

**Draft
Environmental
Assessment**

**Environmental Assessment
FOR PROPOSED REPLACEMENT AIRPORT**



Hot Springs Thermopolis, WY
County Airport

The Barnard Dunkelberg  Company Team

Draft Environmental Assessment

September 2009

**Environmental Assessment
FOR PROPOSED REPLACEMENT AIRPORT**



Hot Springs Thermopolis, WY County Airport

This environmental assessment becomes a Federal document when evaluated, signed and dated by the Responsible FAA Official.

Responsible FAA Official

Date

The Barnard Dunkelberg  Company Team

TULSA

Cherry Street Building
1616 East 15th Street
Tulsa, Oklahoma 74120-6027
Phone Number. 918 585 8844
FAX Number. 918 585 8857

DENVER

1743 Wazee Street, Suite 400
Denver, Colorado 80202
Phone Number. 303 825 8844
FAX Number. 303 825 8855
Email Address. ryan@bd-c.com

Purpose and Need

Introduction

Hot Springs County (Airport Sponsor), is proposing the relocation of the Hot Springs County Airport due to existing deficiencies of FAA design standards and limitations of the current airport site. This action and associated request for Federal grant assistance require review and approval by the Federal government. This Draft Environmental Assessment (Draft EA) has been prepared by Hot Springs County to identify the probable effects of the proposed airport relocation. Before a Federal agency can approve such projects, that agency is required to comply with the requirements of the National Environmental Policy Act of 1969 (NEPA). In this particular case, the Federal Aviation Administration (FAA) is the agency responsible for reviewing and approving Federal actions that pertain to airports. FAA has adopted guidance concerning compliance with NEPA in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* and the *Environmental Desk Reference for Airport Actions*. In accordance with these orders, EA's can be prepared by airport sponsors for FAA's review and use in NEPA compliance.

Proposed Action

The purpose of this Draft EA is to evaluate the potential impacts associated with actions proposed by the Airport Sponsor for approval that include:

- Relocation of Hot Springs County Airport
 - Acquisition of land (approximately 350 acres)
 - Construction of Runway 5/23 (6,370 feet by 75 feet)
 - Construction of apron and taxiways
 - Construction of airport access road and perimeter wildlife fencing

- Installation of visual and navigational aids

In 1999, the Airport Sponsor prepared an Airport Master Plan (MP) examining long-term airport facility needs. The Airport Sponsor also developed an Airport Layout Plan (ALP), which is a graphical representation of the recommendations contained in the Master Plan, showing the proposed long-term developments. In addition, the Airport Sponsor prepared a Site Selection Study and Master Plan in 2007 to identify and examine potential relocation sites. The Site Selection Study and Master Plan initially identified six potential sites and after extensive analysis narrowed the sites down to a preferred site and an alternative preferred site. This EA assesses the Airport relocation proposed in the above studies, which are being recommended by the Sponsor, as well as other reasonable alternatives, including the No Action/No Build.

Background

As illustrated in the following figures, *AIRPORT LOCATION MAP and VICINITY MAP*, Hot Springs County Airport is located in Hot Springs County Wyoming, within the west central portion of the state, approximately one-half mile north of the Town of Thermopolis. Thermopolis is situated at the junction of U.S. Highway 20 and State Highway 120 approximately 32 miles south of Worland, Wyoming and 55 miles north of Riverton, Wyoming. The Airport is designated as Site 27897.*A by the Federal Aviation Administration (FAA) and is classified as a General Aviation airport by the FAA's National Plan of Integrated Airport Systems (NPIAS). The airport elevation is at 4,592 feet above mean sea level (AMSL) and the Airport has property consisting of approximately 228 acres, located just north of the town of Thermopolis. The Airport is owned and operated by Hot Springs County.

Hot Springs County Airport is currently operated with one runway, Runway 1/19, along with one aircraft parking apron connected to the runway by a single connector taxiway and small aircraft turn-around areas at each runway end. Figure A3, *EXISTING AIRPORT LAYOUT*, provides a graphic illustration of the existing airport facilities. A historical record of airport use and development is described in the 2007 Site Selection Study and Master Plan.

Runway 1/19 is 100 feet in width and 4,800 feet in length. The facility is constructed of asphalt/porous friction courses, and has a published gross weight bearing capacity of 13,000 pounds single-wheel gear configuration. The existing condition of the runway pavement according to FAA Form 5010-1 is listed as fair; however, the County has indicated that the runway is currently in very poor condition.

In addition, the existing runway longitudinal gradient *exceeds* the 2.0 percent maximum that is allowable for runways designed to serve Aircraft Approach Categories A & B, categories are based on landing aircraft approach speeds (Category A: less than 91 knots; Category B: between 91 and less than 121 knots). The 2007 Airport Site Selection Study and Master Plan also indicates that the runway *does not meet runway safety area* (RSA) and *runway object free area* (ROFA) requirements for Aircraft Approach Categories A & B. The runway is equipped with Medium Intensity Runway Lights (MIRL) and a 2-box Visual Approach Slope Indicator (VASI) located on Runway 19.

Runway 1/19 is not served by a parallel taxiway system. A single connector taxiway is utilized to access the aircraft parking apron. A second connector taxiway provides access to the row of T-hangars located immediately north of the aircraft parking apron. Specific data regarding the existing pavement strength of the taxiway system was unavailable for analysis; however, it is assumed that the pavement strength of the connector taxiways is commensurate with the gross weight bearing capacity of Runway 1/19.

Environmental Assessment

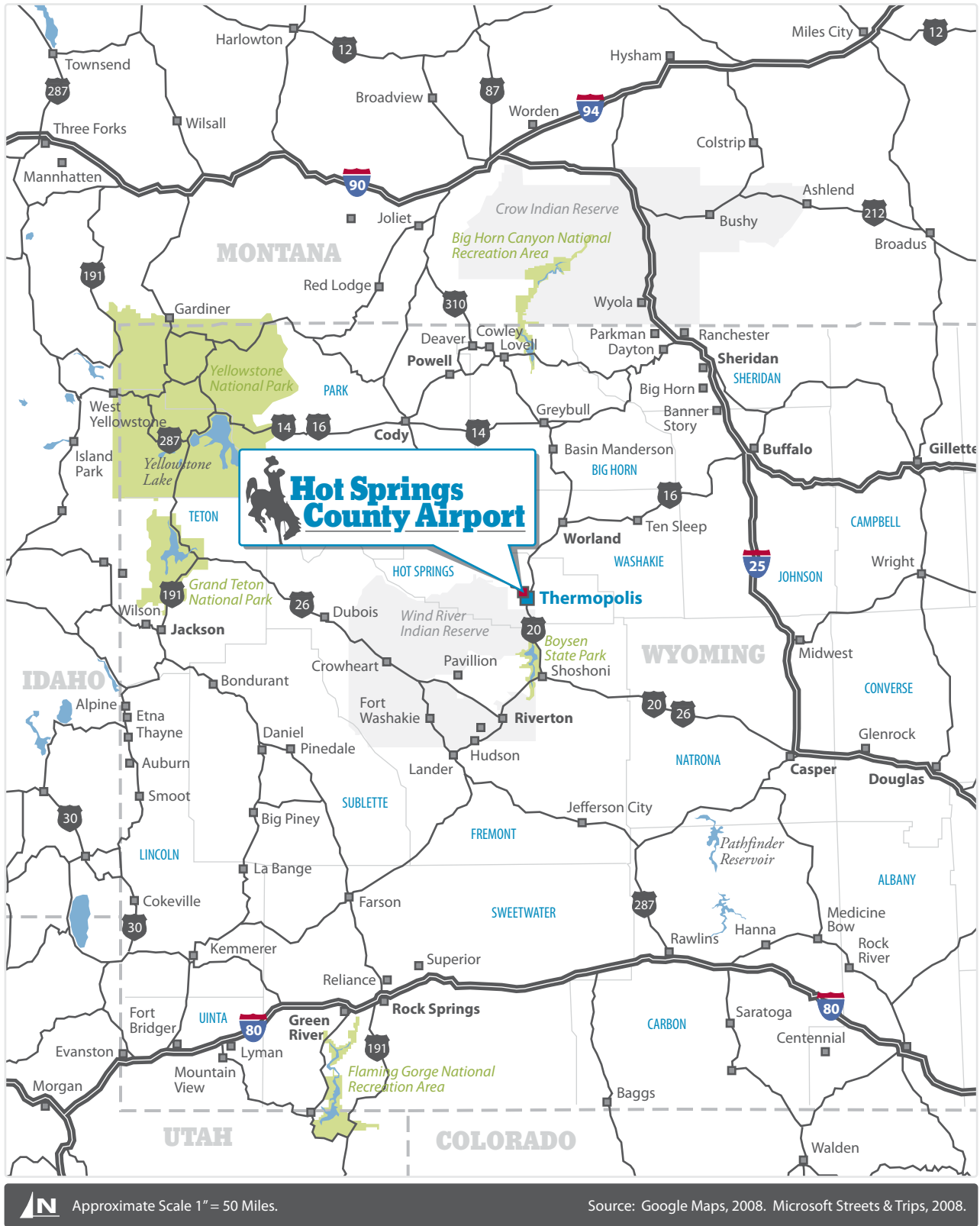


Figure A1
Airport Location Map



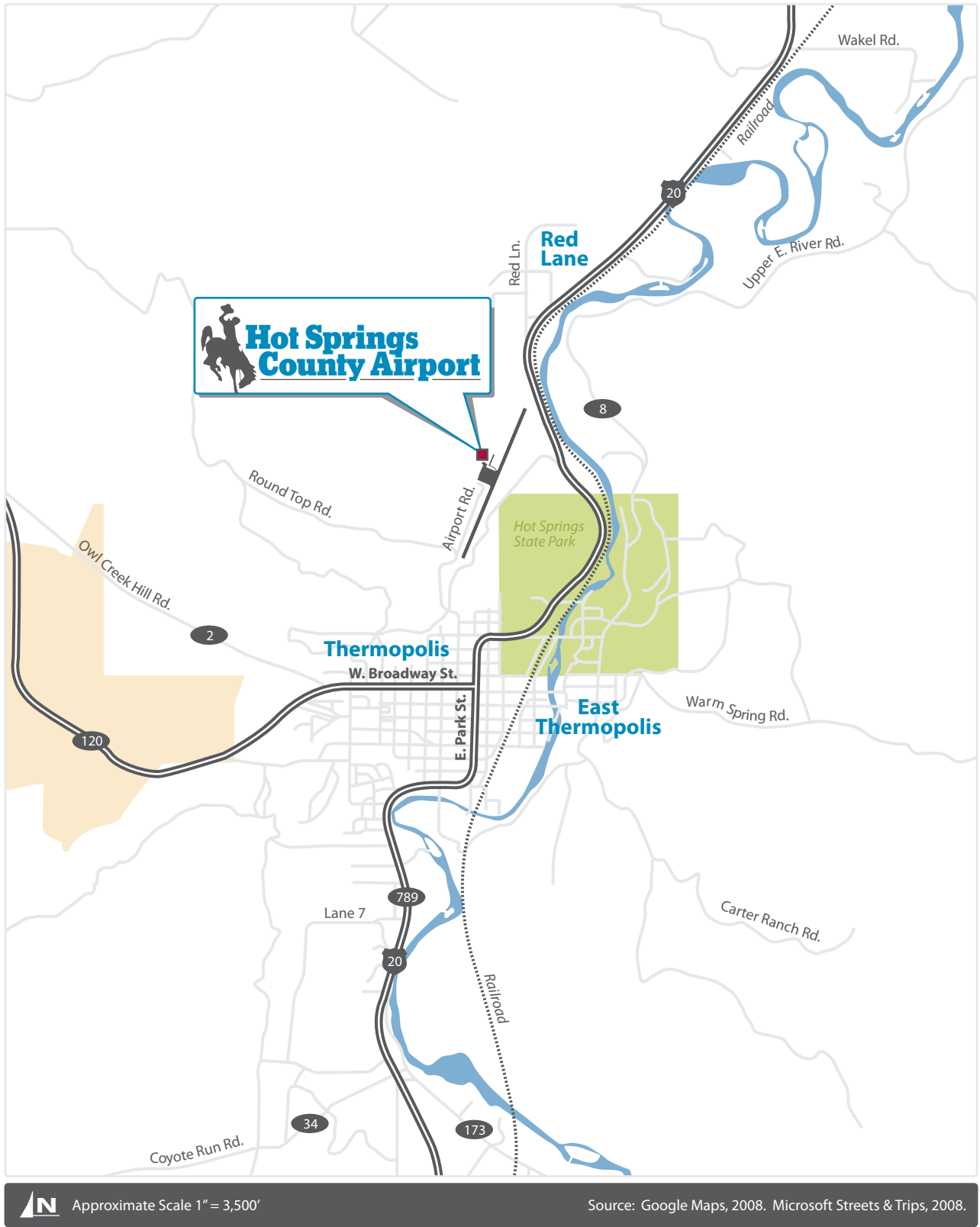
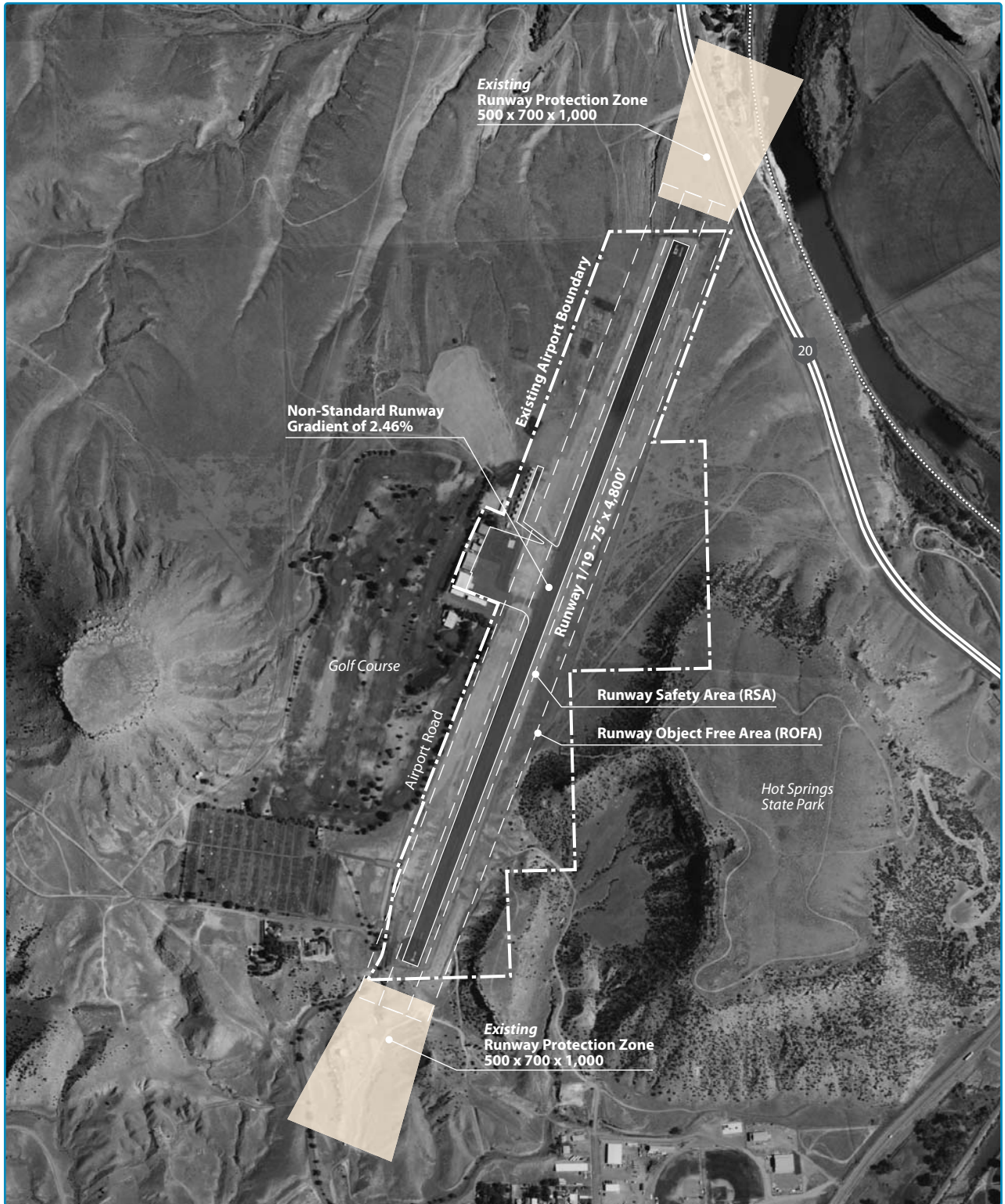


Figure A2
Airport Vicinity Map





Approximate Scale 1" = 900'

Source: Airport Layout Plan, March 2000. National Agriculture Imagery Program U.S. Dept of Agriculture.

Figure A3
Existing Airport Layout



Existing and Future Airport Activity

Hot Springs County Airport is presently classified as a General Aviation. It is currently not part of FAA's National Plan of Integrated Airport Systems (NPIAS) due to several existing deficiencies that do not meet FAA design standards. A General Aviation Airport is an airport that does not serve commercial airlines. Currently, the Airport has a B-II Airport Reference Code (ARC) but the Sponsor intends to ultimately increase this classification to a C-II, in accordance with aircraft currently using and projected to use the Airport. The 2007 Site Selection Study and Master Plan included a forecast of future airport activity. The following table, *SUMMARY OF 2007 SITE SELECTION STUDY AND MASTER PLAN FORECAST* summarizes this information. An aircraft operation is defined as either one takeoff or one landing. Itinerant operations are defined as operations to or from the Hot Springs County Airport that originate or terminate at another airport. Local operations are defined as operations conducted within the vicinity of the Hot Springs County Airport that both originate and terminate at the Airport.

Table A1
SUMMARY OF 2007 SITE SELECTION STUDY AND MASTER PLAN FORECAST
Hot Springs County Airport Environmental Assessment

Aircraft Operations	2005	2010	2015	2020	2025
Based Aircraft	10	12	14	16	18
Total Itinerant Operations	630	1,184	2,058	3,080	4,464
Total Local Operations	1,170	1,636	2,142	2,520	2,736
TOTAL OPERATIONS	1,800	2,820	4,200	5,600	7,200

Source: *Hot Springs County Site Selection Study and Master Plan.*

According to the 2007 Site Selection Study and Master plan, total aircraft operations at Hot Springs County Airport are severely constrained by both the inadequate runway length and excessively steep runway gradient. Once these constraining factors have been corrected at a new airport site, operations are forecast to increase by about 57 percent by 2010 and will increase by an average of approximately 15 percent per year through 2025.

Increases in operations are expected to occur for all aircraft types, with a substantial portion of the increase expected from business jet aircraft. A review of this data was also conducted relative to other data sources. However, the FAA approved Site Selection Study and Master Plan forecast will be used for the purposes of this Environmental Assessment.

Project Purpose and Need

The purpose of the proposed airport relocation is to meet FAA design standards for the aircraft operation types and frequency currently occurring at the Hot Springs County Airport, to enhance safety by meeting those standards, and to provide adequate runway length for the future air transportation needs of Hot Springs County.

Several design components of the runway at Hot Springs County Airport do not meet FAA design standards including the following:

- Runway Safety Area (RSA) – Current site provides very little RSA off each runway end.
- Runway Gradient – 2.46% existing gradient (2% maximum gradient)
- Runway Object Free Area – Penetrated by the Airport Access Road and Fence
- FAR Part 77 – Transitional, Horizontal, and Conical surface penetrations
- Uncontrolled Runway Protection Zones (RPZs)
- Taxiway width

Meeting runway RSA requirements is one of the top priority items for the FAA. Runway safety areas are buffer zones around the ends and sides of runways that must be:

- Cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations;
- Drained by grading or storm sewers to prevent water accumulation;
- Capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft; and
- Free of objects, except for those objects that need to be located in the runway safety area because of their function.

Based on the existing aircraft operating at Hot Springs County Airport, the airfield is currently deficient for RSA, has excessively steep runway gradient, has penetrations to both the ROFA and the FAR Part 77 Transitional, Horizontal, and Conical surfaces, uncontrolled RPZs, and has deficient taxiway width. Due to rising terrain on both sides of the runway, steep drop-offs off each end of the runway and additional terrain issues preventing runway

realignment or extension, the current site was determined by the 2007 Site Selection Study and Master Plan to be too constrained to feasibly correct these existing deficiencies and provide the runway length needed to meet current and future demand. Several of these existing deficiencies are described in Table A2. A more detailed description of all the existing deficiencies and potential future requirements, as well as additional financial considerations are explained in the Planning Memorandum included in Appendix One.

Table A2
ARC B-II AND C-II DIMENSIONAL STANDARDS FOR RUNWAY 1/19 (In Feet)
Hot Springs County Airport Environmental Assessment

Items	Existing Dimension	ARC B-II with $\geq \frac{3}{4}$ Mile Visibility Minimums ⁽¹⁾	ARC C-II with $\geq \frac{3}{4}$ Mile Visibility Minimums
Runway Safety Area Length Beyond Runway End			
Runway 1	13 ⁽²⁾	300	1,000
Runway 19	36 ⁽²⁾	300	1,000
Runway Safety Area Length Prior to Landing Threshold			
Runway 1	13 ⁽²⁾	300	600
Runway 19	36 ⁽²⁾	300	600
Runway Object Free Area Width	330 ⁽³⁾	500	800
Runway Object Free Area Length Beyond RW End			
Runway 1	13	300	1,000
Runway 19	36	300	1,000
Taxiway Width	25	35	35
	Existing	Maximum Allowed	
Runway Gradient	2.46%	2.00%	

Source: AC 150/5300-13, Federal Aviation Administration.

Runway Safety Area (RSA): An area adjacent to the runway which is capable of supporting the occasional passage of aircraft without causing structural damage under dry conditions.

Runway Object Free Area (ROFA): A two dimensional ground area centered on the runway centerline which is clear of objects, except for objects that need to be located in the ROFA for air navigation or aircraft ground maneuvering purposes.

Note: Existing dimensions delineated in **bold** text reflect potential non-standard criteria.

⁽¹⁾ Existing runway approach visibility minimums.

⁽²⁾ Widening and lengthening of the existing RSA width would require extensive fill, grading, and retaining wall construction at each runway end.

⁽³⁾ Widening of the existing ROFA would require the relocation of the airport access road and a reconfiguration of the adjacent golf course.

Requested Actions

To meet the need of complying with FAA design standard recommendations for the aircraft operation types and frequency, Hot Springs County proposes to relocate the Airport to a new site that would provide the space with which to meet the FAA ARC B-II design standards for a runway length of 6,370 feet. This proposed action is indicated on the 2007 FAA approved Airport Layout Plan (ALP) for the Hot Springs County Airport. The FAA is the Federal agency responsible for the environmental approval of the proposed action. Federal action is being requested by Hot Springs County for environmental approval and funding for the relocation of the Airport.

The relocation would include the acquisition of land for the new airport site (approximately 350 acres) and would also require the construction of a runway, taxiway, apron and other associated airport facilities.

This Environmental Assessment is being prepared according to guidance provided in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures*, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* and the *Environmental Desk Reference for Airport Actions*. This EA is necessary in order to assess and disclose the environmental impacts of a proposed Federal Action (i.e., airport relocation).

There are a number of Federal actions necessary to implement this project, including the relocation of the airport and construction of the runway, taxiway and apron. In addition, recognizing that a project of this nature would be subject to substantial cost, it could only be accomplished over a period of years, anticipating that the FAA would make Federal grant-in-aid funds available to the Sponsor for eligible airport development projects. However, this project would enable the Hot Springs County Airport to become part of the National Plan of Integrated Airports (NPIAS), which would make the Airport eligible for Federal funding. If the relocation does not occur, the costs to keep the Airport operational would be borne by Hot Springs County and Wyoming Department of Transportation and would not be eligible for Federal assistance.

The following actions are proposed and are the subject of this Environmental Assessment:

- Relocation of Hot Springs County Airport
 - Acquisition of land (approximately 350 acres)
 - Construction of Runway 5/23 (6,370 feet by 75 feet)
 - Construction of apron and taxiways
 - Construction of airport access road and perimeter wildlife fencing
 - Installation of visual and navigational aids

The 2007 Site Selection Study and Master Plan revealed that a runway length of 7,700 feet may be required to accommodate aircraft with larger wingspans and higher approach speeds as utilization of the relocated Hot Springs County Airport increases. However, it is unknown exactly when this ultimate runway length may be required and as such, the first phase of the proposed airport relocation project is to construct a 6,370-foot runway. This EA will only evaluate the potential impacts of constructing a 6,370-foot runway and it is not anticipated that additional runway length will be required within the near term planning period. If and when a runway extension is proposed, additional environmental documentation will be necessary prior to construction of such a facility.

Federal Actions by the FAA

Among the types of actions likely to be undertaken by the FAA in the normal course of implementing the proposed project include:

- Decisions regarding project eligibility for Federal grant-in aid funds (49 USC 47101, et seq.) for land acquisition, site preparation, runway and taxiway construction, and environmental mitigation.
- Federal environmental approval for the construction of the relocated Hot Springs County Airport.
- Approval of further processing of an application for Federal assistance by Hot Springs County to implement the proposed action.

Other Federal Actions

The following permits and clearances could potentially be required from other Federal agencies:

- U.S. Army Corps of Engineers (COE) Review and Approval of the Wetlands Delineation Report.
- Section 404 Nationwide or Individual Permit for Placement of Fill in Wetlands - U.S. Army Corps of Engineers.
- U.S. Fish and Wildlife Service Determination of Effect Concurrence.
- Others to be identified in the analysis.

Airport Operator/Hot Springs County Actions

Among the actions expected by Hot Springs County Board of County Commissioners to occur in the normal course of implementing the proposed action include:

- Application for Federal financial assistance.
- Land use approval.
- Construction of the Preferred Alternative.

State and Local Actions

The following permits and clearances could potentially be required from Federal, state, and local agencies:

- Clearance from the Wyoming State Historic Preservation Office (SHPO).
- Clearance from the Eastern Shoshone Tribal Historic Preservation Office (THPO).
- Clearance from the Northern Arapaho Tribal Historic Preservation Office (THPO).
- Section 401 Water Quality Certification-State of Wyoming.
- Wyoming Department of Transportation Commercial Access Permit for the airport access road connection to a state highway.
- Others to be identified in the analysis.