion C for Engineering, but the segment of North Gate Boulevard in the Project Area has been substantially modified and does not retain integrity. The SHPO has concurred that this is a non-contributing segment of the overall eligible historic property.

3.4.3 Impacts to Cultural Resources

The No-Action Alternative would have no effect on cultural resources.

Regarding the Preferred Alternative, the Historic Resources Inventory Report for this EA (Mead & Hunt, 2022) provides a detailed discussion of how each of these resources would be affected, as briefly summarized below. In each case, the report recommended a finding of No Adverse Effect to the resource. USAFA conducted Section 106 consultation with the SHPO and received concurrence these findings on February 22, 2023.

5EP.595, U.S. Air Force Academy: Visual, auditory, and atmospheric changes will occur during construction, when vehicles, construction equipment, and workers will be present within the boundaries of 5EP.595. This will primarily be experienced by motorists on I-25 and North Gate Boulevard. In addition, noise levels will be higher during the construction of the sewer system and basin, and atmospheric changes include the presence of dust and exhaust during construction. All these changes will be temporary conditions, expected to last for five months or less.

Permanent visual changes will occur with the construction of the new PWQ facility, which is the only feature that won't be placed underground for the storm sewer. The basin will be mostly at or below the existing grade in the median and will only be visible to passersby as they are traveling on North Gate Boulevard (north of the facility) or on southbound or northbound-I-25 (west and east of the facility). The basin will only have water in it during and after storm events, and most of the time will be dry and blend into the surrounding landscape. An estimated ten Ponderosa Pine

trees will be removed for the PWQ facility construction and be replaced with trees at different locations within the median.

The direct and indirect effects to 5EP.595 will not change or alter any of the character-defining features that make 5EP.595 eligible for listing in the National Register. The I-25 corridor within 5EP.595 has been determined to be non-contributing to the significance of 5EP.595 due to expansion of the Interstate in this area. Because the effects of the PWQ facility are considered minor and will affect a non-contributing portion of 5EP.595, the resulting Section 106 determination is No Adverse Effect.

5EP.2223, Reynolds Ranch (Hagen Farmhouse; Twin Oaks Ranch)/historic ranch/museum 225 North Gate Boulevard: Construction impacts will be temporary, lasting less than five months, and access to the Reynolds Ranch property will be maintained throughout. The underground stormwater pipe systems included in the Preferred Alternative was designed to intentionally avoid the Reynolds Ranch property, so it will require no easement or right-of-way acquisition from this historic property. The project will take place next to the historic property boundary with the installation of new underground storm sewer drains on the north side of North Gate Boulevard. El Paso County's past stormwater improvements on Struthers Road, together with the Preferred Alternative, will reduce the potential for stormwater damage to the historic property.

While there is an effect, it will be positive in terms of reducing runoff, erosion, and sediment within the WMMI property. Therefore, the resource will continue to convey significance as an early El Paso County ranch, and the resulting Section 106 determination is No Adverse Effect.

5EP.8304.1, North Gate Boulevard, segment: North Gate Boulevard in its entirety has been determined to be potentially significant for its engineering significance. The segment within the APE has been assessed as a non-contributing segment of the entire road because it lacks integrity. While it continues to operate per its original function as a gateway and main public access to the USAFA, and retains integrity of location, feeling, and association, changes to the setting and upgrades to the road have diminished the integrity of design, materials, and workmanship. These upgrades include bridge replacements, a new entrance gate, and the addition of roundabouts for the on- and off-ramps to I-25.

The direct effects of the PWQ facility include temporary visual, noise, and atmospheric changes during construction, when the vehicles, construction equipment, and workers will be present within the boundaries of this resource. All these effects will be temporary, occurring only during construction. The direct and indirect effects to North Gate Boulevard will not change or alter any of the character-defining features that make the road eligible for listing in the National Register under Criterion C. Because the direct and indirect effects of the PWQ facility during and after construction are considered minor and will affect a non-contributing segment of 5EP.8304, the resulting Section 106 determination is No Adverse Effect.

Regarding archaeological resources, the construction of Struthers Road, North Gate Boulevard, and I-25 has previously occurred, with no discovery of such resources in the project vicinity. Installing underground stormwater pipes across and along these roadways, and an EDB, similarly will affect no known archaeological sites.

3.4.4 Mitigation for Impacts to Cultural Resources

In the absence of adverse effects to known cultural resources in the project area, no mitigation will be required. Excavated materials will be re-used on site to the extent allowable under USAFA's Erosion Control, Revegetation and Tree Care Standards. The County will require that any materials excavated needing removal to be transported to a licensed landfill and not taken anywhere else where the material could affect any cultural or biological resource.

If archaeological resources are discovered within the CDOT I-25 easement on USAFA property in the course of the project, the CDOT Senior Staff Archaeologist will be promptly notified.

3.5 LAND USE AND AESTHETICS

Land use is often discussed in Air Force NEPA documents with regard to noise generated by aircraft operations. This focus is applicable for some USAFA projects, but not for the North Gate/Struthers PWQ Pond, where land use and aesthetics are important because the project is part of USAFA's main public entrance.

3.5.1 Methodology

Existing land use plans for El Paso County and the City Colorado Springs were reviewed. Also reviewed was the land use map in USAFA's 2023-2028 INRMP, USAFA's Installation Development Plan (IDP), and the 2019 approved Environmental Assessment for the TrueNorth Commons Enhanced Use Lease Area (USAFA, 2019).

3.5.2 Existing Land Use/Aesthetic Conditions

The ROI for land use for the Preferred Alternative is the Project Area. The ROI for aesthetics is the larger entirety of the I-25/North Gate interchange, including views to and from the I-25 median.

Land Use: According to USAFA's IDP, land in the vicinity of the North Gate/Struthers PWQ Pond is all designated as a transportation corridor accommodating the I-25/North Gate interchange, which is the main entrance to USAFA. The land has been used for this purpose since USAFA was built, in the 1950s. The interchange has been substantially modified over time, with its loop ramps converted to today's existing roundabout system in 2013. Additionally, I-25 has been widened from two lanes in each direction to three lanes in each direction.

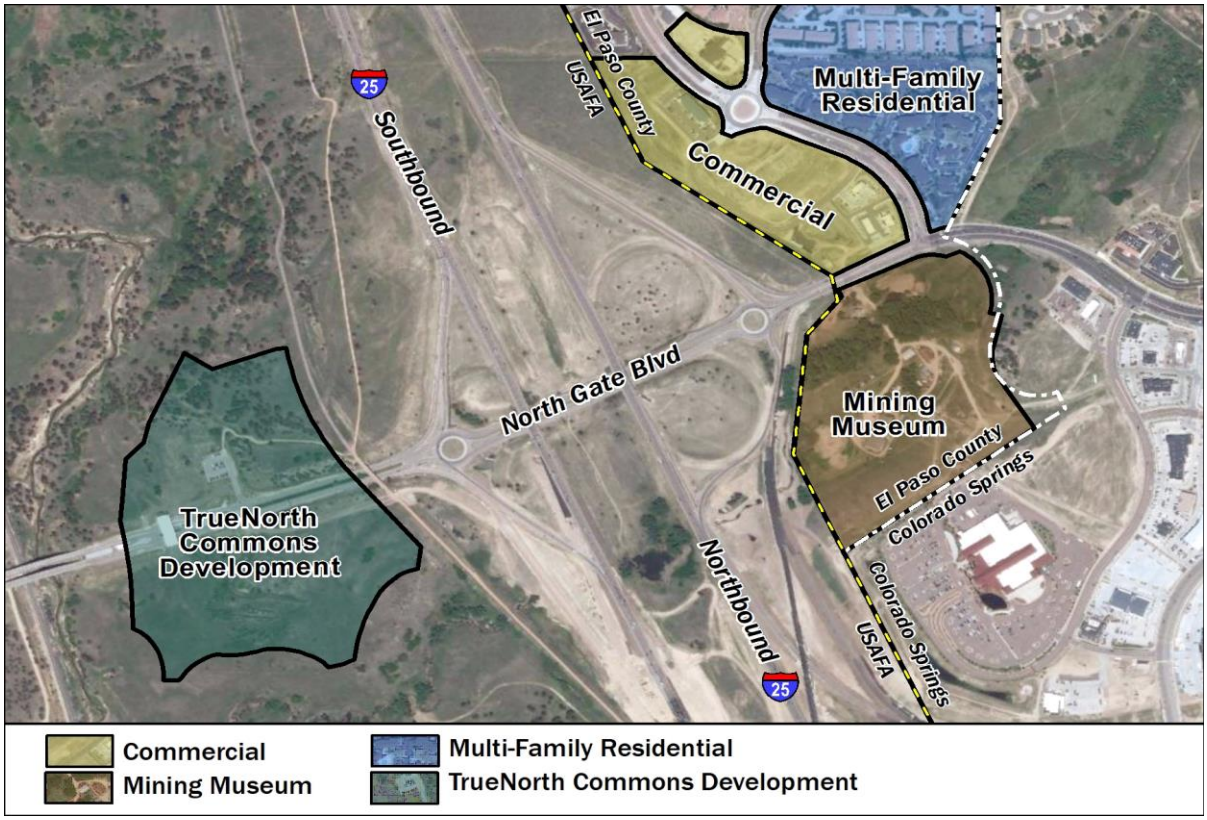
The land use map in the 2023-2028 INRMP depicts the land within the I-25 median and between the mainline and ramps with no USAFA land use designation, and the adjoining land outside the ramps as "Open Space General".

West of I-25, land on USAFA is largely undeveloped. Westbound motorists on North Gate Boulevard encounter a trailhead and parking lot for the Santa Fe Regional Trail, before reaching a manned security gate to enter USAFA. However, substantial change is now occurring here, as discussed later below. Land east of the interchange is non-USAFA property that regulated by El Paso County. The three primary land uses east of the interchange are commercial (west side of Struthers Road), multi-family residential (east side of Struthers Road), and the WMMI, as shown in **Figure 20**.

Aesthetics: I-25 and USAFA were built concurrently in the late 1950s, and I-25 was built on USAFA property to give the Air Force a degree of control over the aesthetic character of its eastern edge. There are no bars, car dealerships or other commercial enterprises at the USAFA main entrance, as are found near other military installations.

Notably, the wide median separating I-25's northbound and southbound lanes for a length of approximately 2.8 miles was designed intentionally to provide a "rural feel" for motorists driving through the Academy, according to longtime USAFA Base Architect Duane Boyle. This was reported in CDOT's 2004 Environmental Assessment for proposed I-25 widening (CDOT, 2004).

Figure 20. Existing and Planned Land Use in the Project Vicinity



Additionally, the I-25/ North Gate interchange is designed to have a natural grassland appearance and is free of traffic signals or overhead utilities. Originally, the interchange had loop ramps that allowed free flow of traffic. Large loops east of I-25 served motorists going to or from USAFA. Small loop ramps west of the I-25 served the then-minimal traffic using North Gate Road (as it was called) to or from the east. These loops ramps were replaced in 2015 with a roundabout system, still avoiding the use of traffic signals.

When USAFA worked with CDOT on the I-25 EA in 2004, the planned I-25/North Powers Boulevard interchange ramp system was designed to be entirely at or below existing grade to not interfere with views to or from USAFA, especially its cadet housing and chapel area. The recently completed North Powers interchange has been constructed in this manner.

USAFA is in a transitional area between the eastern Great Plains and the western Rocky Mountains, with a landscape typical for the Front Range. Rolling hills to the east of -25 begin to rise steadily towards the west from the relatively flat valley floor of Monument Creek and form rugged landforms at the base of the Rampart Range, which serves as a scenic backdrop to views of USAFA. The scenic component of the landscape consists of long views of rugged terrain rising to the Cadet Area and Cadet Chapel with a dramatic backdrop of the Rampart Range. The landscape setting has been predominantly natural and rural in character, though in recent years lands north and east of the USAFA are rapidly changing in appearance due to housing and commercial developments.

USAFA's 2023 INRMP includes discussion of important views. From I-25, "views to the west, especially of the Cadet Area, the chapel, and Cathedral Rock, are of primary importance. Views to the east are of secondary importance and contribute to scenic quality in two ways: they create the experience of feeling surrounded by nature on all sides while traveling through the Academy on I-25; and they preserve the scenic, natural approach to the City of Colorado Springs from the north."

A Visual Effects Report for the PWQ project was completed in October 2021 and is included in NHPA compliance documentation (see **Appendix D**). At the site of the proposed detention basin, the median is shielded on both the east and west by the much higher grade of Interstate 25. The PWQ pond depth will vary but on average be an estimated 8.5 feet below the existing grade of the I-25 median. Upper floor guests at the new Hotel Polaris currently under construction west of I-25 and south of North Gate Boulevard (see **Figure 21**), will be able to see the eastern side of the EDB if they choose to look at I-25. The EDB would appear to be grassland when empty and would appear to be a pond when full.

The site of the proposed detention basin will be seen primarily by motorists passing by on I-25 (usually at 75 miles per hour) and by motorists traveling east or west on North Gate Boulevard (40 miles per hour), as also shown in **Figure 21,** or from the air.

The I-25 median at North Gate Boulevard is on USAFA property approximately 2,100 feet east of USAFA's main entrance. It can be seen by visitors to USAFA arriving from the south or east (e.g., Colorado Springs), and by those departing USAFA to go north toward Denver. The I-25/Northgate interchange is an aesthetically sensitive location because it provides a first impression of the facility to visitors.

3.5.3 Impacts to Land Use and Aesthetics

The No-Action Alternative would not change land use along Struthers Road, North Gate Boulevard (partially within USAFA and partially not), or the I-25 median north of North Gate Boulevard (within USAFA).

The Preferred Alternative would not change land use along Struthers Road or North Gate Boulevard but would minimally change land use within the I-25 median. The land would remain a vegetated open area within the median of a busy Interstate highway, with no new above-grade structures. About half of the nine-acre median between North Gate Boulevard and Smith Creek

Figure 21. Existing Views toward the I-25 Median as of 2023

The aerial map at left indicates the viewpoints for the three ground-level views below, all oriented toward the I-25 median.

View 1 is toward the northwest, from northbound I-25.

View 2 is toward the south-southeast, from North Gate Boulevard.

View 3 is toward the southeast, from southbound I-25.

Traveling at posted speed limits, motorists may be able to look at the median for five to eight seconds.

would be physically altered, providing a permanent water quality EDB plus an improved access road into the median to facilitate maintenance of the facility.

The EDB would normally be dry, but during and after rain events or the melting of snow, water could be held for up to 72 hours as it gradually outflows into Smith Creek.

The EDB has been designed to be harmonious with the surrounding environment of the I-25 median. The overall shape of the basin is curved, and the trickle channel is sinuous rather than linear, to provide a natural look. See **Figure 22**.

Figure 22. Sinuous, Non-Geometric Shape of Proposed Detention Basin

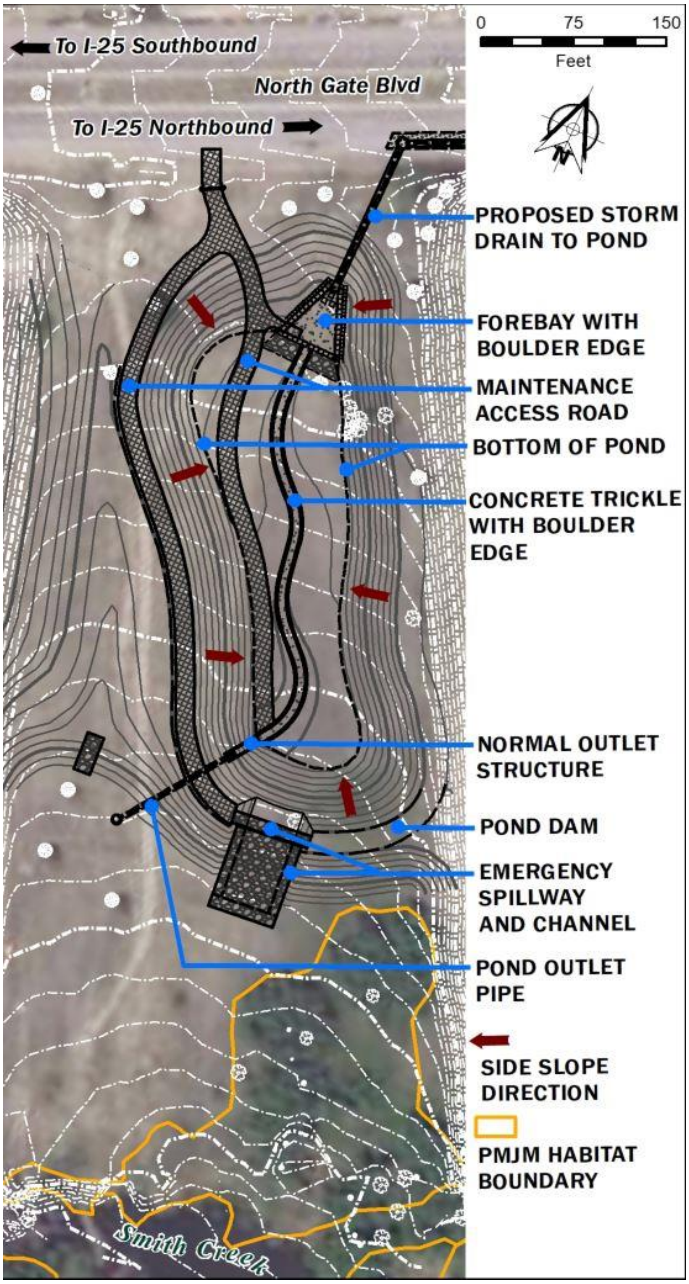


Figure 23 presents a comparison of existing and proposed views (photo simulation) toward the proposed EDB in the I-25 median. These views are from the perspective of a motorist who would typically be traveling at a speed of 40 and 75 miles per hour, respectively.

Figure 23. Existing and Simulated Views toward the Proposed EDB

Above: Existing view toward I-25 median from westbound North Gate Boulevard
Below: Same view, with simulation of EDB and maintenance access road

Figure 23 (continued). Existing and Simulated Views toward the Proposed EDB

Above: Existing view of I-25 median south from southbound I-25 shoulder
Below: Same view, with simulation of extended detention basin and maintenance access road

3.5.4 Mitigation for Impacts to Land Use and Aesthetics

The PWQ pond has been designed to be natural in appearance and disturbed areas will be reseeded with native vegetation. No other mitigation for land use/aesthetic impacts is needed.

3.6 OTHER CONSIDERATIONS

This section addresses the topics of unavoidable adverse effects, the relationship of short-term uses and long-term productivity, and irreversible and Irretrievable commitments of resources.

3.6.1 Unavoidable Adverse Effects

This EA identifies any unavoidable adverse impacts that would be required to implement the project and the significance of the potential impacts to resources and issues. Title 40 of the Code of Federal Regulations §1508.27 specifies that a determination of significance requires consideration of context and intensity. Construction of storm sewer pipes and an EDB would impact the local project area on USAFA property. The severity of potential impacts would be limited by regulatory compliance for the protection of the human and natural environment.

Unavoidable short-term adverse impacts associated with implementing the project would include temporary erosion and sedimentation from soils disturbance, a temporary increase in fugitive dust and air emissions during construction, intermittent noise, and minor alterations to local traffic operations on Struthers Road and North Gate Boulevard. However, these effects are considered minor and would be confined to the immediate area, and Best Management Practices will be used to mitigate these effects, consistent with any required permits and approvals.

For the Preferred Alternative to be implemented, these impacts would occur. The project is intended to manage and provide water quality treatment for local stormwater entering Smith Creek in this subregional drainage basin. No other alternatives would provide the engineering solution to meet the unique design needs for this facility outside of the North Gate main public entrance to USAFA.

3.6.2 Relationship of Short-Term Uses and Long-Term Productivity

The relationship between short-term uses and enhancement of long-term productivity from implementation of the Preferred Alternative is evaluated from the standpoint of short-term effects and long-term effects. Short-term effects would be those associated with the construction activities to construct the stormwater infrastructure under Struthers Road, North Gate Boulevard, and in the I-25 median. The long-term enhancement of productivity would be those effects associated with operation and maintenance of this infrastructure after implementation of the Proposed Action.

The Preferred Alternative represents an enhancement of long-term ecological health for Smith Creek, which has riparian habitat used by a federally listed threatened species, the Preble's meadow jumping mouse. Immediately upstream from the project area are more than two miles of Designated Critical Habitat for this species.

3.6.3 Irreversible and Irretrievable Commitments of Resources

The short-term irreversible commitments of resources that would occur would include planning and engineering costs, building materials and supplies and their cost, use of energy resources during construction, and project labor.

Regarding biological resources, the Preferred Alternative would have permanent impact on less than 0.02 acre of wetland and 1.87 acres of low-quality PMJM habitat within the USAFA PMJM

Conservation Area. The 0.02 acre is approximately equivalent to 900 square feet, or the size of a small, one-bedroom house.

3.7 CUMULATIVE EFFECTS

A cumulative impact, as long defined by the CEQ (40 CFR 1508.7) is 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 which agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

Consideration of cumulative effects in NEPA documents was required for decades until new CEQ regulations removed this requirement in the year 2020. But with the change of administrations after the 2020 presidential election, the requirement was restored under new CEQ regulations effective May 20, 2022.

3.7.1 Methodology

A proposed action potentially can have a cumulative effect on a resource only if it has a direct or indirect effect on that resource. Therefore, only a limited number of environmental resources addressed in this EA are appropriate for cumulative effects analysis. Past, present and reasonably foreseeable actions affecting these resources are identified and assessed below.

3.7.2 Past, Present and Reasonably Foreseeable Actions

For nearly four decades, from about 1960 to 2000, the main entrance to USAFA was its South Gate, accessed via the I-25 interchange (Exit 150) with North Academy Boulevard, which was then a State Highway. This was the logical entrance for USAFA commuters, vendors, contractors, and visitors from Colorado Springs. During this time, the City of Colorado Springs grew northward, at a pace of 100,000 additional residents per decade, and urban growth crept northward along the eastern side of I-25. **Figure 25** shows an aerial photograph of the I-25/North Gate interchange from 1999, the end of the four decades of gradual growth.

It is worth noting that after the terrorist attacks on September 11, 2001, USAFA modified its gates for improved security and redesignated the North Gate as its main public entrance.

Over the past two decades, growth near the I-25/North Gate interchange has greatly intensified, as also shown in **Figure 24**, in an aerial photo from 2019. A key change is that in 2013, I-25 was widened from two lanes to three in each direction, and the original loop ramps at the I-25/North Gate interchange were replaced with more conventional on- and off-ramps, supplemented with two roundabouts. There are no traffic signals at this interchange, to maintain USAFA's natural look.

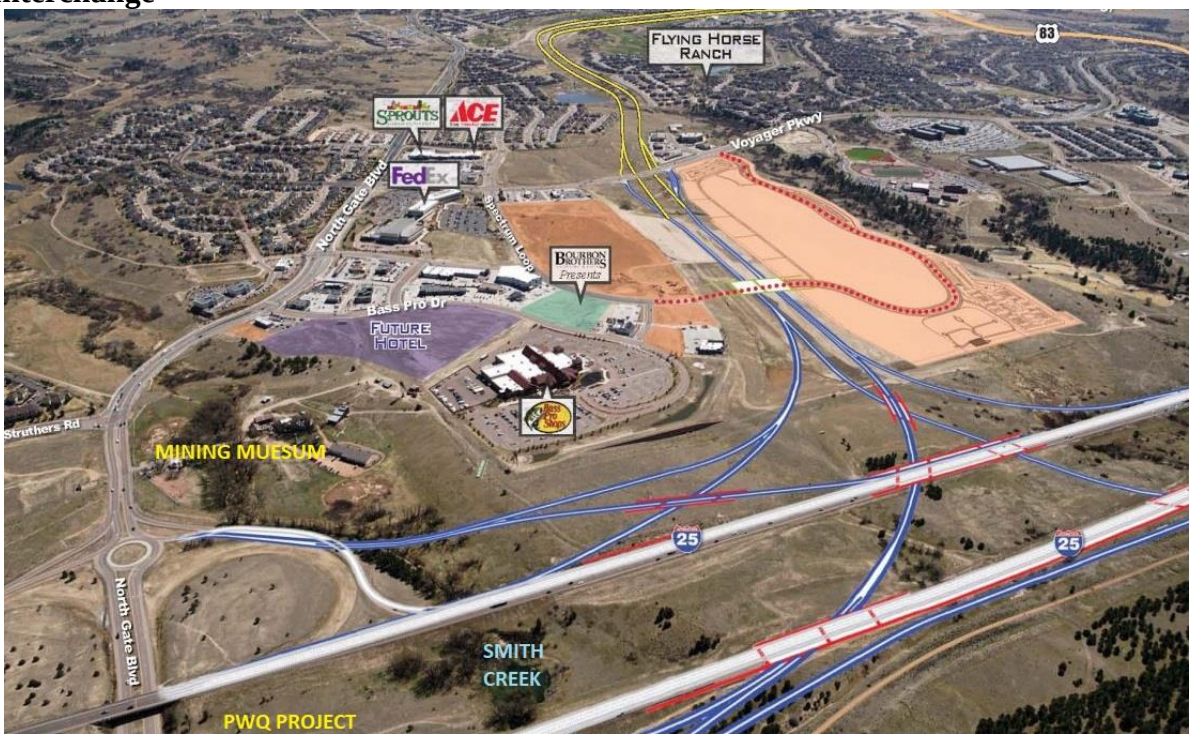
Figure 24. Aerial Photos of the I-25/North Gate Interchange, 1999 and 2019

1. New USAFA entry security, post 9-11-2001; 2 Small USAFA staging yard north of sentry station;
3. I-25 new roundabouts replace loop ramps; 4. I-25 widened from two lanes each direction to three;
5. New development west side of Struthers Road; 6. Residential development east of Struthers;
7. Additional development further east; 8. Flying Horse master-planned development;
9. Residential east of Struthers Road; 10. North Gate Road realigned near Smith Creek;
11. Major commercial development; 12. Flying Horse residential east along North Gate Road;
13. Bass Pro Shop (major commercial anchor); 14. Spectrum Loop bridge across future Powers Blvd.
15. New development on east side of Voyager Parkway.

Even this does not reflect the latest conditions in 2022, as there has been more commercial development on the western side of Struthers Road, and in 2021, ramps were added at Exit 156 to accommodate the I-25/North Powers Boulevard interchange (Exit 155) immediately to the south

of the project area. Exit 155 is the region's only freeway-to-freeway interchange, and the resulting high traffic volumes make the land extremely valuable for commercial development. In fact, the owner and developer of that land paid to have the I-25/North Powers interchange built to provide better access to his commercial property. The massive development was originally called Copper Ridge but now has been renamed Polaris Pointe to be better aligned with a USAFA-type aviation and aerospace theme. **Figure 25** provides an indication of the scale of this development.

Figure 25. Polaris Pointe Development Immediately Southeast of the I-25/North Gate Interchange



The large vacant area shown in beige is planned to include the Sunset Amphitheater, an 8,000-person outdoor music venue expecting to host 40 concerts per year. Groundbreaking for this facility occurred in summer 2023.

Another current action is a 57-acre development called TrueNorth Commons, scheduled for completion in 2024. USAFA approved an EA and FONSI for this project on its property in 2019. Its ceremonial groundbreaking event occurred in July 2022 and project construction is underway. The development will occur in an Enhanced Use Lease area (USAFA, 2019) along North Gate Boulevard and west of I-25. See **Figure 26**.

The new interchange ramps shown in blue in the figure opened in late 2021, as mentioned earlier and shown in **Figure i** at the beginning of this EA. The engineering plans for the I-25/North Gate Interchange (including its ramps) indicated that total soil disturbance of more than 300 acres was expected, which is much larger than the 4.6 acres of disturbance for the North Gate PWQ pond. Environmental evaluation of this interchange was completed in 2019, in the form of a Re-evaluation of a prior EA (CDOT, 2019).

Figure 26. Artist Renditions for True North Commons Development West of I-25

Above: Facing westward along North Gate Boulevard, west of I-25
Below: South-facing view toward the new USAFA Hosmer Visitor Center

The USAFA 2019 EA for the TrueNorth Commons EUL Area describes planned development including a new Visitor Center plus two hotels plus commercial development to be located west of I-25, which will modify the existing view. USAFA allowed the City of Colorado Springs to annex land there and create the TrueNorth Commons development, under strict aesthetic control. The design for this development is not natural, but instead will establish a special "sense of place" to make a bold impression on visitors.

Accommodating tourist visits just outside the security entrance to USAFA will reduce tourist traffic inside the secured area thereby improving safety in the Cadet Area, while also benefitting regional tourism. Ceremonial groundbreaking for the development occurred in July 2022.

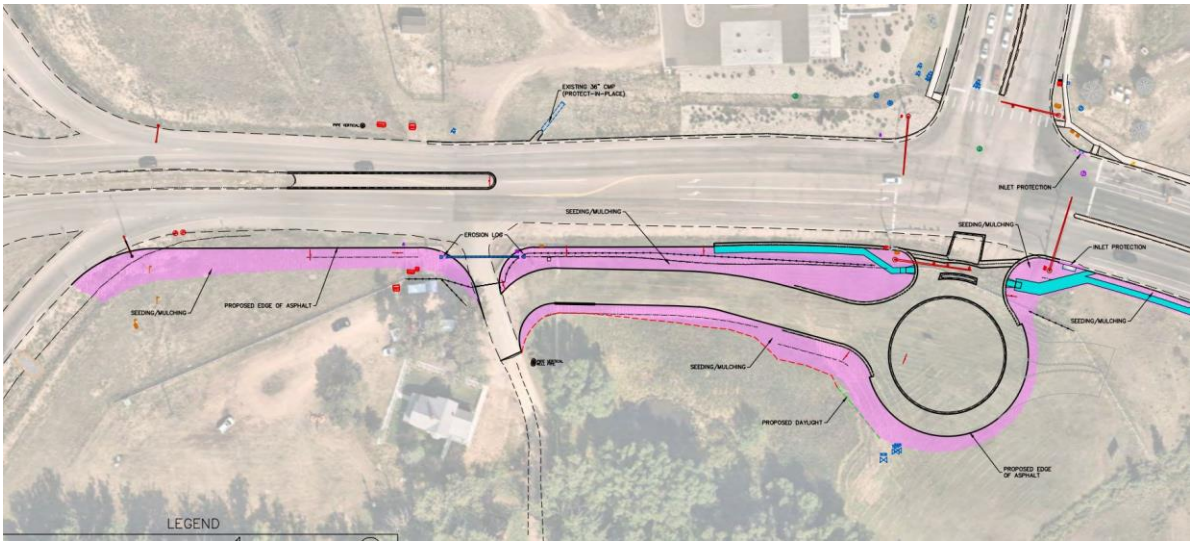
In 2022, USAFA announced that the new Visitor Center will be named for its first graduate, retired Lieutenant General Bradley Hosmer, class of 1959. The Hosmer Visitor Center be much more accessible to the public than the existing Visitor Center on the western side of the campus near the Cadet Chapel. Tourists will be able to exit the interstate and access the Hosmer Visitor Center without having to go through a security check and drive several extra miles.

It is assumed by the project's backers that a notable increase in Visitor Center traffic will occur as a result of this change. Increased traffic on North Gate Boulevard in the I-25 median would include motorists visiting USAFA from the south, departing USAFA to head north, or those going to or from USAFA with a trip origin or destination to the east, potentially in the Polaris Pointe commercial area.

USAFA's 2023 INRMP lists foreseeable future actions as follows, and the only one of these germane to this EA is the TrueNorth Commons development described above.

The City of Colorado Springs is working with the owner of the WMMI to provide new roadway infrastructure that will better accommodate future development of that 20-acre parcel. These plans were developed in 2023 after the Northgate/Struthers PWQ Pond project was designed. The plans involve modification of eastbound North Gate Boulevard in the project area and provision of a roundabout on WMMI property immediately south of the signalized Northgate/Struthers intersection. A draft concept plan for this work is provided in **Figure 27**.

Figure 27. Planned Colorado Springs Access Improvements on WMMI Property



These past (urban growth and I-25 interchange modifications), present and reasonably foreseeable actions in the vicinity of the PWQ project area provide the context for examining cumulative effects pertaining to the Preferred Alternative.

3.7.3 Cumulative Impacts of Alternatives

The No-Action Alternative would have no effect on cultural resources. If an action has no direct or indirect on a resource, it has no cumulative effect on that resource.

The Preferred Alternative would have impacts on several resources which are discussed in **Tables 6, 7 and 8**. These include: water resources; biological/natural resources; and cultural resources and land use/aesthetics.

Table 6. Cumulative Effects for Water Resources

Resource	A. Effect of Preferred Alternative B. Effect of Other Actions C. Cumulative Effect
Groundwater	A. Drainage system will prevent groundwater from entering detention basin B. Other actions physically separated by I-25 and culvert C. Little or no interaction with other developments due to minimal and highly localized direct effects of the project
Surface Water	A. After precipitation events, cleaned stormwater from the PWQ facility will outfall into Smith Creek via an existing CDOT 42-inch pipe. The PWQ facility will include minimal impervious surface B. Water volume increasing over time due to increased impervious surface in the Smith Creek basin upstream, causing erosion and water quality degradation downstream; USAFA has undertaken extensive stream stabilization efforts downstream, west of I-25 C. Preferred Alternative is intended to mitigate water quality degradation by treating runoff from a 57-acre subregional basin, countering the larger, overall trend
Wetlands	A. Temporary impact to one cattail wetland along Smith Creek beaver pond; disturbed area will be restored; no permanent loss of wetland resource B. Other wetland losses have occurred and will continue to occur in the Smith Creek watershed and other watersheds tributary to Monument Creek C. The Preferred Alternative has no permanent wetland impacts; thus, it has no cumulative impacts
Floodplains	A. Preferred Alternative would not affect the floodplain B. CLOMR was prepared in 2019 for the I-25/North Powers project; the floodplain along Smith Creek expanded slightly to the north due to upstream modifications C. With no direct or indirect effects, Preferred Alternative would have no cumulative effect

Table 6 (continued). Cumulative Effects for Water Resources

Resource	A. Effect of Preferred Alternative B. Effect of Other Actions C. Cumulative Effect
Stormwater	A. Preferred Alternative would manage and treat stormwater from nearby 57 acres B Entire Smith Creek watershed is 3,450 acres, with total amount of impervious surface increasing due to urban development C. Beneficial effect of Preferred Alternative would be overwhelmed by urban development from other Smith Creek drainage sub-basins upstream

Table 7. Cumulative Effects for Biological/Natural Resources

Resource	A. Effect of Preferred Alternative B. Effect of Other Actions C. Cumulative Effect
Vegetation	A. Approximately 4.5 acres of sparsely vegetated grassland will be affected, then reseeded with native vegetation, within the I-25 median; approximately 12 non-riparian trees will be removed and replaced elsewhere on-site. B. Large parcels totaling over 400 acres nearby have been stripped of vegetation for development (I-25 ramps, Polaris Pointe development, and TrueNorth Commons, and commercial property along Struthers Road), replacing native vegetation with impervious surface; the larger projects have implemented noxious weed management plans C. Existing USAFA Integrated Weed Management Plan, ongoing USAFA weed monitoring, and implementation of existing CDOT weed management will be needed to protect long-term ecosystem health in the project area
Wildlife	See vegetation effects above. The disturbed vegetation areas also represent temporary and/or permanent loss of wildlife habitat. Additionally, active use of the newly developed areas produces traffic, noise and light that displace local wildlife. For animal safety and human safety alike, the I-25 median does not represent attractive wildlife habitat
PMJM	A. The Preferred Alternative would have 1.87 acres of permanent impact to low-quality PMJM habitat and 1.86 acres of temporary impact; It would have 0.01 acre of temporary impact to high-quality PMJM habitat. USFWS-specified mitigation will be implemented; incidental take of five mice is anticipated by USFWS

Table 7 (continued). Cumulative Effects for Biological/Natural Resources

Resource	A. Effect of Preferred Alternative B. Effect of Other Actions C. Cumulative Effect
	B. The North Powers interchange project resulted in 6.91 acres of permanent PMJM impact along Smith Creek, and 5.03 acres of temporary impact, previously mitigated by CDOT acquiring conservation easements elsewhere. The TrueCommons North project will have 0.02 acre of permanent impact and 0.38 acre of temporary impact to low-quality PMJM habitat, none of it in Smith Creek or Monument Creek riparian areas. USAFA's INRMP indicates that climate change may further reduce PMJM habitat in the future C. Continued protection of non-USAFA Designated Critical Habitat and management of USAFA PMJM Conservation Areas is expected to ensure continued effectiveness of existing PMJM recovery plans

Table 8. Cumulative Effects for Cultural Resources, Land Use and Aesthetics

Resource	A. Effect of Preferred Alternative B. Effect of Other Actions C. Cumulative Effect
Cultural Resources, Land Use and Aesthetics	A. The project consists of underground pipes and a below-grade EDB designed to be harmonious with its surroundings; SHPO concurs with findings of no adverse effects to historic resources; the I-25 median with no active land use would become productive for water quality improvement with minimal visual impact B. Development (including new I-25 ramps) has occurred on all sides of the Reynolds Ranch property; the appearance of the USAFA North Gate entrance has evolved due to interchange modifications, TrueNorth Commons and development east of I-25. Access improvements on the WMMI property will further alter the visual setting of the historic Reynolds Ranch farmhouse. C. SHPO indicates the Reynolds Ranch property retains the qualities that make it eligible for NRHP listing; Visual changes have occurred in the vicinity of the I-25/North Gate interchange, but the USAFA North Gate entrance remains open and natural with roundabouts instead of traffic lights.

3.7.4 Mitigation for Cumulative Impacts

In the context of the much larger developments that have occurred and are occurring within a mile from the I-25 median, the Preferred Alternative would have a minimal contribution to adverse effects and would make a positive contribution to water quality improvement that benefits Smith Creek. The Preferred Alternative is environmental mitigation for the cumulative effects of past, present and future development in its drainage sub-basin. No mitigation for cumulative effects of the Preferred Alternative is considered necessary.

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4.0 LIST OF PREPARERS

This EA has been prepared under the direction of the Air Force Civil Engineer Center and USAFA. Individuals who contributed to the preparation of this EA are listed below.

Table 9. List of Preparers

Name/Organization	Education	Resource Area	Years of Experience
John Lantz, P.E. El Paso County, CO	MSE, Civil Engineering – Geotechnical; BSCE Civil Engineering	Project Manager	28, includes USAF service
Kelly Fredell, P.E. Wilson & Company, Inc.	BS, Civil Engineering	Engineering Design Manager	25
Vance Fossinger, P.E. Wilson & Company, Inc.	BS, Civil Engineering	Hydrology	32
Douglas Eberhart Wilson & Company, Inc.	MBA, Finance BSE, Transportation Engineering	NEPA Document Preparer	43
Tim DeMasters CORVUS Environmental	BA, Biology	Biological Resources	21
Dianna Litvak Mead & Hunt	MA, History, BA Cultural Anthropology	Cultural Resources	28
Tiffany Haugh Wilson & Company, Inc.	Associate of Science, Occupational Studies	Graphics	21
Elisabeth (Lisa) Welch USAFA 10 CES/CENPP	BS, Geology	Environmental Planner	30
Brian S. Mihlbachler, PhD US Fish & Wildlife Service USAFA 10 CES/CEIEA	BS, Biological Sciences, MS and PHD, Rangeland Science	Natural Resources Manager	33
Brendan Ryan USAFA 10 CES/CENPP	BS, Natural Sciences- Biology	EA Project Manager	4

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5.0 PERSONS AND AGENCIES CONSULTED/COORDINATED

This section identifies the persons and agencies were contacted in the preparation of this EA, preceded by a short summary of the engagement process.

CDOT's decision to make grants available for water quality mitigation was made in public processes including approval by the Transportation Commission of Colorado. El Paso County's decisions to apply for and accept the grant, and to approve execution of an Intergovernmental Agreement with CDOT, were also made in open public meetings.

Project coordination meetings were held on an as-needed basis since April 2019, including staff representatives of Maricopa County, CDOT and USAFA. In May 2019, FHWA was invited to participate as a Cooperating Agency, and indicated its acceptance of this role. The COVID-19 pandemic greatly slowed all aspects of the process starting in 2020.

Representatives of the City of Colorado Springs and its Colorado Springs Utilities enterprise also participated in these meetings, once the city decided it would annex North Gate Boulevard and the EUL USAFA Visitor Center west of I-25.

The representatives of these four agencies (County, USAFA, CDOT and City) together developed a list of persons and agencies to be consulted for the project, which is presented in the **Table 10**.

The WMMI was included on the list because that property abuts North Gate Boulevard and is affected by drainage at that location. Additionally, the property is considered an historic resource, warranting consultation under the Section 106 of the NHPA.

When the likelihood of the project impacting wetlands and a floodplain were identified, USAFA issued a public notice on its website, published a newspaper advertisement in the [Colorado Springs] Gazette (the area's newspaper of record), and sent copies of the notice by U.S. Mail to the identified stakeholders. The USAFA press release was published on January 26, 2022. The newspaper ad was published on January 29, 2022.

Appendix A contains a screenshot of the website announcement, an enlarged copy of the newspaper ad, and an Affidavit of Publication provided by the Gazette.

After analysis of potential effects to historic resources was completed in 2023, USAFA also led the outreach for consultation under Section 106 of the NHPA. Consulting parties for this effort include the State Historic Preservation Officer, CDOT's historian, the Certified Local Government (CLG) historian for Colorado Springs, and the WMMI (discussed above), among others.

Project information was also provided to representatives of 39 Native American tribes that potentially have a traditional interest in lands at USAFA. Responses received are included in **Appendix A** to this EA.

Consultation with USFWS on biological resources is documented in **Appendix C**. Consultation with the SHPO is documented in **Appendix D**.

Table 10. Persons and Agencies Consulted/Coordinated

Part 1 – not Section 106 cultural resources

Federal Agencies
U.S. Army Corps of Engineers Southeastern Colorado Office Attn: Mr. Tony Martinez 201 West 8th Street, Suite 350 Pueblo, Colorado 81003
Regional Floodplain Administrator Pikes Peak Regional Building Department 2880 International Circle Colorado Springs, CO, 80910
U.S. Fish and Wildlife Service Attn: Leslie Elwood, Fish and Wildlife Biologist USFWS/ES/ Colorado Field Office P.O. Box 25486, DFC (MS 65412) Denver, CO 80225
Federal Highway Administration Colorado Division Attn: Stephanie Gibson 12300 West Dakota Avenue, Suite 180 Lakewood, CO 80228
State Agencies
Colorado Department of Transportation Attn: Rob Frei, Region 2 Planning and Environmental Manager 1480 Quail Lake Loop Colorado Springs, CO 80906
Colorado Parks and Wildlife, Area 14 Attn: Mr. Frank McGee 4255 Sinton Road Colorado Springs, CO 80907
Regional Agencies
Fountain Creek Watershed, Flood Control and Greenway District Attn: Allison Schuch, Executive Director P.O. Box 26373 Colorado Springs, CO 80936-6373
Pikes Peak Area Council of Governments Attn: Andrew Gunning, Executive Director 15 South 7th Street Colorado Springs, CO 80905

Table 10 (continued). Persons and Agencies Consulted/Coordinated

Part 1 – not Section 106 cultural resources

Local Agencies
City of Colorado Springs Stormwater Enterprise Attn: Mr. Tim Biolchini 30 S. Nevada Avenue, Suite 401 Colorado Springs, CO 80903
Colorado Springs Utilities Attn: Mr. Phil Tunnah Chief System Planning and Projects Officer P.O. Box 1103, Mail code 950 Colorado Springs, CO 80903 Colorado Springs Utilities Attn: Mr. David Padgett Chief Environmental Officer P.O. Box 1103, Mail Code 940 Colorado Springs, CO 80903
City of Colorado Springs CLG Attn: Daniel Sexton, AICP Planning and Community Development 30 South Nevada Avenue, Suite 105 Colorado Springs, CO 80901
Other Stakeholders
Western Museum of Mining and Industry Attn: Grant Dewey, Executive Director 225 North Gate Boulevard Colorado Springs, CO 80921

Table 10. Persons and Agencies Consulted/Coordination (continued)

Part 2 – Section 106 Cultural Resources

Federal Agencies
Federal Highway Administration Colorado Division, attn.: Stephanie Gibson 12300 West Dakota Avenue, Suite 180 Lakewood, CO 80228
State Agencies
Colorado State Historic Preservation Officer (SHPO) Colorado Historical Society Attn: Steve W. Turner, AIA 1200 Broadway, Denver, CO 80203
Colorado Department of Transportation Lisa Schoch, Cultural Resources Section Manager Environmental Programs Branch 2829 W. Howard Place Denver, CO 80204
Local Agencies
City of Colorado Springs CLG Attn: Daniel Sexton, AICP Planning and Community Development 30 South Nevada Avenue, Suite 105 Colorado Springs, CO 80901
Private Stakeholders
Western Museum of Mining and Industry Attn: Grant Dewey, Executive Director 225 North Gate Boulevard Colorado Springs, CO 80921
Tribal Contacts
Apache Tribe of Oklahoma Chairman and THPO Bobby Komardly; Culture Program Coordinator Crystal Lightfoot
Assiniboine & Sioux Tribes of the Fort Peck Indian Reservation Chairman Floyd Azure; THPO Darrell Youpee
Cheyenne & Arapaho Tribes of Oklahoma Governor Eddie Hamilton; THPO Virginia Richey; THPO Director Max Bear
Cheyenne River Sioux Tribe Chairman Harold C. Frazier; THPO Steve Vance; Tribal Archivist Donovan Sprague; EPD Director David D. Nelson

Table 10. Persons and Agencies Consulted/Coordination (continued)

Part 2 – Section 106 Cultural Resources

Tribal Contacts (continued)
Cheyenne Tribe Cultural Heritage Director Karen Little Coyote; Joe Big Medicine, Jr., NAGPRA Tribal Representative (now deceased)
Comanche Nation of Oklahoma Chairman William Nelson; THPO Martina M. Callahan; Theodore Villicana. NAGPRA Director Margaret Murrow
Crow Creek Sioux Tribe Chairman Brandon Sazu; THPO Bonnie McGhee
Crow Nation Chairman Alvin Not Afraid; THPO William Big Day
Eastern Shoshone Tribe of Wind River Reservation Chairman Clinton Wagon; THPO Wilford Ferris III; Co-Chairman Vernon Hill
Flandreau Santee Sioux Tribe of South Dakota President Anthony Reider; THPO Garrie Kills A Hundred
Fort Belknap Indian Community President Mark Azure; THPO Michael J. Black Wolf
Fort Sill Apache Tribe Chairman Jeff Haozous; Tribal Historian Leland Darrow
Jicarilla Apache Tribe President Wainwright Velarde; THPO Jeffrey Blythe
Kiowa Tribe of Oklahoma Chairman Matthew Komalty; Asst Acting THPO Ivy Smith; Acting THPO/NAGPRA Contact Kellie J. Poolaw
Lower Brule Sioux Tribe of the Lower Brule Reservation Chairman Boyd Gourneau; THPO Clair Green
Mescalero Apache Tribe President Danny Breuninger; THPO Holly Houghten
Navajo Nation President Russel Begay; THPO Richard Begay; Cultural Specialist Timothy Begay
Northern Arapaho Tribe Chairperson Roy Brown; THPO Director Yufna Soldier Wolf; THPO Director's Assistant Diamond Baca

Table 10. Persons and Agencies Consulted/Coordination (continued)

Part 2 – Section 106 Cultural Resources

Tribal Contacts (continued)
Northern Cheyenne Tribe President Lawrence Jace Killsback
Oglala Sioux Tribe THPO Teanna Limpy; THPO Trina Lone Hill
Pawnee Nation of Oklahoma President W. Bruce Pratt; THPO Director John Michael Knife Chief
Pueblo de Cochiti Governor Eugene Herrera; NAGPRA Representative Jay Pecos
Pueblo of Picuris Governor Craig Quanchello; NAGPRA Representative Jeff Atencio
Pueblo of San Ildefonso Ildefonso Governor James R. Mountain; NAGPRA Contact Timothy Martinez
Pueblo of Santa Ana Governor Lawrence Montoya; Tribal Historic Preservation Officer Phil Shelley
Pueblo of Santa Clara Governor J. Michael Chavarria; THPO Ben Chavarria
Pueblo of Zuni Governor Val Panteah, Sr.
Rosebud Sioux Tribe Acting Director, Historic Preservation Kurt Dongoske; THPO Russell Eagle Bear
Santee Sioux Nation Chairman Roger Trudell; THPO Director Duane Whipple
Southern Ute Indian Tribe Chairperson Clement Frost; NAGPRA Coordinator Alden Naranjo
Spirit Lake Nation Chairperson Myra Pearson; Vice Chair Douglass Yankton; THPO Dr. Erich Longie
Standing Rock Sioux Tribe Chairman Dave Archambault II; Tribal Archaeologist Kelly Morgan; THPO John Eagle
Taos Pueblo Ruben Romero; War Chief (Historic Preservation) Curtis Sandoval; Tribal Realty Officer Reva Suazo

Table 10. Persons and Agencies Consulted/Coordination (continued)

Part 2 – Section 106 Cultural Resources

Tribal Contacts (continued)
Three Affiliated Tribes of the Mandan, Hidatsa and Arikara Nation Chairman Mark Fox; THPO Elgin Crows Breast; Compliance Officer Pete Coffey
Upper Sioux Indian Community Chairman Kevin Jensvold; Vice Chairman Marisa Anywaush; THPO Samantha Odegard
Ute Indian Tribe of the Uintah & Ouray Reservation Chairman Shaun Chapoose; Cultural Rights & Protection Director Betsy Chapoose
Ute Mountain Ute Tribe Chairperson Harold Cuthair; THPO Terry Knight; Tribal Archaeologist Nikki Shurack
Wichita & Affiliated Tribes President Terri Parton; NAGPRA Representative Gary McAdams
Yankton Sioux Tribe Chairman Robert Flying Hawk; THPO Kip Spotted Eagle

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