City of Steamboat Springs

Bob Adams Field Airport Master Plan

Final Report

July 15, 2008

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airport engineering and planning services

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Introduction

Steamboat Springs Airport Master Plan

INTRODUCTION

Steamboat Springs Airport – Bob Adams Field is a general aviation airport located in northwestern Colorado. The airport is located approximately three miles west of downtown Steamboat Springs. The airport encompasses approximately 254 acres of land and is owned and operated by the City of Steamboat Springs.

PURPOSE

An airport master plan document describes and depicts the overall concept for the long-term development of an airport. It presents the concepts graphically in the airport layout plan (ALP) drawing set and reports the data and logic on which the concept is based in the airport master plan report. The goal of the master plan report is to provide guidelines for future airport development that will satisfy aviation demand in a financially feasible manner, while at the same time balancing the aviation, environmental and socioeconomic issues in the community with respect to the airport. The previous airport master plan was prepared when the airport was receiving commercial service aircraft. Therefore, all of the airport layout plans and design standards were set up for the commercial aircraft that were using the airport at that time. The airport no longer receives commercial service aircraft, thus the airport design standards and layout need to be changed to reflect the current and future projected aircraft types.

OBJECTIVES

The primary objectives of the airport master plan are to develop an attainable phased development plan concept that will satisfy the airport needs in a safe, efficient, economical and environmentally sound manner. The plan serves as a guide to decision makers, airport users and the general public for implementing airport development actions in line with both airport and community concerns and objectives.

Specific objectives of the Steamboat Springs Airport Master Plan include, but are not limited to:

- Document existing airport facilities and activity levels.
- Clearly identify the present and future roles of the Steamboat Springs Airport.
- Quantify the economic contribution and airport significance to the community.
- Update aircraft activity and fleet mix forecasts for the airport.
- Identify the size and layout of airside and landside facilities to accommodate projected aircraft demand and FAA airport design standards.
- To develop realistic, phased development and maintenance plans for the airport.
- Provide the basis for future federal, state, local government and third-party investment in the Airport.
- Prepare an Airport Layout Plan, which meets current FAA standards.
- Screen proposed development projects for potential environmental impacts.

- Prepare compatible land-use and height restriction plans consistent for the airport vicinity including recommended zoning protection within the airport influence area.

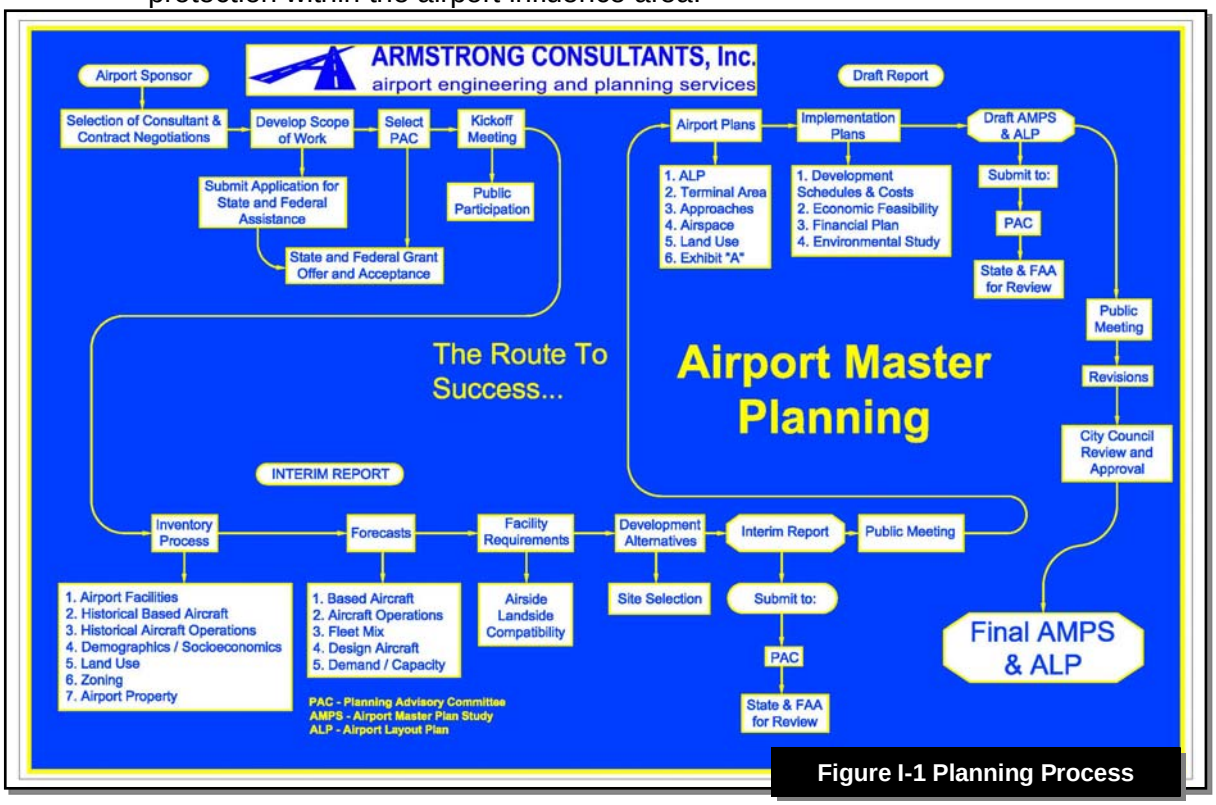

Figure I-1 Planning Process

MASTER PLAN PROCESS

Airport planning takes place at a national, state, regional and local level. These plans are formulated on the basis of overall transportation demands and are coordinated with other transportation planning and comprehensive land use planning. The National Plan of Integrated Airport Systems (NPIAS) is a ten-year plan continually updated and published biannually by the Federal Aviation Administration (FAA). This publication lists developments at public use airports that are considered to be of national interest and thus eligible for financial assistance for airport planning and development under the Airport and Airway Improvement Act of 1982. Statewide Integrated Airport Systems Planning identifies the general location and characteristics of new airports and the general expansion needs of existing airports to meet statewide air transportation goals. This planning is performed by state transportation or aviation planning agencies. Regional Integrated Airport Systems Planning identifies airport needs for a large regional or metropolitan area. Needs are stated in general and incorporated into statewide system plans. Airport Master Plans are prepared by the operators of individual airports and are usually completed with the assistance of consultants.

The airport master planning process involves collecting data, forecasting demand, determining facility requirements and developing plans and schedules. The flow chart in Figure I-1 depicts the steps in the master planning process. This process must take into consideration the needs and concerns of the airport sponsor, airport tenants and users, as well as the general public.

The Steamboat Springs Airport Planning Advisory Committee (PAC) consisted of the Steering Committee, which included members representing varied interests in the airport, City and government agency staff. Their involvement and input throughout the master planning process helped to keep interested parties informed and fostered consensus for future development actions. The PAC also included the Transportation Director for the City of Steamboat Springs, the Steamboat Springs Airport Manager, the Federal Aviation Administration and Colorado Department of Transportation Aeronautics Division.

Steering Group Members:

- Jack Dysart
- Paul Ferguson
- Bill Jameson
- Bob Maddox
- Eric Morris
- David Sladek
- Michael Turner

Other Members of the PAC:

- Mel Baker, Steamboat Springs Airport Manager
- Scott Brownlee, CDOT Aeronautics Division Senior Planner
- Linda Bruce, FAA Community Planner
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Chapter One
Inventory

Steamboat Springs Airport Master Plan

AIRPORT SETTING

Steamboat Springs Airport (SBS) is a general aviation airport located in northwestern Colorado. The airport is located approximately three miles west of downtown Steamboat Springs. The airport encompasses approximately 253.6 acres of land and is owned and operated by the City of Steamboat Springs. The City has a long, rich history of snow skiing and is often known as Ski Town USA™.

The airport is located in northwestern Colorado at a field elevation of 6,878 feet mean sea level (MSL). Steamboat Springs Airport is surrounded by mountainous terrain. The airport is located within the city limits of Steamboat Springs. An airport's location is defined by its airport reference point (ARP), which is the geometric center of the runway system based upon the length of the existing runways. ARPs are also calculated based on future and ultimate runway locations and lengths. The existing ARP is located at N40° 30' 58.53" latitude and W106° 51' 58.68" longitude. The location of Steamboat Springs is shown in Figure 1-1.

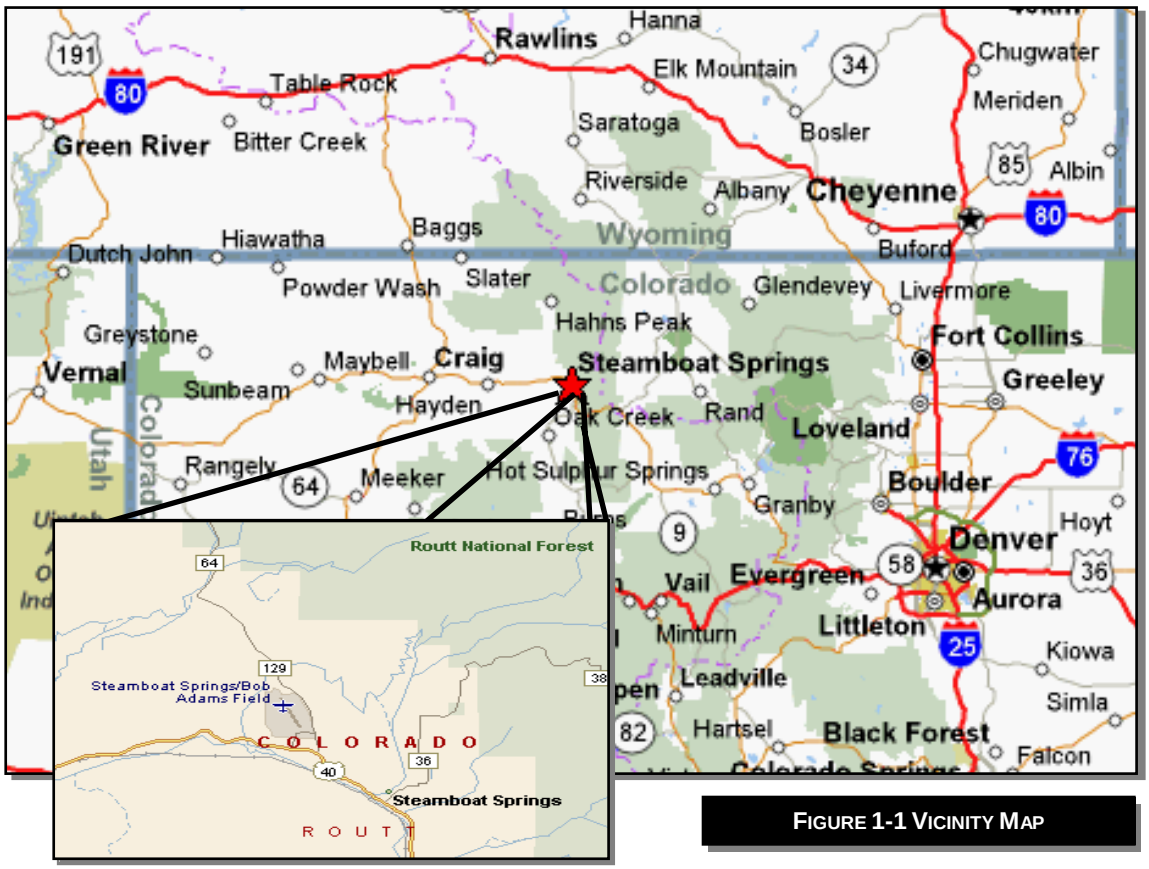


FIGURE 1-1 VICINITY MAP

AIRPORT REFERENCE CODE

The airport reference code (ARC) is a system established by the FAA to relate airport design criteria to the operational and physical characteristics of the aircraft currently operating and/or forecast to operate at the airport. The ARC has two components relating to the airport design aircraft. The first component, depicted by a letter, is the aircraft approach category and correlates to the aircraft approach speed (an operational characteristic). The second component, depicted by a Roman numeral, is the aircraft design group and relates to aircraft wingspan and tail height (physical characteristics). Generally, aircraft approach speed applies to runways and runway facilities and aircraft wingspan or tail height applies to taxiway and taxilane separation criteria. Examples of each of these ARCs can be found in Figure 1-2. Table 1-1 lists the design characteristics in each airport reference code.

AI
Primarily Single-Engine Propeller Aircraft, some light twins

Example Type: Cessna 172 Skyhawk

BI
Primarily Light Twin-Engine Propeller Aircraft

Example Type: Piper Navajo

BII
(<12,500 lbs)
Primarily Light Turboprops

Example Type: Beechcraft King Air

BII
(>12,500 lbs)
Mid-sized corporate jets and commuter airliners

Example Type: Cessna Citation II

A/BIII
Primarily large commuter-type aircraft

Example Type: De Havilland Dash 8

CI, DI
Primarily small and fast corporate jets

Example Type: Lear Jet 36

C/DII
Large corporate jets and regional-type commuter jets

Example Type: Gulfstream IV

C/DIII
Commercial airliners (approx. 100-200 seats)

Example Type: Boeing 737

C/DIV
Large commercial airliners (approx. 200-350 seats)

Example Type: Boeing 767

DV
Jumbo commercial airliners (approx. 350+ seats)

Example Type: Boeing 747

FIGURE 1-2 AIRPORT REFERENCE CODES

TABLE 1-1 AIRPORT REFERENCE CODE

Approach Category	Approach Speed	
Category A	less than 91 knots	
Category B	91 to 120 knots	
Category C	121 to 140 knots	
Category D	141 to 165 knots	
Category E	166 knots or more	
Design Group	**Wingspan**	**Tail Height (ft)**
Group I	less than 49 feet	Less than 20
Group II	49 to 78	20 to 29
Group III	79 to 117 feet	30 to 44
Group IV	118 to 170 feet	45 to 59
Group V	171 to 213 feet	60 to 65
Group VI	214 to 261	66 to 79

To ensure that facilities at Steamboat Springs Airport are designed to accommodate expected air traffic and meet FAA design criteria, the specific ARC for the airport should be determined. In order to designate a specific ARC for an airport, aircraft in that ARC must perform a minimum of five hundred annual itinerant operations. Based upon known users, the airport is primarily utilized by B-II aircraft. Fixed wing aircraft currently using the airport include single and multi-engine private and recreational aircraft in design groups A/B-I and corporate and business aircraft in design group A/B-II. The primary role of the airport includes business and recreational transit and flight training aviation.

AIRPORT HISTORY

In 1952, the airport began with the construction of a dirt strip for local pilots. Three years later, the property was sold to Routt County and later named Bob Adams, who managed the airport program in the 1950s and 1960s. In 1963, there were five based aircraft and 2,000 annual operations. In 1989, the airport was acquired by the City of Steamboat Springs.

Rocky Mountain Airways began serving the area in 1964, using DeHavilland Twin Otter aircraft and later using DevHavilland Dash 7 aircraft in 1979. Commercial air service continued to increase and in 1993, the City constructed a terminal building. Commercial services was discontinued in 1995. Subsequently, the City increased efforts to develop general aviation. In 2004, the City completed the development of new aircraft hangars which increased the number of hangars from 27 to 43 which also created an additional revenue source. In addition the airport began to receive Federal funding in 1983 for capital improvements (see Table 1-2 FAA Grant History).

TABLE 1-2 FAA GRANT HISTORY

Project No. & Date	Description of Work	Federal Amount
AIP-001 – 1985	Rehabilitate Runway	$476,668
AIP-002 – 1986	Improve Snow Removal Equipment Building	$68,826
AIP-003 – 1989	Acquire Land for Development	$34,200
	Improve Runway Safety Area	$1,115,800
AIP-004 – 1991	Extend Runway	$1,094,673
	Improve Safety Area	$4,318
AIP-005 – 1992	Improve Aircraft Rescue & Fire Fighting	$427,988
	Building	$4,318
	Install Guidance Signs	$48,242
	Groove Runway	$85,462
	Improve Airport Drainage	
AIP-006 – 1993	Improve Access Road	$656,575
	Construct Apron	$260,000
	Construct Terminal Building	$400,000
AIP-007 – 1994	Improve Access Road	$38,672
	Construct Apron	$213,065
AIP-008 – 1994	Install Apron Lighting	$115,280
	Acquire Land for Development	$265,000
	Install Airfield Guidance Signs	$45,900
	Extend Runway	$56,850
AIP-009 – 1994	Improve Access Road	$23,400
	Construct Apron	$100,260
AIP-010 – 1996	Rehabilitate Taxiway	$58,132
	Install Runway Vertical/Visual Guidance	$36,250
	Construct Taxiway	$292,046
AIP-011 – 2000	Rehabilitate Runway	$768,249
	Groove Runway	$84,000
AIP-012 – 2003	Rehabilitate Apron	$462,716
AIP-013 – 2004	Acquire Snow Removal Equipment	$115,975
AIP-014 – 2005	Rehabilitate Apron	$790,600
AIP-015 – 2006	Conduct Airport Master Plan Study	$150,000
Report Total		**$9,537,685**

Source: FAA, 2006

TABLE 1-3 STATE FUNDING

Project Description	State
1994 Local Match	$8,384
1995 VOR Installation	$100,000
1996 Local Match	$84,100
1998 Rehab Fuel Farm	$25,121
1999 Security Gate	$24,000
2000 Snow blower	$62,400
2001 Pavement Maintenance	$20,000
2003 Seal coat runway/remark	$41,600
2004 Ramp repairs/ramp access	$32,800
2005 Local match/ramp-safety areas	$73,158
2006 Local match for MPU	$3,947
Total State Funding	**$475,510**

Source: CDOT Aeronautics, 2006

DEVELOPMENT HISTORY

The Steamboat Springs Airport is included in the National Plan of Integrated Airport Systems (NPIAS). The NPIAS is a nationwide system of public-use facilities that serve a variety of traffic. An airport must be included in the NPIAS in order to receive funding under the Airport Improvement Program (AIP). The NPIAS is prepared by the Federal Aviation Administration (FAA) every two years and identifies airports considered necessary to provide a safe, efficient and integrated system of airports that meet civil aviation, national defense and United States Postal Service (USPS) needs. It also considers the relationship between an airport and the rest of the transportation system in a particular area, the forecast of technological developments in aeronautics and the development forecast in other modes of transportation. Steamboat Springs Airport has received several FAA grants that helped pay 90-95 percent of the cost associated with airport upkeep and capital improvement projects. Due to the investment the FAA wants to ensure that the improvements will be used for public aviation use. FAA Order 5196A, Grant Assurances, states that the airport is required to:

- Operate the airport in a safe manner and allow FAA inspections
- Abide by federal regulations
- Retain and keep updated airport master plans
- Remain a public use airport
- Repay FAA for unused life of any improvements if airport use is changed

As stated in the last bullet, the assurance promises that the airport will remain open to the public for at least the useful life of the improvement. In most cases the useful life is considered to be 20 years from the date of acceptance of the grant.

Grant assurance agreements associated with land acquisition carry no time limit and the value of the grant if it has to be repaid is calculated on the current fair market value of the land. The airport acquired land in 1989 and 1994 with AIP funds.

SERVICE LEVEL

The airport service level reflects the type of public use the airport provides to the community. The service level also reflects the funding categories established by Congress to assist in airport development. The following list identifies the different types of airport service levels:

- **Commercial Service** airports are public airports that enplane 2,500 or more annual passengers and receive aircraft offering scheduled passenger service. Commercial service airports are either:

  Primary- airport that enplanes more than 10,000 passengers annually; or

  Nonprimary- airport that enplanes between 2,500 and 10,000 passengers annually.

- **General Aviation Airports** while not specifically defined are considered to be airports not classified as commercial service.

These airports are also considered nonprimary airports. General aviation airports include:

Reliever is an airport designated by the FAA as having the function of relieving congestion at a commercial service airport and providing more general aviation access to the overall community. Privately owned airports may be identified as reliever airports.

Other General Aviation are airports that are largely intended to serve the needs of general aviation (users who conduct non-military operations not involving the carriage of passengers or cargo for hire or compensation. This category also includes privately owned public *use* airports that enplane 2,500 passengers annually and receive scheduled passenger service.

Steamboat Springs Airport is listed in the NPIAS as a general aviation airport. The airport meets all of the NPIAS criteria for general aviation airports and is included as an "Intermediate Airport" in the Colorado State Airport Systems Plan. According to the Colorado State System Plan only general aviation airports were assigned to an intermediate role. Airports in this role should ideally meet ARC B-I or greater standards. These airports should be equipped to serve primarily single engine and multi-engine general aviation aircraft. Some airports in this category may accommodate limited business jet activity.

AIRPORT ROLE

The Steamboat Springs Airport provides for a variety of users that need access to the Steamboat Springs area. The location of the Steamboat Springs Airport to the Steamboat Springs central business district and ski area allows easy access for users.

The Steamboat Springs Airport is currently an Airport Reference Code (ARC) A-III. However the majority of the aircraft utilizing the airport are predominately single engine piston, multi-engine piston and turbo prop aircraft along with some use by light turbo jet aircraft. Users include:

Air Medivac Services: Air medivac provides essential emergency medical transportation in life threatening situations and patient transfers from Yampa Valley Medical Center to higher level care facilities. Northwest Colorado Visiting Nurse Association has indicated the importance of the Steamboat Springs Airport by providing direct access to the community. During emergency situations time is of critical essence and by eliminating the increased travel time lives are saved.

Business and Recreational Transportation: These users desire the utility and flexibility offered by general aviation aircraft. The types of aircraft utilized for personal and business transportation include a mix of single-engine, multi-engine and turbojet aircraft. This category also includes tourism, golf, fishing, biking and skiing. The high number of second homeowners who utilize the airport on a regular basis also fall into this category. Steamboat Springs was recently rated as the number one most popular place to purchase a second home according to Sunset Magazine (August, 2006).

Wildland Fire Management: The airport has been used in wildland fire suppression allowing large rotary aircraft to be used as tankers and patrol aircraft. The Medicine

Bow-Routt National Forest fire control officer was contacted regarding the usage of the Steamboat Springs Airport. The fire control officer stated that the airport usage varies anywhere from twenty to several hundred operations per year depending on the fire season.

Search and Rescue and Civil Air Patrol: The airport serves as the base for local search and rescue operations due to the close proximity for members who work and live in Steamboat Springs. The aircraft used for search and rescue operations are primarily rotorcraft with occasional usage of single-engine piston aircraft.

Flight Training: Flight schools from airports across the region have students perform cross country flights to Steamboat Springs Airport. Flight training includes instructional flying to obtain a pilots license or proficiency checks including biennial flight reviews. The majority of aircraft used for flight instruction are single and multi-engine piston aircraft.

FIGURE 1-3 KING AIR AT STEAMBOAT SPRINGS AIRPORT

EXISTING ACTIVITY LEVELS

There are various federal, state and local sources available for determining existing activity levels at an airport. These can include, but are not limited to, Federal Aviation Administration (FAA) 5010-1 Form, FAA Terminal Area Forecast (TAF), on-site inventory and airport sponsor's records.

The FAA *Airport Master Record*, Form 5010-1, is the official record kept by the FAA to document airport physical conditions and other pertinent information. The information is usually collected from the airport sponsor and includes an annual estimate of aircraft activity as well as the number of based aircraft. The accuracy of the information

contained in the 5010-1 Form varies directly with the airport manager's record keeping system. The current FAA 5010-1 Form for Steamboat Springs Airport indicates eighty-two based aircraft and 10,698 annual operations.

The FAA TAF is a historical record and forecast for based aircraft and annual operations. The TAF is maintained by the FAA and utilized by them for planning and budgeting purposes. The TAF 2005 data reports sixty-six based aircraft at the airport and 22,191 annual operations. The TAF data may not accurately reflect the based aircraft and operations numbers, depending on the last time they were updated by the FAA. Based on the TAF, 31 percent of operations are local operations, while 69 percent of operations are itinerant.

According to airport management records there were 92 based aircraft and 10,764 annual operations in 2005. Table 1-4 shows the based aircraft fleet mix for based aircraft. Airport management observed and counted operations that took place at the airport during regular business hours. Annual operations are currently estimated by doubling the total number of observed observations. Previously airport management tripled the number of observed operations. The airport manager indicated that the operation counts do not take into account touch and go operations which he estimates to be approximately 4,000 annually. In addition to the 92 based aircraft there are 35 second home owners and 22 other frequent itinerant users on record that use the Steamboat Springs Airport.

TABLE 1-4 BASED AIRCRAFT 2005

	SEP	SET	MEP	MET	TJ	Rotor	Total
Based Aircraft	62	7	13	5	0	5	92

Source: Airport Management, 2006

FAA records indicate that there are forty-three aircraft registered in Steamboat Springs. Aircraft are registered by the owner's primary residence and not by airport location; therefore, it is common for aircraft to be registered in one municipality and based at an airport located in another municipality. The registered aircraft records obtained from the FAA for Steamboat Springs Airport are not indicative of the actual aircraft based at Steamboat Springs Airport but may assist in evaluating the potential for based aircraft.

DESIGN STANDARDS

AIRPORT REFERENCE CODE

The FAA has established recommended design standards for ensuring safety and efficiency at the nation's airports. FAA AC 150/5300-13, *Airport Design*, establishes these guidelines for runway and taxiway designs, surface gradients, site requirements for navigational aids and air traffic control facilities, wind analysis, threshold siting requirements, airport reference points, airplane parking, aircraft tie downs and various other factors affecting airport design.

A design standards inventory was conducted on July 27, 2006. The airport was found to be compliant with all standards for an ARC of A-III with the exception of the Runway 32 Runway Protection Zone located over the top of commercial areas. A list of the existing FAA design standards can be found in Table 1-5.

As previously discussed, the ARC system is used to relate airport design criteria to the operational and physical characteristics of the critical aircraft intended to operate at the airport. FAA AC 150/5300-13, *Airport Design*, establishes design standards for airports based on its airport reference code.

TABLE 1-5 EXISTING DESIGN STANDARDS

Description	A-III
RW centerline to parallel TW centerline	300’
RW centerline to aircraft parking apron	400’
RW width	100’
RW Safety Area width	300’
RW Safety Area length beyond RW end	600’[1]
RW Object Free Area width	800’
RW Object Free Area length beyond RW end	600’
RW Obstacle Free Zone width	400’
RW Obstacle Free Zone length beyond RW end	200’
RW Protection Zone	500’ x 700’ x 1000’
TW width	50’
TW Safety Area width	118’
TW Object Free Area width	186’
Taxilane Object Free Area width	162’
RW centerline to aircraft hold lines	200’

[1]Runway 32 has a displaced threshold and Runway 14 utilizes declared distances to provide a full RSA and ROFA beyond the stop end of the runway.

SAFETY AREAS

Runway and taxiway safety areas (RSAs and TSAs) are a defined surface surrounding the runway or taxiway prepared specifically to reduce the risk of damage to aircraft in the event of an under-shoot, over-shoot or excursion from the runway or taxiway.

The safety areas must be:

- Cleared and graded and have no potentially hazardous surface variations.
- Drained so as to prevent water accumulation.
- Capable, under dry conditions of supporting snow removal equipment, ARFF equipment and the occasional passage of aircraft without causing structural damage to the aircraft.
- Free of objects, except for objects that need to be located in the runway or taxiway safety area because of their function.

OBSTACLE FREE ZONE (OFZ) AND OBJECT FREE AREA (OFA)

The OFZ is a three dimensional volume of airspace which supports the transition of ground to airborne aircraft operations. The clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function. The runway OFZ is similar to the FAR Part 77 Primary Surface insofar that it represents the volume of space longitudinally centered on the runway. It extends 200 feet beyond the end of each runway.

The runway OFA is a two-dimensional ground area surrounding the runway. The runway OFA standard precludes parked airplanes, agricultural operations and objects, except objects that need to be located in an OFA for navigation or aircraft ground maneuvering purposes.

DISPLACED THRESHOLD

A displaced threshold is a runway threshold located at a point other than the physical end of the runway. The portion of the runway displaced maybe used for takeoff but not for landing. Landing aircraft may use the displaced area on the opposite end for roll out.

RUNWAY PROTECTION ZONES (RPZ)

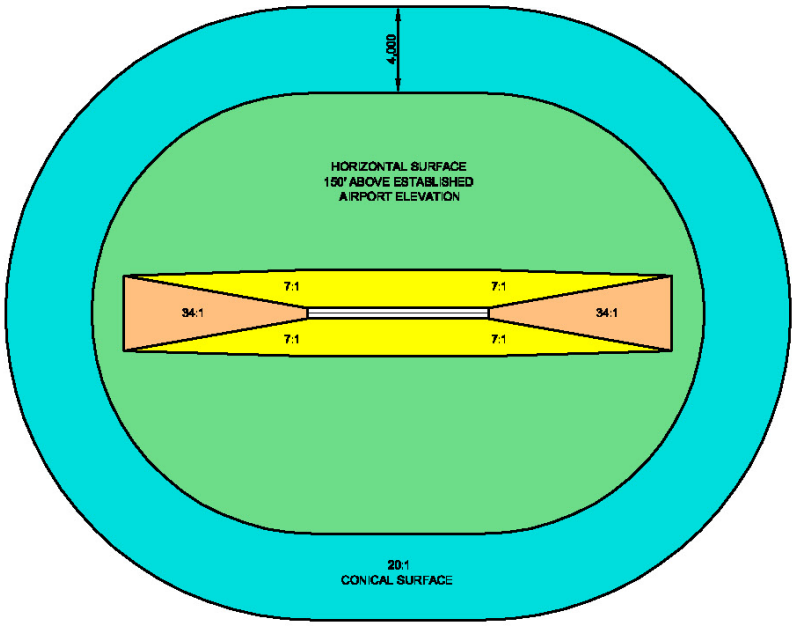
The RPZ is trapezoidal in shape and centered about the extended runway centerline. It begins 200 feet beyond the end of the area usable for takeoff or landing. The RPZ dimensions are functions of the design aircraft, type of operation and visibility minimums.

While it is desirable to clear all objects from the RPZ, uses such as agricultural operations and golf courses are normally acceptable (provided they do not attract birds). Land uses that are prohibited within the RPZ include residences and places of public assembly, such as churches, schools, hospitals, office buildings and shopping centers.

FEDERAL AVIATION REGULATION (FAR) PART 77 AIRSPACE SURFACES

FAR Part 77 establishes several imaginary surfaces that are used as a guide to provide a safe, unobstructed operating environment for aviation. These surfaces, which are typical for civilian airports, are shown in Figure 1-4. The primary, approach, transitional, horizontal and conical surfaces identified in FAR Part 77 are applied to each runway at both existing and new airports on the basis of the type of approach procedure available or planned for that runway and the specific FAR Part 77 runway category criteria. For the purpose of this section, a visual/utility runway is a runway that is constructed for and intended for use by propeller driven aircraft of 12,500 pounds maximum gross weight and less. A visual runway is a runway intended for the operation of aircraft weighing more than 12,500 pounds and using only visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA approved airport layout plan, a military service approved military airport layout plan or by any planning document submitted to the FAA by competent authority. A non-precision instrument runway is a runway with an approved or planned straight-in instrument approach procedure that has no existing or planned precision instrument approach procedure.

Steamboat Springs Airport has only circling instrument approaches, which are considered visual under FAR Part 77 criteria. Therefore, the existing FAR Part 77 surfaces are visual, larger than utility i.e. (greater than 12,500 pounds). The FAR Part 77 Airspace Surfaces for these classifications are described in the following paragraphs.



SURFACE LEGEND

- PRIMARY
- APPROACH
- HORIZONTAL
- CONICAL
- TRANSITIONAL

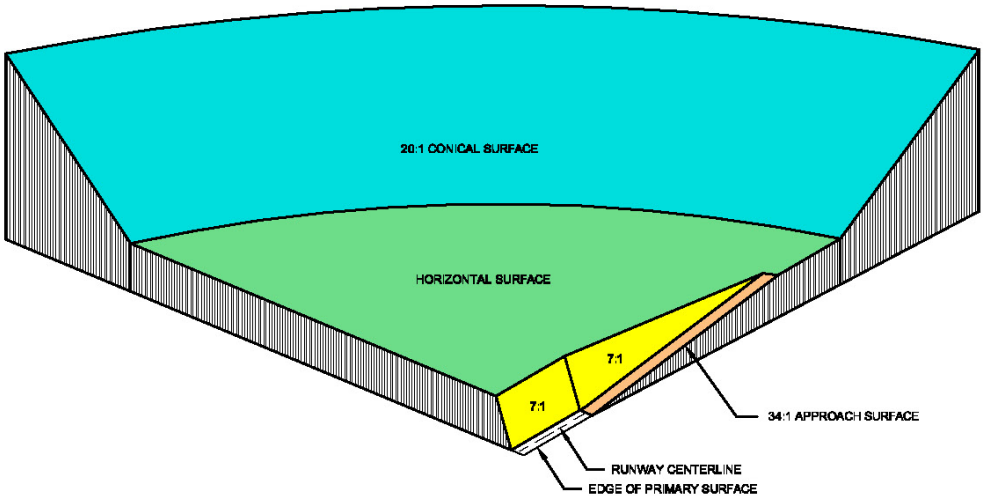


FIGURE 1-4 FAR PART 77 AIRSPACE

PRIMARY SURFACE

The primary surface is an imaginary surface of specific width longitudinally centered on a runway. The primary surfaces extend 200 feet beyond each end of the paved surface of runways, but do not extend past the end of non-paved runways. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width is 1,000 feet for precision runways, 250 feet for visual-utility runways and 500 feet for visual larger than utility runways.

APPROACH SURFACE

The approach surface is a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of the runway based upon the type of approach available or planned for that runway, with gradients of 20:1, 34:1 or 50:1. The inner edge of the surface is the same width as the primary surface. It expands uniformly to a width corresponding to the FAR Part 77 runway classification criteria. At Steamboat Springs Airport, these dimensions are 500 feet by 1,500 feet by 5,000 feet, with a 20:1 approach surface gradient.

TRANSITIONAL SURFACE

The transitional surfaces extend outward and upward at right angles to the runway centerlines from the sides of the primary and approach surfaces at a slope of 7:1 and end at the horizontal surface.

HORIZONTAL SURFACE

The horizontal surface is considered necessary for the safe and efficient operation of aircraft in the vicinity of an airport. As specified in FAR Part 77, the horizontal surface is a horizontal plane 150 feet above the established airport elevation. The airport elevation is defined as the highest point of an airport's useable runways, measured in feet above mean sea level. The perimeter is constructed by arcs of specified radius from the center of each end of the primary surface of each runway. The radius of each arc is 5,000 feet for runways designated as utility or visual and 10,000 feet for all other runways.

CONICAL SURFACE

The conical surface extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

SUMMARY OF DIMENSIONAL CRITERIA

Table 1-6 summarizes the current FAR Part 77 surfaces described above for the Steamboat Springs Airport.

TABLE 1-6 FAR PART 77 SURFACES	
Primary Surface width	500'
Primary Surface beyond RW end	200'
Approach Surface dimensions	500' x 1,500' x 5,000'
Approach Surface slope	20:1
Transitional Surface slope	7:1

EXISTING AIRSIDE FACILITIES

The airside facilities of an airport are described as the runway configuration, the associated taxiway system, the ramp and aircraft parking area and any visual or

electronic approach navigational aids. The existing airport facilities are summarized in Table 1-7 and are further described in this Chapter. Figures 1-5 and 1-6 show the existing airside and landside facilities.

TABLE 1-7 EXISTING AIRPORT FACILITIES

Airport Data	Description
Identifier	SBS
FAA Site Number	02738.*A
FAA NPIAS Number	08-0069
Airport Reference Code	A-III
Owner	City of Steamboat Springs
Airport Elevation	6,878.1' MSL
Airport Facility	Description
Runways	RW 14/32: 4,452'x100' asphalt
Taxiways	2 Connectors to apron
Aprons	Approx. 24,000 SY
Tie Downs	17
Runway Markings	RW 32 Nonprecision RW 14 Visual
Pavement Strength	50,000 SWG, 60,000 DWG
Pavement Condition	Good
Hangar Facilities	34 box hangars, 9 T-hangars Terminal Building SRE Building
Fuel Storage	100LL (10,000 gal), Jet A (12,000 gal)
Lighting	HIRL
Visual Aids	RW 32: REILs, PAPIs RW 14: None Beacon and Segmented Circle
Instrument Approach	VOR/DME Circling, GPS Circling (Day only)
Approach Minimums	7,780', 1 ¼- mile
Weather Equipment	AWOS-3
FBO	City of Steamboat Springs

Source: ACI Inventory, July 2006

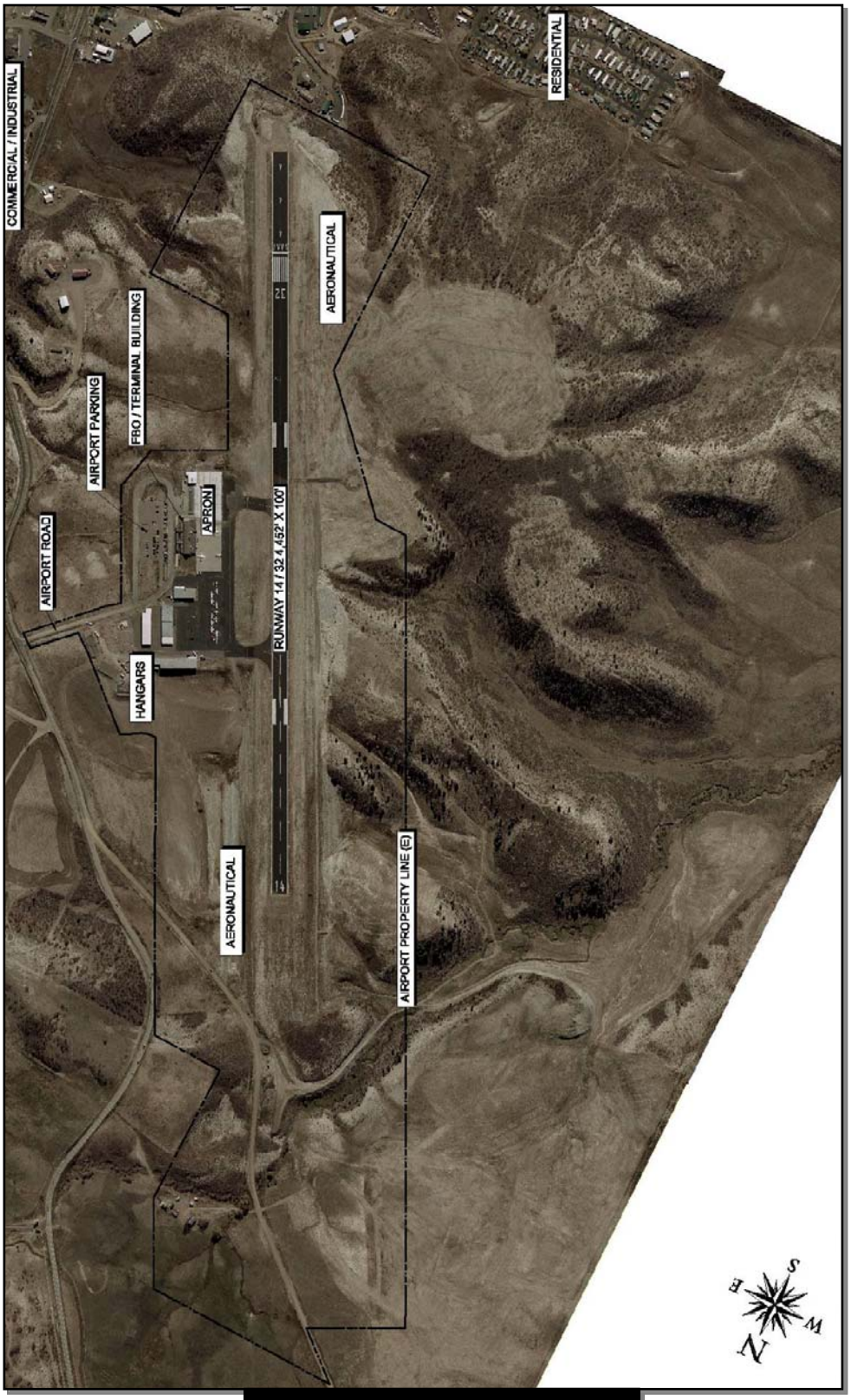


FIGURE 1-5 EXISTING AIRPORT FACILITIES

FIGURE 1-6 EXISTING LANDSIDE FACILITIES

RUNWAY

The runway configuration is the end number and orientation of runways. The number of runways provided at an airport depends largely on the volume of traffic. The orientation of the runways depends almost entirely on the direction of the prevailing wind patterns in the area, the size and shape of the area available for development and land-use or airspace restrictions in the vicinity of the airport.

The runway configuration at Steamboat Springs Airport consists of one asphalt runway, true bearing of North 27° 21' 56" West and is designated Runway 14/32. The runway is 4,452 feet long by 100 feet wide. According to the FAA Pavement Strength Survey and the Airport Facilities Directory the pavement has a strength of 50,000 pounds single wheel gear (SWG) and 60,000 dual wheel gear (DWG). Runway 32 is marked with nonprecision markings and Runway 14 has visual runway markings. The runway surface and all runway markings are considered to be in good condition.

Runway safety and object free areas are currently in compliance with applicable ARC A-III standards. The runway safety area (RSA) has a width of 300 feet and extends 600 feet beyond the runway end. The runway object free area has a width of 800 feet and extends 600 feet beyond the runway end. The threshold of Runway 32 has been displaced 600 feet and through the use of declared distances, a 300 foot runway safety area is now available, as well as a clear runway object free area. Declared distances are means of obtaining a standard safety area by reducing the usable runway length. Table 1-8 lists declared distances for Runway 14/32.

TABLE 1-8 DECLARED DISTANCES		
	Runway 14	Runway 32
Takeoff Run Available (TORA)	4,452’	4,452’
Takeoff Distance Available (TODA)	4,452’	4,452’
Accelerate-Stop Distance Available (ASDA)	3,852’	4,452’
Landing Distance Available (LDA)	3,852’	3,852’

TAXIWAY SYSTEM

Taxiways provide a surface for aircraft access from the parking apron to and from the runways. They expedite aircraft departures from the runway and increase operational safety and efficiency. The taxiway system at the Steamboat Springs Airport currently consists of two midfield connector taxiways connecting the runway to the apron. The existing connectors are approximately 75 feet in width. The FAA taxiway width design standard for Group II aircraft is 35 feet. Aircraft currently back-taxi for departures on Runways 14 and 32.

AIRCRAFT APRON

The aircraft apron provides an area for aircraft to park. The apron is typically connected to the runway via taxiways or taxilanes. The existing apron is located approximately midfield. The apron consists of approximately 24,000 square yards of area and contains 17 tie downs. The apron pavement is in good condition, as are the taxilane and tie down markings. Small general aviation aircraft use the north side of the apron area, the pavement strength on the west end is rated at 12,500 lbs. The larger aircraft park on the south side of the apron in front of the terminal building which is constructed from portland cement and has an estimated 35,000 lbs. SWG and 50,000 lbs. DWG pavement rating according to the FAA pavement strength survey. Figure 1-7 shows the aircraft parking apron.

FIGURE 1-7 AIRCRAFT PARKING APRON

AIRFIELD LIGHTING AND VISUAL AIDS

Airport lighting enhances safety during periods of inclement weather and nighttime operations by providing visual guidance to pilots in the air and on the ground. Several common airfield lighting features of general aviation airports include:

- Precision approach path indicator (PAPI) located on the left side of the runway and consists of two or four lights installed in a single row. A PAPI provides visual approach path guidance by emitting a series of white and red lights. These lights can be seen for up to five miles during the day and up to twenty miles at night.

- Retroreflectors, used in lieu of taxiway lighting, consists of a single row bordering each side of the taxiway of reflective tape mounted on a pole.

- Rotating beacon is used to guide pilots to lighted airports with a sequence of yellow, green and/or white lights. Most general aviation airports are considered to be civilian land airports, consisting of alternating white and green lights or a water airport, consisting of alternating white and yellow lights. A beacon is normally operated from dusk until dawn. If the beacon is on during other hours it typically indicates that the airport is operating under instrument flight rules.

- Runway edge lights consist of a single row of white lights bordering each side of the runway and can be classified according to three intensity levels. High intensity runway lights (HIRL) are the brightest runway lights available. Medium intensity runway lights (MIRL) and low intensity runway lights (LIRL) are the lowest in intensity. At most non-towered airports, runway lights can be activated from the aircraft cockpit by transmitting a series of “clicks” on the radio transmitter. Some runways, including those used by air carriers, have yellow edge lights on the last 2,000 feet of runway to visually inform pilots of the amount of runway remaining.

- Runway end identifier lights (REIL) are high intensity white strobe lights placed on each side of the runway to enable rapid identification of the runway threshold.

- Runway markings vary depending on whether the runway is used exclusively for visual flight rule operations (VFR) or instrument flight rule (IFR) operations. A visual runway is typically marked with the runway designator numbers and a dashed white centerline. Threshold bars and aiming point markings are added to a visual runway to provide nonprecision instrument markings. A precision instrument runway further includes touchdown zone markings.

- A segmented circle is located around the wind direction indicator. The segmented circle has two purposes, including

identifying the location of the wind direction indicator and identifying non-standard traffic patterns.

- Taxiway edge lights consist of a single row of blue lights bordering each side of the taxiway. These lights mark the edge of the taxiways and guide aircraft from the runway to the ramp or apron area.

- Threshold lights consist of a single row of green lights used to indicate the beginning of the usable landing surface. These lights are two-directional and appear red from the opposite end of the runway to mark the end of the usable runway.

- A wind direction indicator consists of either a windcone, wind tee or tetrahedron. A windcone aligns itself into the wind as the wind blows into the large end and out of the small end. The tail of a wind tee aligns itself similar to a weather vane into the wind. A tetrahedron may either swing around to align the small end pointing into the wind or it may be manually positioned to show landing direction.

- Lighted signs indicate connector taxiways and runway ends.

The airfield lighting and visual aids at Steamboat Springs Airport currently consists of two-box PAPIs on Runway 32, a rotating airport beacon, HIRL, REILs on Runway 32, nonprecision instrument marking on Runway 32, visual runway markings on Runway 14, a segmented circle, MITLs on the connector taxiways, threshold lights, lighted signage, distance remaining signs and a lighted windcone.

NAVIGATIONAL AIDS

The current approach procedures at the Steamboat Springs Airport include a non-precision GPS circling approach as well as a nonprecision VOR/DME circling approach. Services include Denver Center (ARTCC) and Denver Flight Service Station (FSS). Enroute radar and coverage for the Steamboat Springs are provided by the Denver ARTCC. The altitude of radar coverage may vary as a result of the FAA navigational/radar facilities in operation, weather conditions and terrain which surround Steamboat Springs. Historically, radar coverage in the area has been poor due to the high terrain; however, a new multi-lateration radar is in the process of being installed in the Steamboat Springs area which is expected to provide better radar service into and out of the mountain airport. The radar will impact all traffic in the high country providing a more efficient management of traffic and a safer environment for all aircraft. The Denver FSS provides additional weather data and other pertinent weather information to pilots on the ground and enroute. There is no air traffic control tower (ATC) located at the airport.

A Navigational Aid (NAVAID) is any ground based visual or electronic device used to provide course or altitude information to pilots. NAVAIDs include Very High Omnidirectional Range (VORs), Very High Frequency Omnidirectional Range with Tactical Information (VOR-TAC), Nondirectional Beacons (NDBs) and Tactical Air Navigational Aids (TACANs), as examples. The Robert VOR is located approximately 4 nautical miles south of the airport. The GPS approach and VOR/DME approach to

Steamboat Springs Airport are illustrated in Figure 1-8 and Figure 1-9. (Note: These are for informational purposes only and should not be used for navigation).

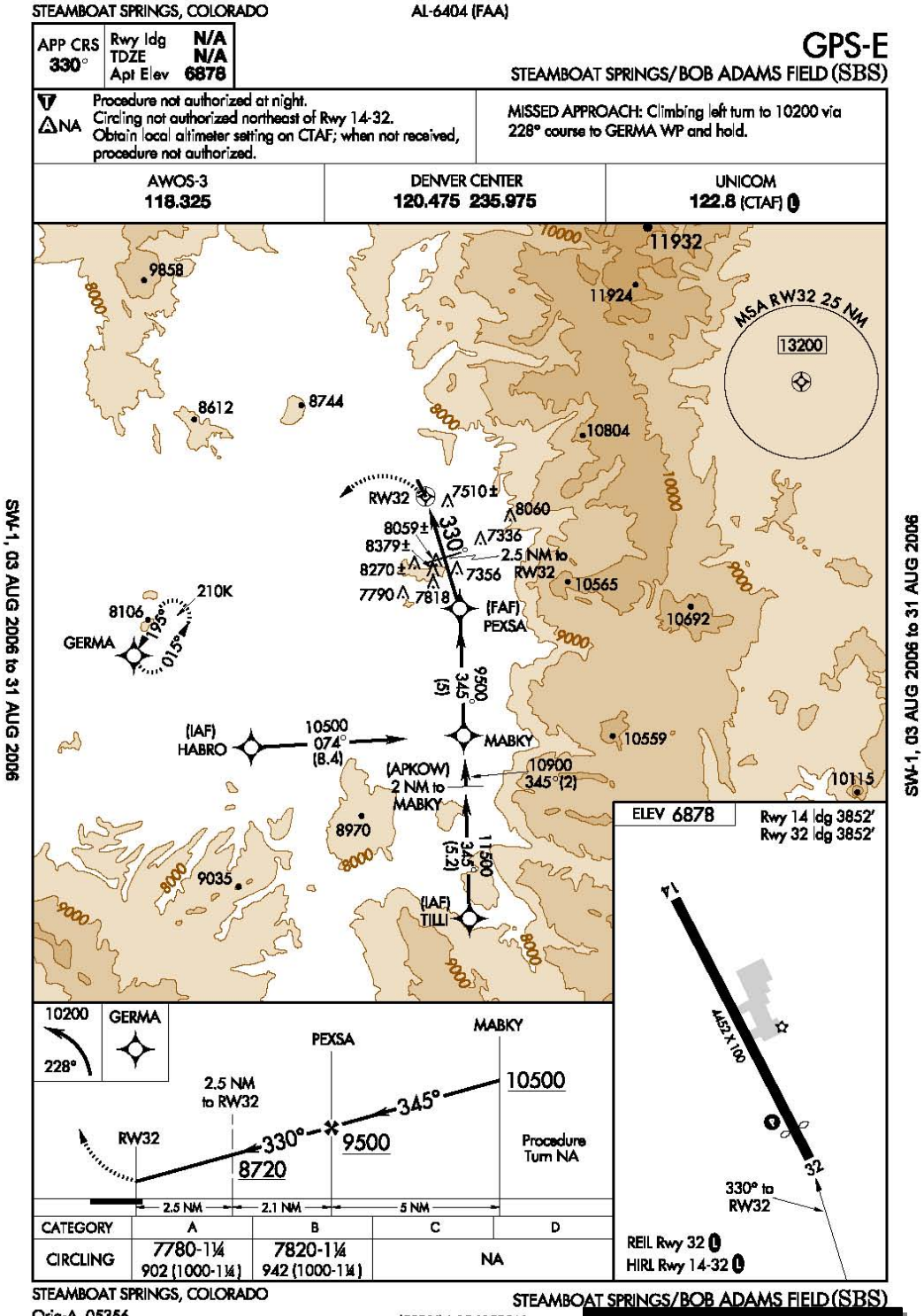


FIGURE 1-8 GPS APPROACH (NOT FOR NAVIGATION)

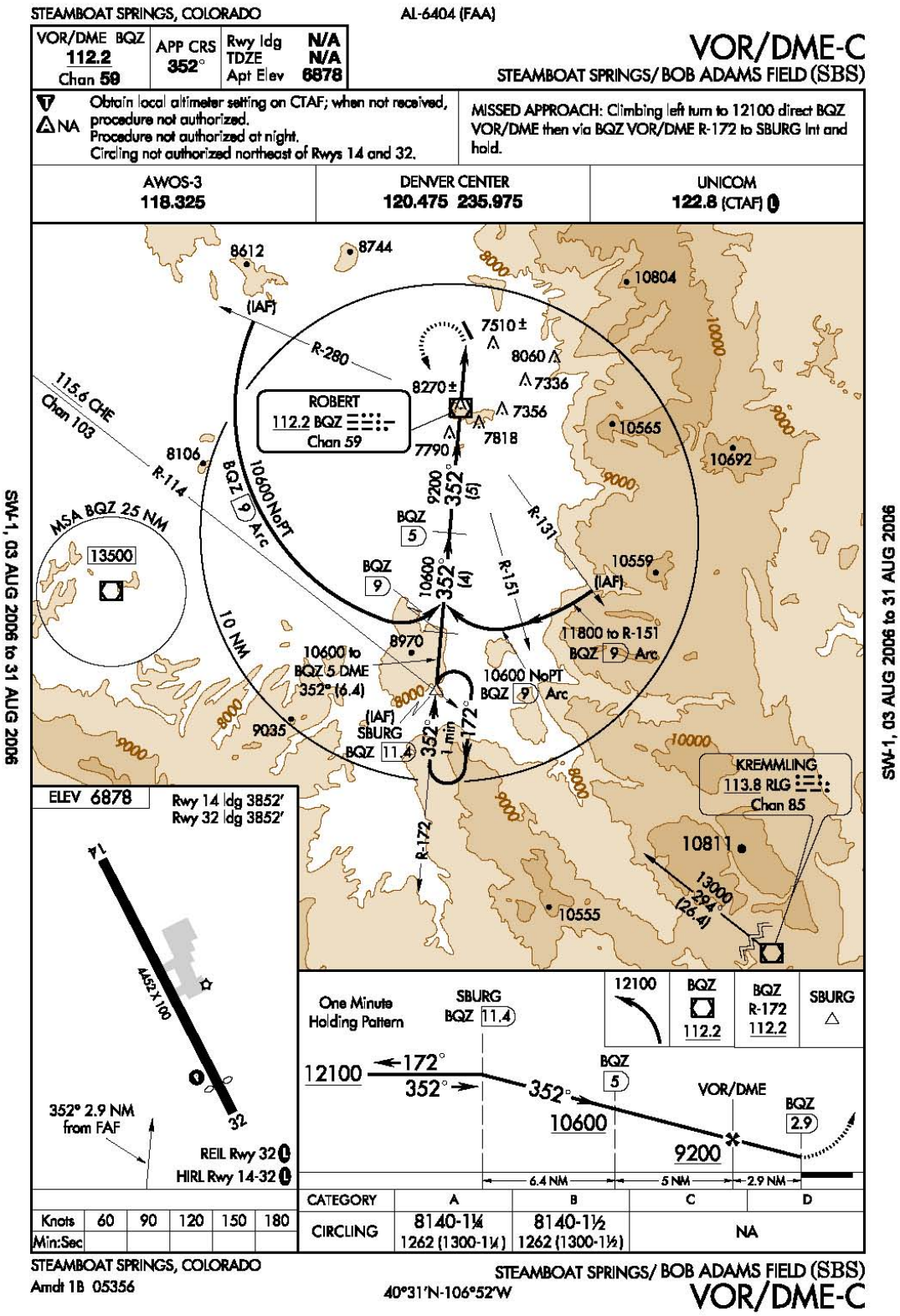


FIGURE 1-9 VOR/DME APPROACH (NOT FOR NAVIGATION)

EXISTING LANDSIDE FACILITIES

The landside facilities of an airport consist of those facilities not included as airside characteristics. Examples of landside facilities include any structure adjoining the airfield, terminal buildings, hangars, the access routes to and from the airport, automobile parking areas, airport fencing, utilities, fuel provisions and Aircraft Rescue and Fire Fighting (ARFF) equipment.

AIRPORT SERVICES/FIXED BASE OPERATOR

A fixed base operator (FBO) is usually a private enterprise that leases land from the airport sponsor on which to provide services to based and transient aircraft. The extent of the services provided varies from airport to airport; however, these services frequently include aircraft fueling, minor maintenance and repair, aircraft rental and/or charter services, flight instruction, pilot lounge and flight planning facilities and aircraft tie down and/or hangar storage.

FIGURE 1-10 STEAMBOAT SPRINGS TERMINAL BUILDING

The City of Steamboat Springs currently serves as the FBO. The City sells 100 Low-lead and Jet-A fuel, monitors the UNICOM frequency and performs daily and routine maintenance at the airport. The FBO offices are currently located in the terminal building and also include a pilot lounge, public restrooms, flight planning area and weather computer.

AIRPORT TENANTS

The airport is home to several businesses including Mountain Aircraft Maintenance which provides aircraft maintenance services, Mountain Flight Service which provides

charter flights and Zephyr Helicopter which provides flight training and charter operations. Approximately 12,000 square feet of the 16,000 square foot terminal building is leased to Smartwool. The remaining 4,000 square feet of terminal building space is used by the City of Steamboat Springs for FBO operations. The City of Steamboat Springs also owns the snow removal equipment storage and maintenance building. The FBO also has the capability to perform deicing operations when needed.

HANGARS

The existing airport hangars consist of nine T-hangars and 34 box hangars. The City of Steamboat Springs owns 10 hangars and the remaining 33 hangars are privately owned.

ACCESS ROUTES AND SIGNAGE

Airport access systems consist of terminal curbs, parking facilities and connecting roadways that enable originating and terminating airport users to enter and exit the airport landside facilities.

The airport is located approximately three miles west of downtown Steamboat Springs off of County Road 129 (also known as Elk River Road). The signage to the airport consists of a sign on US 40 leading to the turn off onto County Road 129. County Road 129 has signage leading to the airport access road. The airport access road is a two lane paved road that enters the airport from the northeast.

GROUND TRANSPORTATION

Steamboat Springs has no scheduled bus or rail service. The nearest rail service is located approximately 80 miles away in Granby, Colorado. The nearest bus service is located approximately 95 miles away in Frisco, Colorado.

The City of Steamboat Springs provides a courtesy car for transportation between the airport and the City of Steamboat. There are bicycles located at the airport that are available for airport users to ride into town. Taxi service is also available in Steamboat Springs.

AUTOMOBILE PARKING

Automobile parking facilities are provided for originating and terminating airport users. It is important that vehicular parking is adequate to serve the needs of all airport users. Steamboat Springs Airport provides a parking area near the FBO/Terminal Building and aircraft parking with a capacity of approximately 140 vehicles.

UTILITIES

Electrical power in Steamboat Springs is provided by Yampa Valley Electric. Gas services are provided by ATMOS Energy and Gas and telephone services are provided by Qwest. Service capacities for electricity, gas and telephone exceed the current requirements, thus accommodating expansion of airport and local industrial facilities. The City of Steamboat Springs provides water and sewer services to the airport. According to the City the airport is served by an 8 inch sewer line and a 10 inch water line.

FENCING

The primary purpose of airport fencing is to prevent unwanted intrusions by persons or animals onto airport property. Airport fencing provides increased safety and security for the airport. It is normally installed along the perimeter of the airport property and outside of any safety areas defined by FAA AC 150/5300-13 and FAR Part 77.

Steamboat Springs Airport is entirely surrounded by an 8 foot tall electric wildlife fence. The electric portion of the fence is inoperative due to the brush growing around the fence and grounding it. There is an electric vehicle access gate with keypad entry system located off the airport entrance road near the fuel farm allowing vehicle access to the apron. Chain link fence surrounds the apron area to assist in keeping unauthorized personnel and cars from inadvertently entering the airport environment.

FUEL FACILITIES

Steamboat Springs Airport provides a variety of fuel services for aircraft requiring either aviation gasoline (AvGas) or jet fuel (Jet-A). An aboveground fuel-farm at the airport holds 10,000 gallons of 100-Low Lead and 10,000 gallons of Jet-A. Both tanks are single wall. The third tank shown in the photo is currently unused. It was formerly used by the airlines for storing deicing fluid. The airport has a 300 gallon automobile fuel storage tank and a 500 gallon diesel fuel storage tank located near the airport maintenance facility building. There are also two mobile fuel trucks used at the airport for fueling operations. The Jet A mobile fuel truck has a capacity of 2,200 gallons. The 100LL mobile fuel truck has a capacity of 1,200 gallons. The fuel tanks are located within a concrete containment area that provides secondary containment for the fuel tanks.

FIGURE 1-11 FUEL FARM

EMERGENCY SERVICES

Emergency fire and ambulance services are provided by the Steamboat Springs Fire Department. The closest hospital is the Yampa Valley Hospital located in Steamboat Springs. The hospital provides primary care services. Steamboat Springs Ambulance provides ambulance service to the area. The emergency services are show in Table 1-9.

TABLE 1-9 STEAMBOAT SPRINGS EMERGENCY SERVICES

Personnel	11 volunteers
29 Fire Fighters	14 full time 4 part time
Equipment	**Storage**
Fire Engine 62 1,750 gallons per minute	-
Ladder Truck 61 1,500 gallons per minute	-
Fire Engine 61 1,500 gallons per minute	750 gallons water tank, 30 gallons A & B foam tank
Water Tender 61 500 gallons per minute	2,500 gallons water tank
Rescue Truck	-

Source: Steamboat Springs Fire Department, 2006

ADDITIONAL FACILITIES

Currently there is no ARFF equipment or personnel based at the Steamboat Springs Airport. There are also no designated security personnel at the airport.

AIRPORT SERVICE AREA

An airport service area is defined by the communities and surrounding areas served by the airport facility. Generally, the airport service area includes the area within a thirty-minute ground driving time, or twenty-mile radius, of the airport. However, the actual service area is dependent upon several factors including the airport's surrounding topographic features, proximity to its users, quality of ground access and the proximity of the facility to other airports that offer the same or similar services. Aircraft operators will usually operate at the closest airport to their residence, place of business or destination that provides adequate facilities and services to accommodate their aircraft. To define the service area for Steamboat Springs Airport, the airports in the vicinity and their facilities were reviewed.

There is one public use airport located within the twenty-mile radius of Steamboat Springs Airport which is the Yampa Valley Regional Airport. The Yampa Valley Regional Airport receives regular scheduled commercial service aircraft and also supports large corporate general aviation aircraft. Steamboat Springs Airport is used primarily by smaller general aviation users; therefore, the primary service area for Steamboat Springs Airport includes the Yampa Valley Regional Airport. The primary service area is that area within a twenty-mile radius (30 minute drive time) of the airport. The secondary service area includes the area half the driving distance between Steamboat Springs and the next closest general aviation airport offering similar services. Hayden has not been included since it is not considered a general aviation airport offering similar services. Figure 1-12 shows the airport's primary and secondary service areas and Table 1-10 provides information on airports surrounding Steamboat Springs.

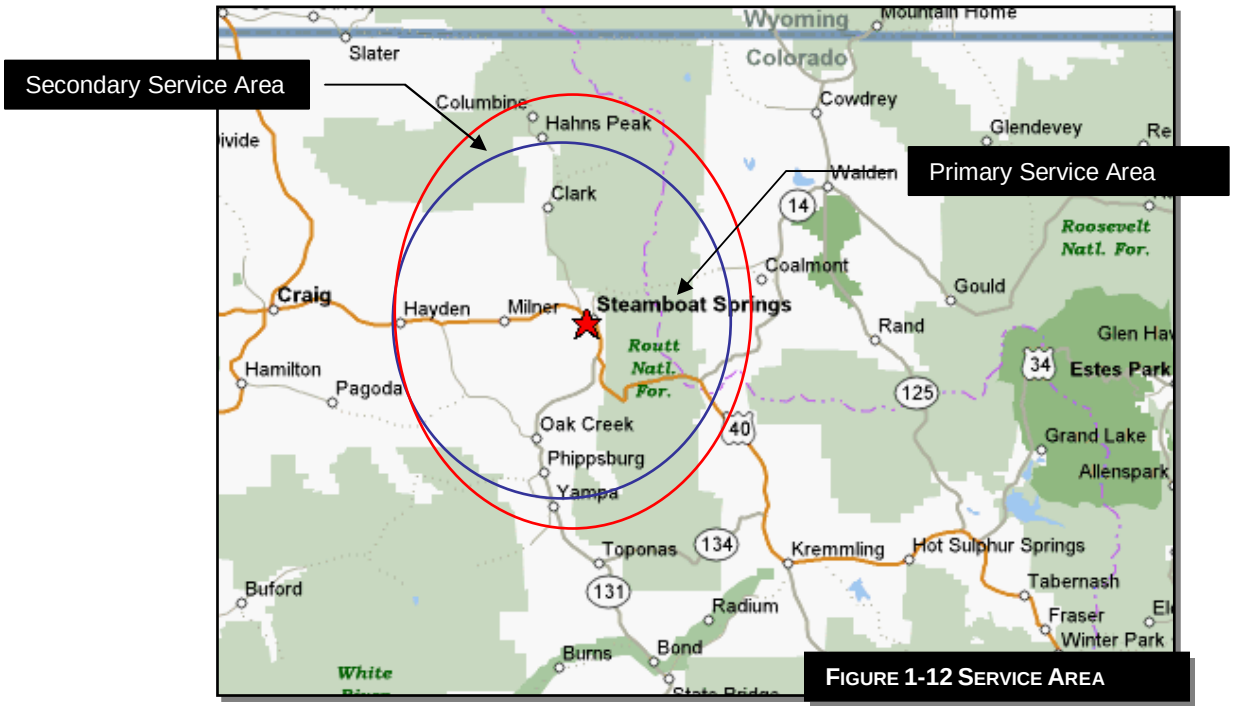


FIGURE 1-12 SERVICE AREA

TABLE 1-10 AIRPORTS SURROUNDING STEAMBOAT SPRINGS

	Identifier	Distance (Nautical Miles)	Distance (Highway Miles)	NPIAS Status	Runway Length(s) Width(s)	Pavement Type	Instrument Approaches	Fuel
Yampa Valley Regional Airport, Hayden, CO	HDN	16 W	25	COM	10,000'x150'	asphalt	ILS, VOR/DME, GPS	Yes
Craig Moffat Airport, Craig, CO	CAG	30 W	45	GA	5,600'x100'	asphalt	VOR/DME, GPS	Yes
McElroy Field, Kremmling, CO	20V	36 SE	52	GA	5,540'x75'	asphalt	VOR/DME, GPS	Yes
Eagle County Regional Airport, Eagle, CO	EGE	52 S	84	COM	8,000'x150'	asphalt	LDA/DME, GPS	Yes
Meeker, Airport, Meeker, CO	EEO	54 SW	90	GA	6,500'x60'	asphalt	VOR, GPS	Yes

COM: Commercial Service
GA: General Aviation
Source: Airnav, 2006

AIRSPACE

NATIONAL AIRSPACE SYSTEM

The National Airspace System consists of various classifications of airspace regulated by the FAA. Airspace classification is necessary to ensure the safety of all aircraft utilizing the facilities during periods of inclement weather, with the primary function of airspace classification being the separation of instrument flight rules (IFR) traffic from visual flight rules (VFR) traffic. Pilots flying in controlled airspace are subject to air traffic control (ATC) requirements and must either follow VFR or IFR regulations. These regulations, which include combinations of operating rules, aircraft equipment and pilot certification, vary depending on the class of airspace and are described in Federal Aviation Regulation (FAR) Part 71.

The airport is located in the least restrictive and uncontrolled airspace (Class G airspace). At 700 feet above the airport surface, the airspace classification changes to Class E airspace which requires pilots to comply with more restrictive weather requirements and for IFR operation certain air traffic control procedures. There also is a victor airway in the vicinity of Steamboat Springs (victor airways are low altitude flight paths between ground-based VHF Omnidirectional Receivers (VORS)). Victor Airway 421 (V421) runs northwest/southeast and passes approximately one nautical mile west of the airport (see figure 1-13).

FIGURE 1-13 CHEYENNE SECTIONAL

The traffic patterns to the Steamboat Springs Airport are standard left hand traffic to both runway ends. There are voluntary noise abatement procedures currently in place at the airport which include avoiding straight-out departures and flight over populated areas. The Steamboat Springs Airport traffic pattern altitude is 7,880 feet for all aircraft. The Steamboat Springs Airport is located in the vicnity of some noise sensitive national parks and wilderness areas. The Mt. Zirkel Wilderness Area is located approximately 7 nautical miles north of the airport. Arapahoe National Wildlife Refuge is located approximately 25 nautical miles northeast of the airport. Rocky Mountain National Park is located approximately 45 nautical miles east of the airport. The FAA recommends that aircraft maintain a minimum altitude of 2,000 feet above ground level over these areas. Airspace and land use planning are further discussed in Chapter 3.

AIRSPACE JURISDICTION

As previously discussed the Steamboat Springs Airport is located within the jurisdiction of the Denver Air Route Control Center (ARTCC) and the Denver Flight Service Station (FSS). The altitude of radar coverage by the Denver ARTCC may vary as a result of the FAA navigational/radar facilities in operation, weather conditions and the surrounding terrain. Historically, radar coverage in the area has been poor due to the high terrain; however, a new multi-lateration radar is in the process of being installed in the Steamboat Springs area which is expected to provide better radar service into and out of the mountain airport. The radar will impact all traffic in the high country providing a more efficient management of traffic and a safer environment for all aircraft. The placement of

the mult-lateration radar services include Routt Garfield and Moffat Counties in northwestern Colorado for services into Yampa Valley Regional Airport in Hayden, Garfield County Regional Airport in Rifle, Craig-Moffat County Airport in Craig and Bob Adams Field in Steamboat Springs. The Denver FSS provides additional weather data and other pertinent information to pilots on the ground and enroute.

AIRSPACE RESTRICTIONS

The Steamboat Springs Airport is not located near any Military Operations Areas (MOAs) or low level military training routes (MTRs) (see Figure 1-13). MOAs and MTRs are established for the purpose of separating certain military training activities, which routinely necessitate acrobatic or abrupt flight maneuvers, from Instrument Flight Rules (IFR) traffic. IFR traffic can be cleared through an active MOA if IFR separation can be provided by Air Traffic Control (ATC), otherwise ATC will reroute or restrict IFR traffic.

SOCIOECONOMIC FACTORS

Examining the specific socioeconomic characteristics of the City of Steamboat Springs will help determine the factors influencing aviation activity in the area and determine the extent to which aviation facility developments are needed. Characteristics, such as population, employment, income and second home ownership will provide a foundation upon which to base the potential growth rate of aviation activity at the airport.

LOCAL PROFILE

The area is home to an array of winter sports including skiing, snowboarding and snowmobiling. Summer recreation is also an important part of Steamboat Springs and offers a great variety of outdoor activities including hiking, fishing, hunting and camping. Steamboat Springs is a premier resort destination. The area was rated as the number one place to have a second home according to Sunset Magazine (August 2006). The tourism and recreational activities provide a major economic impact on the local community. Ranching is another large part of the local economy. According to the 2000 Economic Census for Steamboat Springs the largest economic sector is arts, entertainment, recreation, accommodation and food services which includes the ski industry. The area has a high percentage of second home owners. According to the airport manager, there are 35 additional second homeowners utilizing the airport not included in the 92 based aircraft. The area has seen a significant increase in secondary home ownership within the last five years.

POPULATION

As of the 2000 US Census, there were 9,815 people residing in Steamboat Springs, up from 6,695 in 1990. According to the US Census Bureau, there were 19,690 people residing in Routt County, up from 14,088 in 1990. According to population estimates from the U.S. Census Bureau, the population of Steamboat Springs dropped slightly from 2000 to 2005. The City of Steamboat Springs population decreased to 9,354 in 2005. However the population of Routt County has shown a continual increase to an estimated 21,313 people in 2005. Table 1-11 and Figure 1-14 shows the population trends for Steamboat Springs and the region.

TABLE 1-11 POPULATION

	1990	2000	2005
Steamboat Springs	6,695	9,815	9,354
Routt County	14,088	19,690	21,313
Colorado	3,294,394	4,301,261	4,665,177

Sources: US Census Bureau (August 2006)

The Colorado Division of Local Government, Demography Office developed population projections for all counties and the state of Colorado in August 2006. Population projections, as shown in Table 1-12, indicate a 5.81 percent population increase for the State of Colorado from 2005 to 2025.

TABLE 1-12 POPULATION PROJECTIONS

	2010	2015	2020	2025
Routt County	24,690	28,170	31,682	35,524
Colorado	5,209,892	5,729,644	6,257,281	6,787,307

Source: Colorado Division of Local Government (CDLG), Demography Office (August, 2006)

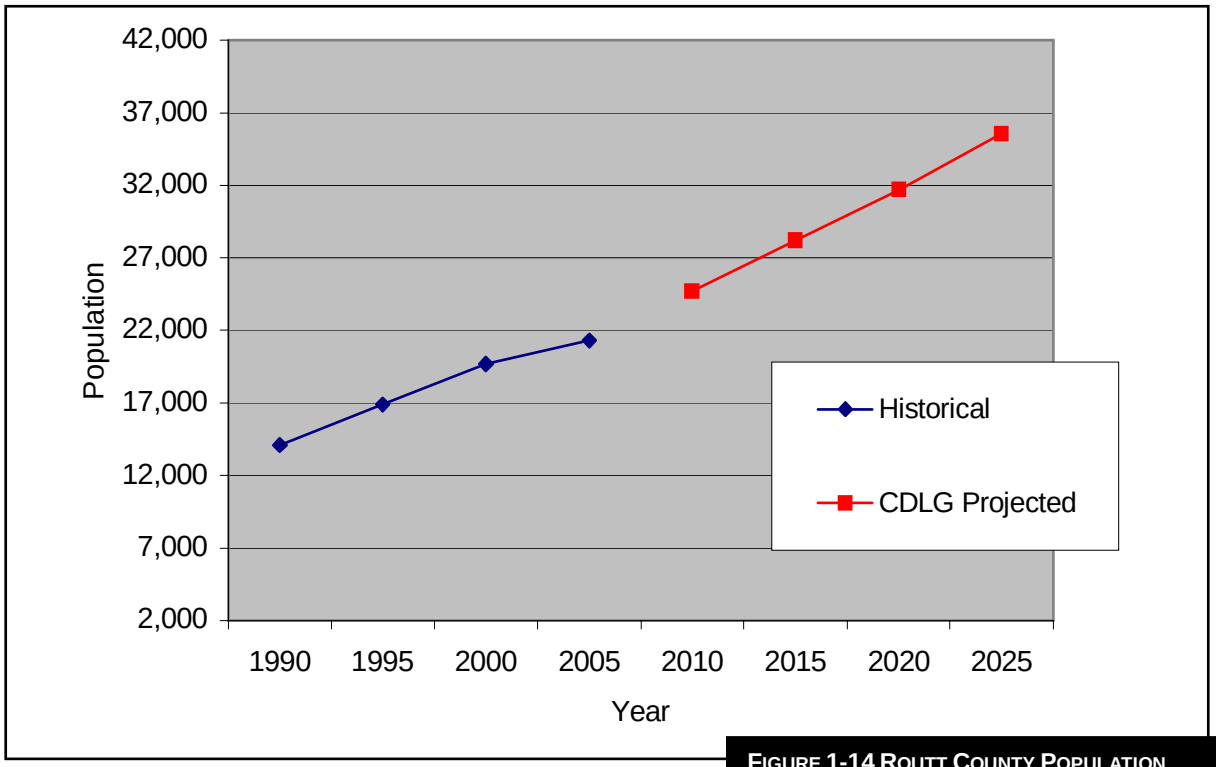


FIGURE 1-14 ROUTT COUNTY POPULATION

Source: CDLG, 2006

EMPLOYMENT

As stated previously, the largest employers in Steamboat Springs include arts, entertainment, recreation, accommodation and food service according to the US Census Bureau. The second largest employment sector is educational, health and social services. The number of location neutral business and location neutral employee has also been increasing over the past five years according to a recent study that was conducted for Routt County.

According to the US Census Bureau, the unemployment rate in Steamboat Springs was 2.9 percent in 2000. Employment distribution by industry for Steamboat Springs is shown in Table 1-13 and Figure 1-15.

TABLE 1-13 EMPLOYMENT DISTRIBUTION

	Steamboat Springs	% of Total
Arts, entertainment, recreation, accommodation and food services	1,367	20.7%
Educational, health and social services	968	14.7%
Construction	915	13.9%
Retail trade	765	11.6%
Professional, scientific, management, administrative and waste management services	605	9.2%
Finance, insurance, real estate, rental and leasing	589	8.9%
Other services (including public administration)	255	3.9%
Public Administration	248	3.8%
Agriculture, forestry, fishing, hunting and mining	213	3.2%
Transportation, warehousing and utilities	206	3.1%
Information	194	2.9%
Manufacturing	187	2.8%
Wholesale trade	87	1.3%

Source: U.S. Bureau of the Census, Census 2000

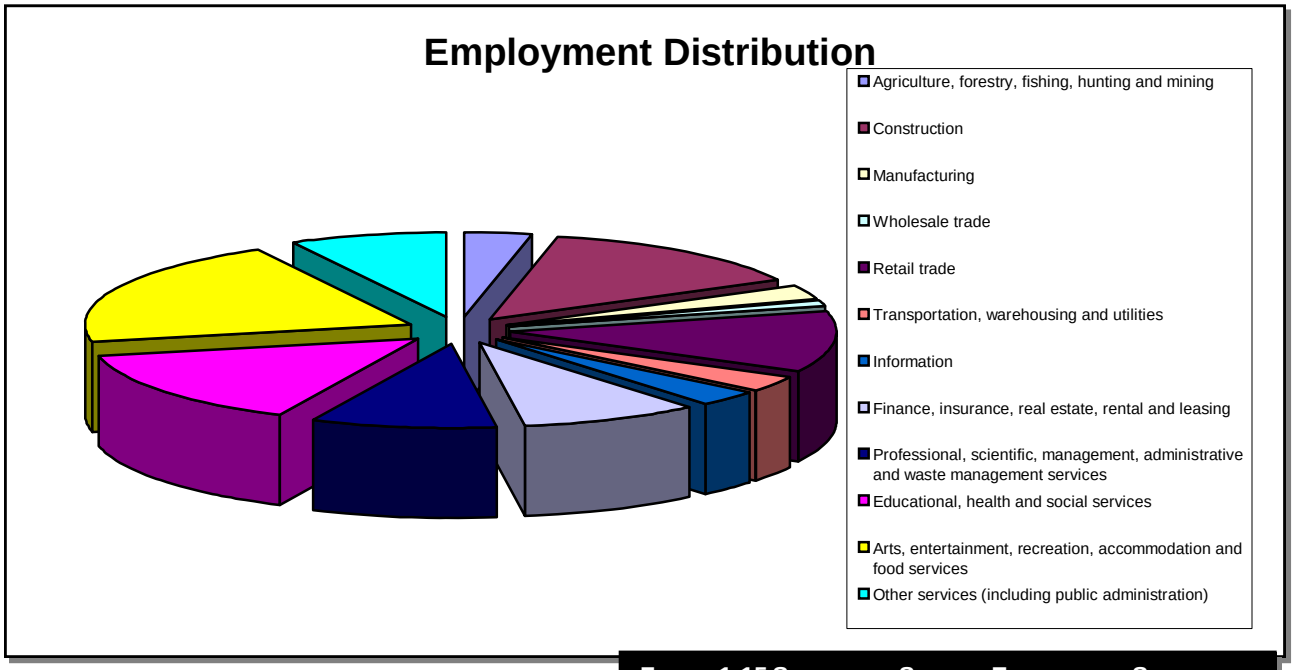


FIGURE 1-15 STEAMBOAT SPRINGS EMPLOYMENT SECTORS

Source: U.S. Bureau of the Census, Census 2000

INCOME

According to the 2000 US Census, the median income for a household in Routt County was $53,612. The median household income for Steamboat Springs was $54,647. The per capita income in 2000 was $28,792 for Routt County and $31,695 for Steamboat Springs, which is above the national average of $21,587. The percentage of families

living below the poverty line was 6.1 percent for the County and 7.2 percent for the City of Steamboat Springs which is below the national average of 12.4%. The socioeconomic indicators show a strong economy in Steamboat Springs.

LAND USE COMPATIBILITY

The FAA recommends that airport sponsors protect the areas surrounding an airport from incompatible development. Incompatible development includes those land uses which would be sensitive to aircraft noise or overflight, such as residences, schools, churches and hospitals and those uses which could attract wildlife and cause a hazard to aircraft operations such as landfills, ponds and wastewater treatment facilities.

Steamboat Springs Airport is located adjacent to several different land uses including open space, residential and industrial land uses. The property adjacent to the airport and the airport property is incorporated into the City of Steamboat Springs. The City of Steamboat Springs has established Community Development Code Supplement 17. These regulations were enacted to:

- Guide decisions concerning the physical, social, economic and environmental development of the City and the area with the community plan study area boundary;
- Improve the community and study area decision-making process by enabling the City and County to act on specific development proposals on the basis of a clearly stated and unified set of long range policies;
- Establish guidelines to be followed by developers, builders, the public, City and County;
- Provide a basis for the provision of public services and facilities in a manner consistent with other elements of the community plan;
- Aid other governmental agencies in formulating their respective plans;
- Serve as an educational tool for the community;
- Promote citizen participation in government;
- Accommodate future growth while maintaining the sense of community and a healthy economic climate while preserving the character and scenic integrity of the area;
- Adapt to changing economic and social conditions; and
- Direct the type, location and quality of growth, while addressing its impacts and reinforcing its desirable characteristics.

Land use/zoning maps for the City of Steamboat Springs, Routt County and West Steamboat Springs are shown in Figures 1-16 through 1-18. As shown, the land uses are generally compatible with the airport; however, it is important to protect the airport from potential changes in land uses or zoning designations to uses that would not be compatible with the airport. As part of this community development code, Article 4 Section 26-109, specifically refers to the “Airport Influence Area Overlay Zone”. However, this overlay zone has not been adopted and is stated as “reserved”. It is recommended that the airport overlay zone which is included as part of this study be implemented into the community development code.

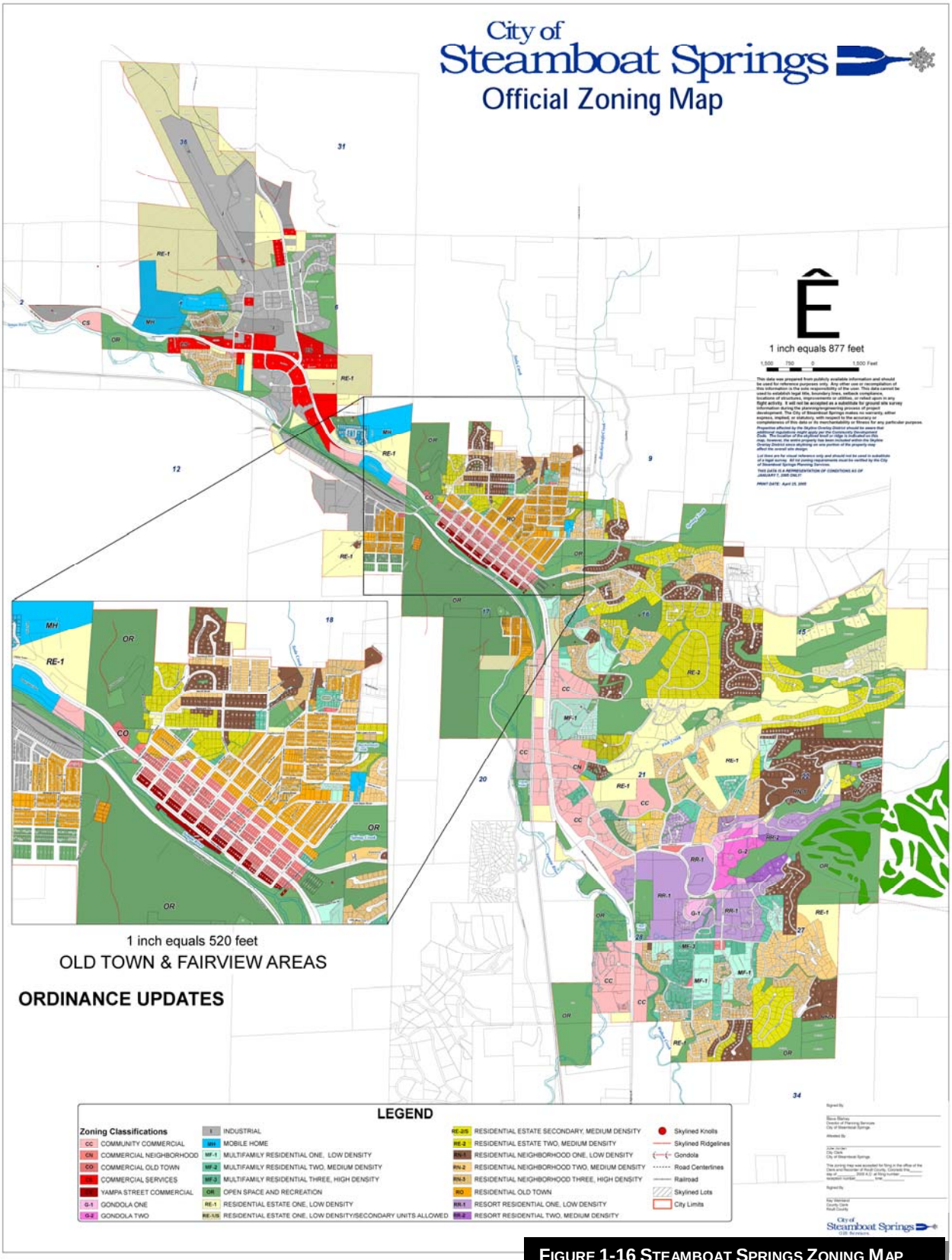


FIGURE 1-16 STEAMBOAT SPRINGS ZONING MAP

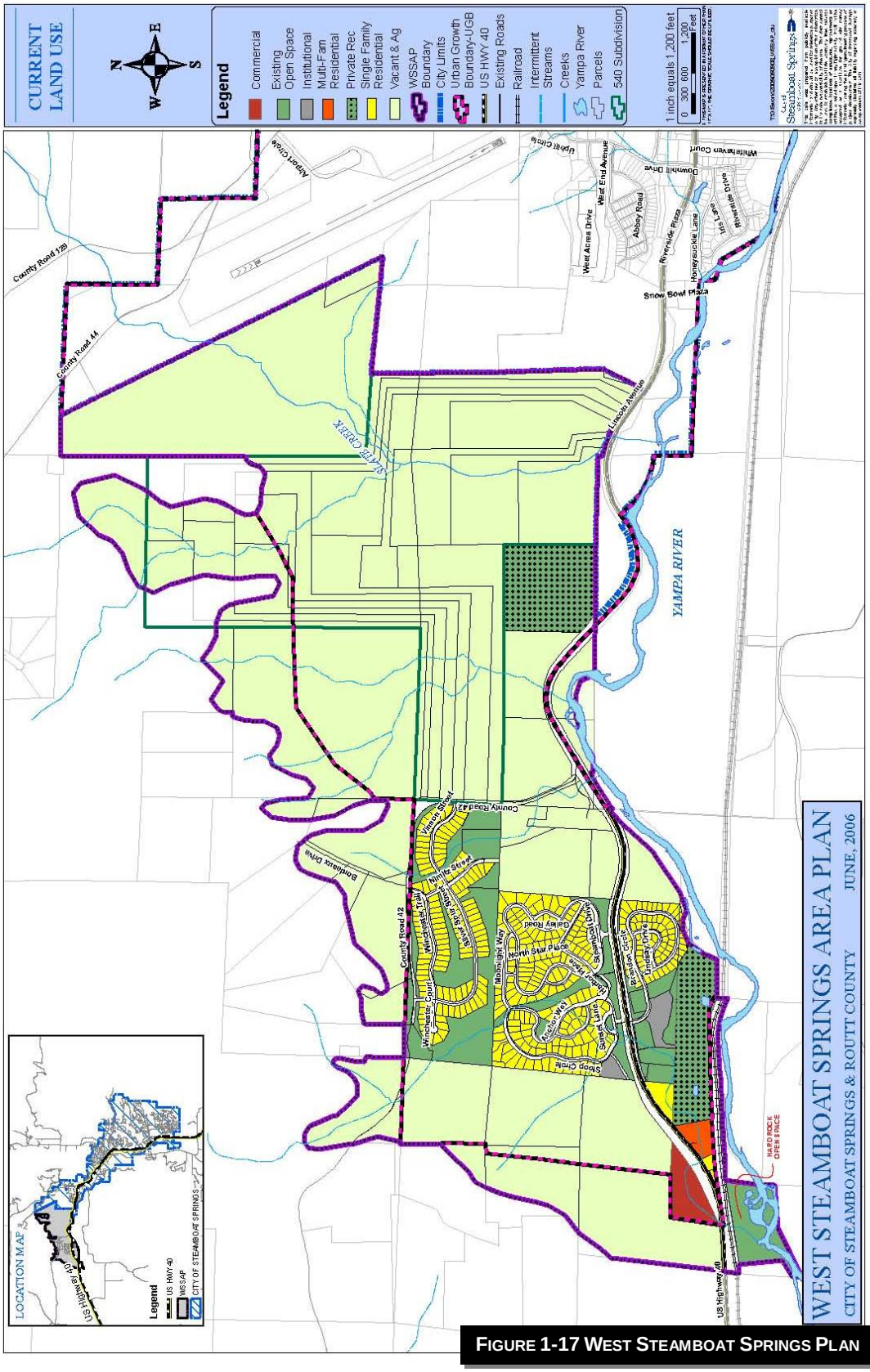


FIGURE 1-17 WEST STEAMBOAT SPRINGS PLAN

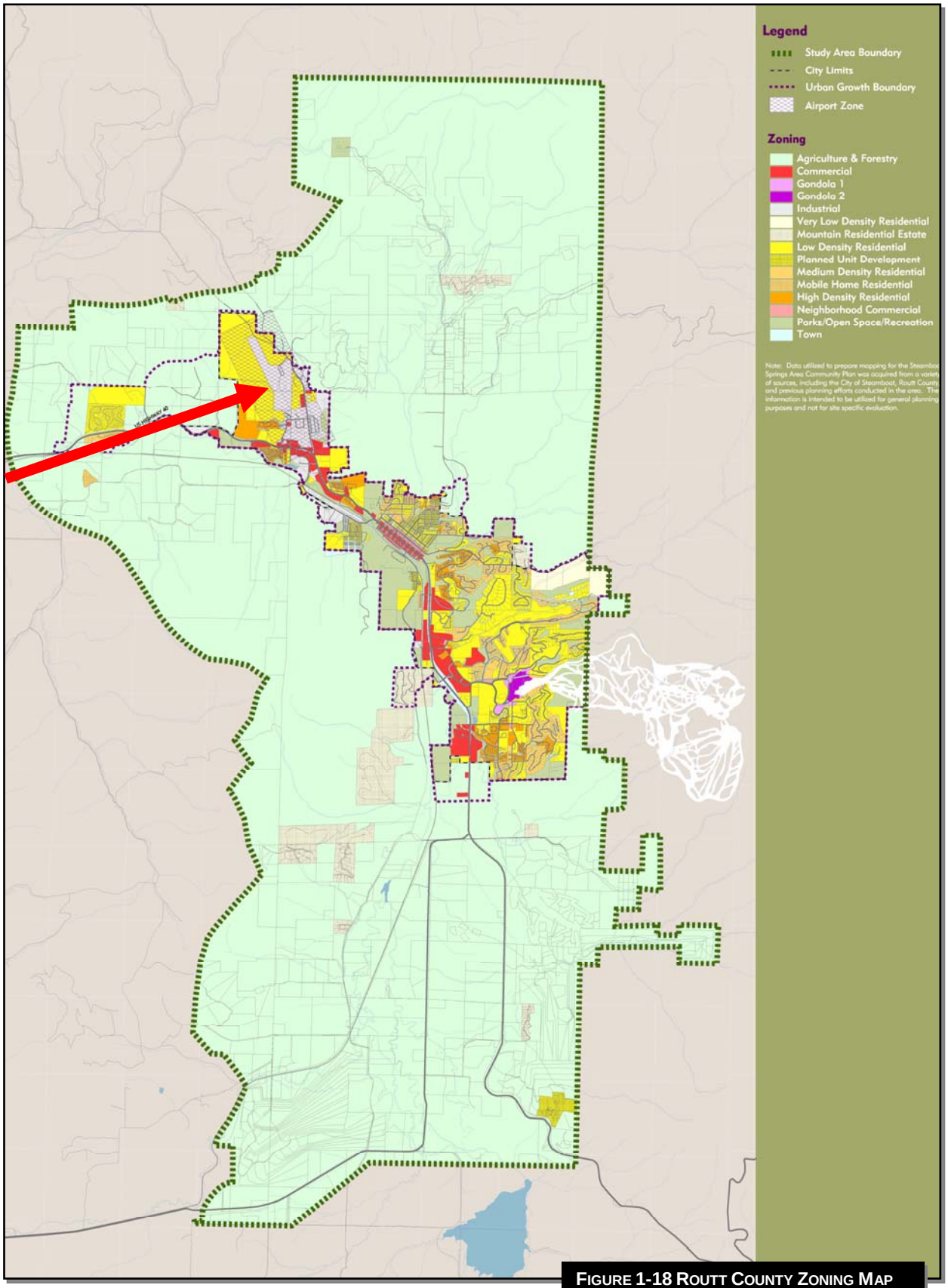


FIGURE 1-18 ROUTT COUNTY ZONING MAP

METEOROLOGICAL CONDITIONS

Meteorological conditions have a direct impact on the operational characteristics of an airport. These conditions determine the regulations under which operations may be conducted, the frequency of use for each operational configuration and the instrumentation required to assist aircraft in landing and departing. Temperature combined with airport elevation also has an affect on aircraft performance capabilities.

LOCAL CLIMATIC DATA

Steamboat Springs Airport is located in the heart of the Rocky Mountains. Climatic characteristics in this area include low relative humidity, abundant sunshine, heavy snowfall, moderate wind movement and a large daily range in temperature. Summer precipitation is largely from the accumulation of thunderstorm activity and is occasionally heavy. Temperatures in Steamboat Springs range from an average maximum temperature of 55 degrees Fahrenheit to an average minimum temperature of 22 degrees Fahrenheit. Average total precipitation is 23.97 inches, with 166 inches of snow falling during the winter season.

CEILING AND VISIBILITY CONDITIONS

Ceiling and visibility conditions are important considerations for an airport as the occurrence of low ceiling and/or poor visibility limits the use of the airport to instrument approach and departure operations until conditions improve. Under poor visibility conditions or instrument meteorological conditions (IMC), the pilot must operate under IFR; meanwhile, under visual meteorological conditions (VMC), pilots can operate using VFR. Under IFR the pilot maneuvers the aircraft through sole reference to instruments in the aircraft and navigational aids. The airport must be closed for use when conditions are worse than the published IFR minimums for the airport (see previous section titled *Instrument Flight Procedures)*. When weather permits VMC, the pilot can maneuver the aircraft by reference to the horizon and objects on the ground. According to historical weather records, the airport is VFR 94 percent of the time and IFR 6 percent of the time.

As previously discussed, Steamboat Springs Airport has nonprecision instrument approaches in place and visual approaches may also be flown when weather permits.

RUNWAY WIND COVERAGE

An analysis of wind is essential in deciding the desired alignment and configuration of the runway system. It is beneficial to align runways as closely as practicable in the direction of the prevailing winds. Aircraft land and takeoff into the wind and, therefore, can only tolerate limited crosswind components (winds that blow perpendicular to the runway centerline). The maximum allowable crosswind depends on the aircraft size, design characteristics and pilot proficiency. Table 1-14 shows allowable crosswind components for aircraft according to their Airport Reference Code.

TABLE 1-14 ALLOWABLE CROSSWIND COMPONENT

Crosswind (knots)	Airport Reference Code
10.5	A-I, B-I
13.0	A-II, B-II
16.0	A-III, B-III, C-I through D-III
20.0	A-IV through D-VI

FAA Advisory Circular (AC) 150/5300-13, *Airport Design*, recommends that a runway be oriented so that it yields 95 percent wind coverage under stipulated crosswind coverage defined by the airport ARC. If a single runway alignment cannot meet the recommended 95 percent wind coverage, then construction of an additional runway may be advisable.

Hourly wind data collected by the National Oceanic and Atmospheric Administration, National Climatic Data Center from the automated weather observation system (AWOS) located on the airfield indicates that Runway 14/32 provides more than 95 percent coverage for aircraft in ARC A-I through B-II. The percentage values are provided in Table 1-15. Therefore, the existing runway configuration is adequate for aircraft in categories A-I through D-VI. The wind rose is included on the airport layout plan drawing.

TABLE 1-15 WIND DATA

Crosswind (knots)	All Weather Coverage	IFR Coverage
10.5	96.06%	96.06%
13.0	98.03%	98.03%
16.0	99.01%	99.01%

Source: Steamboat Springs ASOS 1990-1994

ENVIRONMENTAL INVENTORY

INTRODUCTION

The purpose of the environmental inventory is to identify key environmental resources that may be affected by potential airport development. The data compiled in this section will be used later in this study in evaluating potential airport development alternatives and to identify environmental related permits that may be required for recommended development projects.

AIR QUALITY

Air quality attainment maps were obtained from the October, 2006 EPA map of nonattainment areas. The project is located within an attainment area (See Figure 1-19).

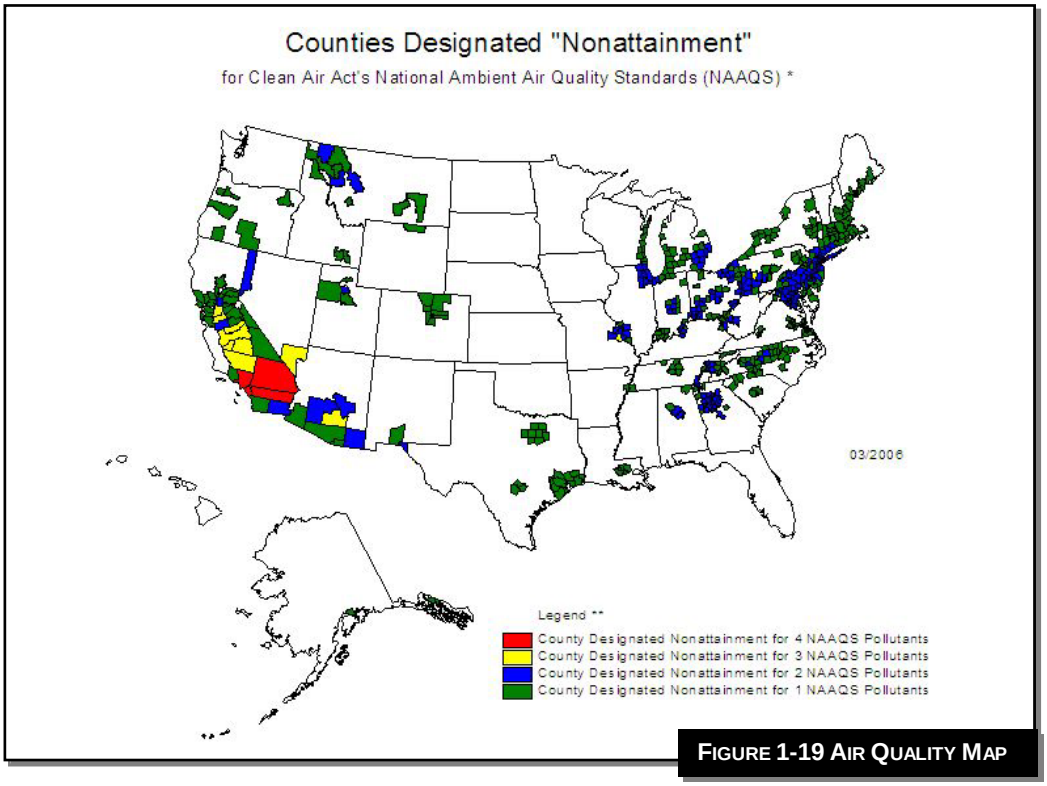


FIGURE 1-19 AIR QUALITY MAP

LAND USE COMPATIBILITY

The existing airport is located on approximately 276.87 acres of land. There are currently no significant environmental impacts at the airport. The surrounding land uses are considered compatible with the exception of the offices located within the runway protection zone.

DEPARTMENT OF TRANSPORTATION ACT

There are currently no public parks, recreation areas or wildlife and waterfowl refuge of National, State or Local significance surrounding the airport. There are also no historic sites of National, State or Local significance located in the vicinity of the airport. The nearest wilderness area is the Mt. Zirkel Wilderness Area, located approximately seven nautical miles north of the airport.

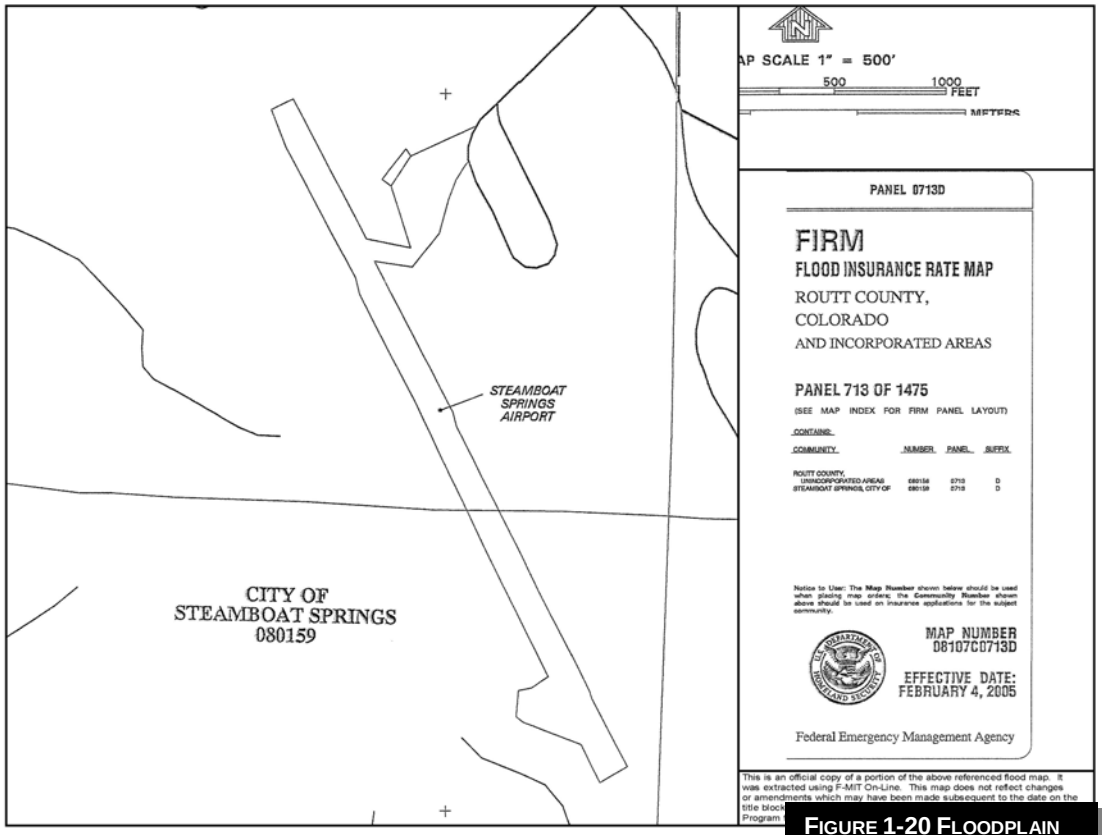


FIGURE 1-20 FLOODPLAIN

FLOODPLAINS

Available Federal Emergency Management Agency (FEMA) floodplain maps indicate that the airport property is does not encroach upon any 100-year floodplains (see Figure 1-20). There are no current impacts to existing floodplains.

FISH, WILDLIFE AND PLANTS

The U.S. Fish and Wildlife Service was contacted during the 1998 Airport Master Plan concerning the possibility of any impacts on any threatened and endangered species and candidate species that may occur within the airport environment. The U.S. Fish and Wildlife Service sent a list of federally threatened or endangered species and advised that future development would require a biological assessment to determine if any of the

listed species occur within the area of potential effect or if they would be impacted by any future development.

The following species currently listed for Routt County but do no necessarily occur in the vicinity of the Steamboat Springs Airport:

Endangered
Bonytail, Gila elegans
Colorado Pikeminnow, Ptychocheilus lucius
Humpback Chub, Gila cypha
Razorback Sucker, Xyrauchen texanus

Threatened
Bald Eagle, Haliaeetus leucocephalus
Canada Lynx, Lynx candensis

Candidate
Yellow-billed Cuckoo, Coccyzus americanus

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

During the 1998 Airport Master Plan, the Colorado Historical Society verified there are no existing impacts on any historic, archeological or cultural resources on or eligible for inclusion on the national register of historic places located in the vicinity of the airport.

NOISE

The existing noise contour is shown in Figure 1-21. The 65 DNL noise contour is predominantly contained within the existing airport property boundary. Options for areas within the 65 DNL but outside of airport property include compatible land use planning, acquisition, noise insulation or avigation easements. The airport has implemented a voluntary noise abatement program which includes avoiding straight-out departures and flight over populated areas. The Steamboat Springs Airport traffic pattern altitude is 7,880 feet MSL for all aircraft.

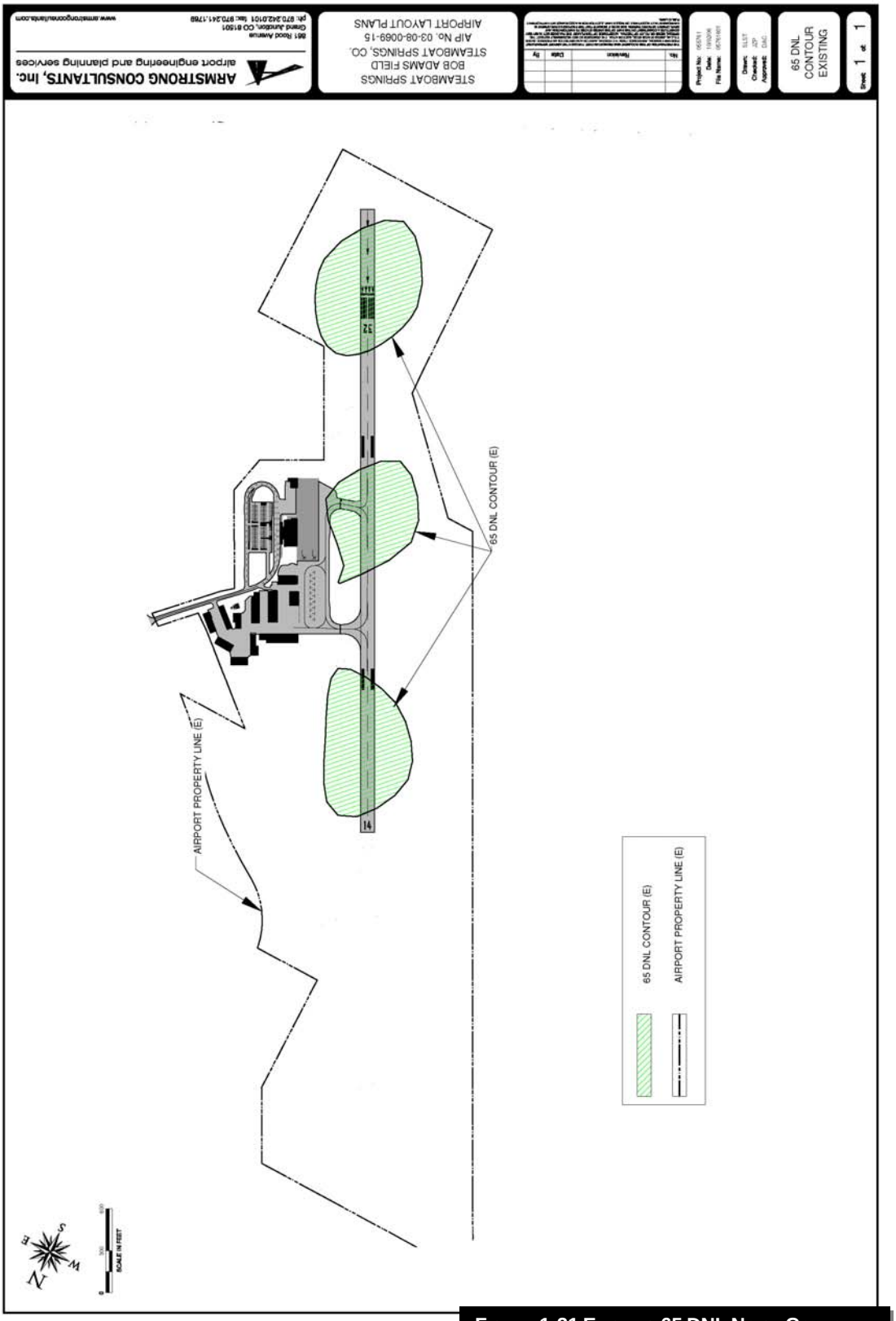


FIGURE 1-21 EXISTING 65 DNL NOISE CONTOUR

WETLANDS

The U.S. Army Corps of Engineers was also contacted during the 1998 Airport Master Plan conducted at the Steamboat Springs Airport. The U.S. Army Corps of Engineers did not indicate whether existing wetlands were present with the boundary of the airport. Recommendations were made for wetland delineation prior to any future development (see Figure 1-22). Slate Creek is located approximately 980 feet northwest of the airport.

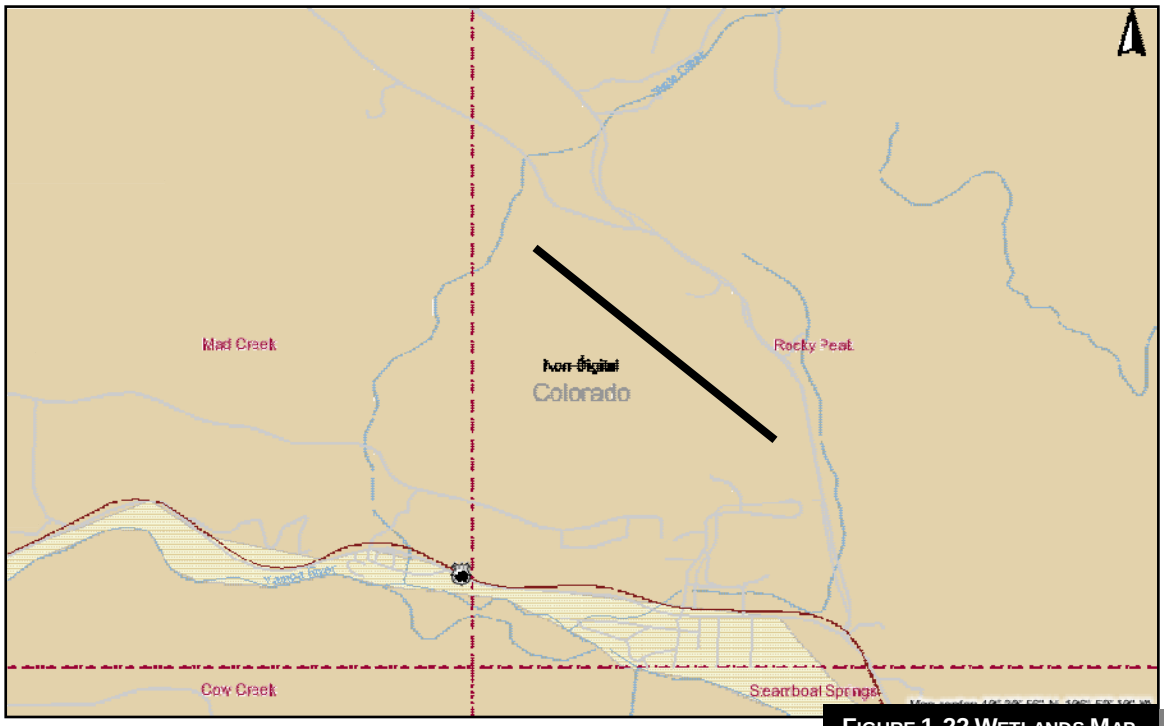


FIGURE 1-22 WETLANDS MAP

FINANCIAL INVENTORY

This section provides the historical financial information for the airport from the last five years. The data provides a baseline of the existing financial information for the airport. Pro forma projections and various scenarios are evaluated in later Chapters.

These factors place the Steamboat Springs Airport in a prime position to capitalize on the trends in the general aviation industry and to maximize the benefits the airport provides to the community. The airport is currently utilized by several local businesses and second home owners.

The City of Steamboat Springs provided the following information showing revenue and expenditures for the airport. Tables 1-16 and 1-17 show a summary of the historical revenue and expenditures for the airport. Detailed breakdowns of revenue and expense line items are included in Appendix B. The City of Steamboat Springs owns and operates the FBO at the airport. The City breaks down the revenue and expenditures between 1) airport operations which includes revenue generated by the airport including hangar leases, land leases and all revenue and expenses of operating the airport such as airport management personnel. 2) FBO operations include revenues and expenses generated by the airport including fuel sales and FBO personnel costs. 3) Terminal building revenue and expenditure includes the cost of paying off the bonds that were

issued for the construction of the terminal building and the revenue generated by the lease. 4) Capital improvement revenue and expenditure reflects the revenue and expenditure for improvements to the airport that are paid for with grants from the FAA, State of Colorado and local funding.

TABLE 1-16 AIRPORT REVENUES AND EXPENSES

	2002	2003	2004	2005	2006
Airport Operations Revenues	$107,543	$116,579	$117,888	$146,175	$137,506
Airport Operations Expenses	$248,374	$279,366	$365,571	$346,218	$247,011
Net Airport Operations	**-$166,719**	**-$162,787**	**-$247,683**	**-$200,043**	**-$110,868**
FBO Airport Revenues	$378,758	$308,096	$340,002	$411,759	$448,857
FBO Airport Expenses	$319,981	$272,757	$362,788	$437,630	$480,911
Net FBO	**$58,777**	**$35,339**	**-$22,786**	**-$25,871**	**-$32,054**
Terminal Building Airport Revenues	$15,442	$157,021	$162,728	$170,591	$177,405
Terminal Building Airport Expenses	$5,574	$462,567	$286,934	$297,850	$147,088
Net Terminal Building	**$9,868**	**-$305,546**	**-$124,206**	**-$127,260**	**$30,317**
Capital Improvement Airport Revenues	$255,797	$672,612	$5,408	$940,886	$61,457
Capital Improvement Airport Expenses	$229,600	$563,668	$54,898	$872,270	$90,936
Net Capital Improvements	**-$43,803**	**$108,944**	**-$49,490**	**$68,616**	**-$29,479**

TABLE 1-17 SUMMARY AIRPORT TOTAL REVENUES AND EXPENSES

	2002	2003	2004	2005	2006
Net Airport Operations	**-$166,719**	**-$162,787**	**-$247,683**	**-$200,043**	**-$110,868**
Net FBO	**$58,777**	**$35,339**	**-$22,786**	**-$25,871**	**-$32,054**
Net Terminal Building	**$9,868**	**-$305,546**	**-$124,206**	**-$127,260**	**$30,317**
Net Capital Improvements	**-$43,803**	**$108,944**	**-$49,490**	**$68,616**	**-$29,479**
Net Total Airport (-Subsidy, +Surplus)	**-$141,877**	**-$324,050**	**-$444,165**	**-$284,558**	**-$142,084**

Source: City of Steamboat Springs 2007

SUMMARY

A review of the airport financial data for the past five years indicates that the airport has been operating on a subsidy. While it would be an advantage for the airport to support itself, the indirect and intangible benefits of the airport to the community's economy and growth must also be considered. The Financial Chapter of this report discusses the benefits in further detail and how the airport can move toward becoming more self sufficient.

Chapter Two
Forecasts of Aviation Activity

Steamboat Springs Airport Master Plan

Chapter Two
Forecasts

INTRODUCTION

Forecasts of aviation activity serve as a guideline for the timing required for implementation of airport improvement programs. While such information is necessary for successful comprehensive airport planning, it is important to recognize that forecasts are only approximations of future activity based upon historical data and viewed through present situations. Therefore, they must be used with careful consideration as they may lose their validity with the passage of time and should be continuously monitored and periodically updated.

For this reason, an ongoing program of examination of local airport needs and national and regional trends is recommended and encouraged in order to promote the orderly development of aviation facilities at the Steamboat Springs Airport.

The Steamboat Springs Airport does not have an air traffic control tower and at airports not served by air traffic control towers, estimates of existing aviation activity are necessary in order to form a basis for the development of realistic forecasts. Unlike towered airports, it is difficult for non-towered general aviation airports to accurately track or maintain comprehensive logs of aircraft operations. Estimates of existing aviation activity are based upon a review of based aircraft, available historical data, available FBO logs and regional, state and national data to form the baseline to which forecasted aviation activity trends are applied.

Activity projections are made based upon estimated growth rates, area demographics, industry trends and other indicators. Forecasts are prepared for the Initial-Term (0-5 years), the Intermediate-Term (6-10 years) and the Long-Term (11-20 years) time frames. Utilizing forecasts within these time frames will allow the construction of airport improvements to be timed to meet demand, but not so early as to remain idle for an unreasonable length of time.

There are four types of aircraft operations considered in the planning process. These are termed “local, based, itinerant and transient.” They are defined as follows:

Local operations are defined as aircraft departures or arrivals for the purpose of training, pilot currency or pleasure flying within the immediate area of the local airport. These operations typically consist of touch-and-go operations, practice instrument approaches, flights to and within local practice areas and pleasure flights that originate and terminate at the airport under study.

Itinerant operations are defined as aircraft arrivals and departures other than local operations that generally originate or terminate at another airport. These types of operations are closely tied to local demographic indicators, such as local industry and business use of aircraft and usage of the facility for recreational purposes. Itinerant operations may be conducted by based or transient aircraft.

Based aircraft operations are defined as the total operations made by aircraft based (stored at the airport on a permanent, seasonal or long-term basis) at the study airport, with no attempt to classify the operations as to purpose.

Transient operations are defined as the total operations made by aircraft other than those based at the airport under study. These operations typically consist of business or pleasure flights originating at other airports, with termination or a stopover at the study airport.

The terms transient and itinerant are sometimes erroneously used interchangeably. This study will confine analysis to local and itinerant operations to correlate with FAA and State Aeronautics forecasting criteria.

NATIONAL AND REGIONAL TRENDS

As the Steamboat Springs Airport is an airport that primarily serves general aviation aircraft, general aviation industry trends were analyzed in the development of the airport's forecasted activity. According to factors such as aircraft production, pilot activity and hours flown, general aviation reached a peak in the late 1970s. This peak was followed by a long downturn that persisted through most of the 1980s and the early 1990s and has been attributed to high manufacturing costs associated with product liability issues as well as other factors. The General Aviation Revitalization Act (GARA) of 1994 was enacted with the goal of revitalizing the industry by limiting product liability costs. The Act established an 18-year statute of repose on liability related to the manufacture of all general aviation aircraft and their components. According to a 2001 report to Congress by the General Accounting Office (GAO), trends in general aviation since GARA was enacted suggest that liability costs have been less burdensome to manufacturers, shipments of new aircraft have increased and technological advances have been made. Indicators of general aviation activity, such as the numbers of hours flown and active pilots, have also increased in the years since GARA, but their growth has not been as substantial as the growth in manufacturing.

The terrorist attacks on U.S. aviation in September 2001 had a substantial impact on these positive general aviation industry trends. Significant restrictions were placed on general aviation flying following September 2001, which resulted in a considerable decrease in general aviation activity. Fortunately, most of these restrictions have now been lifted and the Federal Aviation Administration (FAA) is forecasting continued growth in general aviation.

The FAA annually convenes expert panels in aviation and develops forecasts for future activity in all areas of aviation, including general aviation. The FAA's 2006 forecast predicts the general aviation aircraft fleet will increase at an average annual rate of 1.4 percent during the 12-year forecast period, growing from an estimated 214,591 aircraft in 2005 to 252,775 aircraft in 2017. The fleet of turbine aircraft is expected to increase at a greater rate than the fleet of piston aircraft; as a result, the number of piston aircraft, while continuing to increase, is expected to represent a smaller percentage of the total general aviation fleet. Figures 2-1 and 2-2 illustrate this forecasted change to the general aviation fleet.

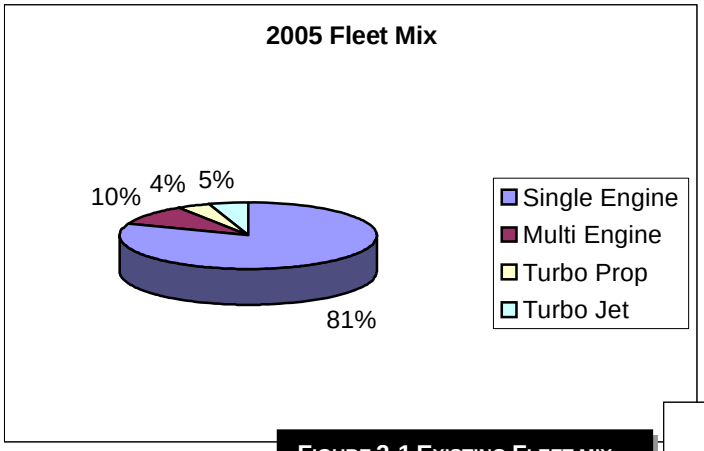


FIGURE 2-1 EXISTING FLEET MIX

SOURCE: GENERAL AVIATION MANUFACTURE'S ASSOCIATION (GAMA) 2005

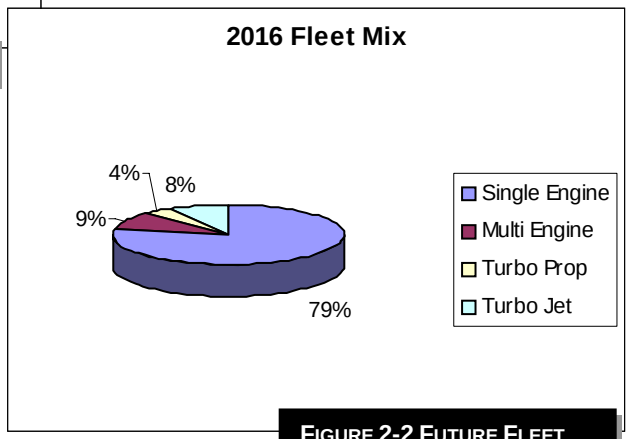


FIGURE 2-2 FUTURE FLEET

The General Aviation Manufacturer's Association (GAMA) produces activity forecasts based on general aviation hours flown. As shown in Table 2-1, the number of turbojet (TJ) hours is forecasted to increase 110 percent from 2005 to 2016.

TABLE 2-1 NATIONAL GENERAL AVIATION FORECAST

	Hours Flown (in millions)				
Year	**SE**	**ME**	**TP**	**TJ**	**Total**
2005	16.5	2.2	1.8	2.9	23.4
2006	16.6	2.2	1.9	3.1	23.8
2007	16.7	2.2	1.9	3.4	24.2
2008	16.8	2.2	1.9	3.6	24.5
2009	16.8	2.2	1.9	3.9	24.8
2010	16.9	2.2	2.0	4.2	25.3
2011	17.0	2.2	2.0	4.6	25.8
2012	17.1	2.2	2.0	4.9	26.2
2013	17.1	2.2	2.1	5.2	26.6
2014	17.2	2.2	2.1	5.5	27.0
2015	17.2	2.2	2.1	5.9	27.4
2016	17.3	2.2	2.1	6.1	27.7

Source: General Aviation Manufacturer's Association 2005 statistical Databook

Another industry trend is the increasing amount of research and development of programs like the Small Aircraft Transportation System (SATS). The National Aeronautics and Space Administration (NASA), FAA, States, industry and academic partners have joined forces to pursue the NASA National General Aviation Roadmap leading to a Small Aircraft Transportation System. This long-term strategic undertaking seeks to bring next-generation technologies and improved air access to small communities. The envisioned outcome is to improve travel between remote communities and transportation centers in urban areas by utilizing a new generation of single-pilot light aircraft for personal and business transportation between the nation's 5,400 public use general aviation airports.

Current NASA investments in aircraft technologies are enabling industry to bring affordable, safe and easy-to-use features to the marketplace, including "Highway in the Sky" glass cockpit operating capabilities which utilize digital displays to provide pilots with terrain, speed and route information, affordable crashworthy composite airframes, more efficient IFR flight training and revolutionary aircraft engines. To facilitate this initiative, a comprehensive upgrade of public infrastructure must be planned, coordinated and implemented within the framework of the national air transportation system. State partnerships are proposed to coordinate research support in key public infrastructure areas. Ultimately, SATS may permit more than tripling aviation system throughput capacity by tapping the under-utilized general aviation facilities, such as the Steamboat Springs Airport, to achieve the national goal of doorstep-to-destination travel at four times the speed of highways for the nation's suburban, rural and remote communities.

The introduction of the Very Light Jet (VLJ) may have an impact on the Steamboat Springs Airport. The small jet (less than 10,000 lbs.) can travel at speeds exceeding 400 knots at altitudes of 41,000 feet and is relatively inexpensive in the jet market (see Figure 2-3). These aircraft are expected to allow people to travel in jet aircraft to virtually any airport in the U.S. due to the small size and the short length required for takeoff and landing.

The demand for these aircraft is beginning to take shape, as the first VLJs certification was achieved in September 2006. Estimates have forecasted as many as 4,500 VLJs flying by 2016. The majority of the VLJ market is expected to be business people who seek flexible traveling schedules and air taxi services. The lack of efficiency in the hub and spoke system is a major contributor to the VJL market which will provide high-speed, low cost, convenient service to desired destinations.

FIGURE 2-3 VLJ

Several airtaxi/commercial operators were contacted about the possibility of operating out of the Steamboat Springs Airport. The companies that were contacted indicated that the possibility of serving a resort community such as Steamboat Springs as an on demand air taxi may be a potential, however, operating an airline into Steamboat Springs with these types of aircraft would be less likely. The VLJs are very small and since many of the people flying into and out of Steamboat Springs would either have skis or golf clubs and some luggage, the available space would be limited. The VLJ airline is setup to provide business travelers with day trips.

The continued growth in fractional ownership arrangements is another significant industry trend that may affect the Steamboat Springs Airport. Fractional ownership arrangements allow

businesses and individuals to purchase an interest in an aircraft and pay for only the time that they use the aircraft. According to the National Business Aviation Association (NBAA), in 1986, there were three owners of fractionally held aircraft. By 1993, there were 110. From 2000 to 2002, the number of companies and individuals using fractional ownership grew by 52 percent, from 3,834 to 5,827 shares; the growth from 1999 (2,607) to 2002 was 124 percent. The number of airplanes in fractional programs grew 11 percent in 2002, from 696 to 776.

The national increase in turbine aircraft use is a result of the success of fractional ownership, the introduction of new types of turbine aircraft and a transition from commercial air travel to corporate/business air travel as a result of increased security measures implement after September 2001.

AVAILABLE ACTIVITY FORECASTS

The first step in preparing aviation forecasts is to examine historical and existing activity levels and currently available forecasts from other sources. The FAA Terminal Area Forecasts (TAF), the forecast from the Colorado State Systems Plan and the previous Airport Master Plan Forecast were reviewed. The FAA TAF (August 2006) indicates 66 existing based aircraft for Steamboat Springs Airport and 22,191 existing annual operations. The TAF numbers are forecasting 95 based aircraft and 25,213 operations in 2025. The Colorado State Systems Plan (October, 2006) indicates 63 existing based aircraft and 21,484 existing annual operations at the Steamboat Springs Airport. The State Systems Plan includes a forecast of 95 based aircraft and 24,214 annual operations for Steamboat Springs by the year 2025. The 1998 Steamboat Springs Airport Master Plan projected 44 based aircraft and 15,405 operations by 2017.

FAA Form 5010-1, *Airport Master Record*, is the official record kept by the Federal Aviation Administration to document airport physical conditions and other pertinent information. The record normally includes an annual estimate of aircraft activity as well as the number of based aircraft. This information is normally obtained from the airport sponsor. The accuracy of these documents for an airport the size of Steamboat Springs Airport is dependent on the accuracy of the airport sponsor's record keeping system. The FAA Form 5010-1 (September, 2006) for the Steamboat Springs Airport indicates 82-based aircraft, 69 single engine and 13 multi engine and 10,698 annual aircraft operations. This form also breaks down the Steamboat Springs operations to 500 Air Taxi, 9,188 GA Local, 1,000 GA Itinerant and 10 military operations.

EXISTING AVIATION ACTIVITY

According to the 2005 airport management records, based aircraft and operations totals at the Steamboat Springs Airport are 92 based aircraft and approximately 10,764 operations as described in Chapter 1.

AIRPORT USER SURVEY

Airport user surveys were sent out to the list of 132 based and frequent airport users and 60 responses were received. The survey requested basic information including the following:

- residency, business ownership or second home ownership;
- the importance of the airport on the decision to live in or have a business in Steamboat Springs;
- the economic impact of the airport users was gathered, including payroll totals and employee totals;

- the number of operations that each user conducted at the airport and the number of touch and go operations from January 1, 2005 to December 31, 2005;
- the greatest needs for improvements at the airport and the importance of the Steamboat Springs Airport to the community;

A copy of the survey and a summary of the results is included in Appendix D of this report.

ANNUAL AIRCRAFT OPERATIONS

The number of touch and go operations[1] from those who responded indicated they conducted approximately 1,940 total touch and go operations. This figure was then doubled as one touch and go consists of two operations (one landing and one takeoff) resulting in 3,880 operations from those who responded. The average number of touch and go operations for those who did not respond was found by taking the total responses and calculating an average. The high number of touch and goes recorded from some of the responses such as flight instructors was not used in calculating the average. The average number of touch and go operations was found to be 17 per response. The 17 touch and goes were multiplied by the number of those who did not respond which was 72. This resulted in approximately 1,224 touch and go operations. The 1,224 touch and go operations were then multiplied by two to calculate the number of operations which equal approximately 2,448. The 3,880 operations and the 2,448 operations were added together giving the airport approximately 6,328 annual touch and go operations. The touch and go operations were added to the 10,764 resulting in 17,092 estimated annual operations at the airport

BASED AIRCRAFT AND OPERATIONS PER BASED AIRCRAFT

There are 92 aircraft based at the Steamboat Springs Airport (as of October, 2006). A copy of the based aircraft model type and tail number can be found in Appendix C of this report. The total annual operations estimate for the Steamboat Springs Airport is approximately 17,092. These totals result in 186 total operations per based aircraft (OPBA). It should be noted that OPBAs include all operations at an airport including transient flights and training. The OPBA ratio does not indicate each based aircraft will actually conduct that number of operations. The OPBA is recognized by the FAA as a method of determining activity at general aviation airports using known variables. According to FAA Order 5090.3C a general guideline is 250 operations per based aircraft for rural general aviation airports with little itinerant traffic, 350 operations per based aircraft for busier general aviation airports with more itinerant traffic and 450 operations per based aircraft for busy reliever airports.

TABLE 2-2 STEAMBOAT SPRINGS AIRPORT BASED AIRCRAFT FLEET MIX (2006)

Single Engine Piston	61
Multi-Engine Piston	14
Turbo-Prop	12
Turbo Jet	0
Rotorcraft	5
TOTAL	**92**

Source: Steamboat Springs Airport Management, October, 2006

The Steamboat Springs Airport is currently an Airport Reference Code (ARC) B-II airport serving predominately single engine piston, multi-engine piston and turbo prop aircraft, with some use by light turbojet aircraft. Typical users include:

[1] A touch and go operation involves an aircraft landing on the runway and then immediately taking off again without coming to a full stop. This type of operation is used for training purposes.

Air Medivac Services: Air medivac provides essential emergency medical transport in life threatening situations and patient transfers from clinics to higher level care facilities. According to airport management there are a number of companies throughout the region that operate helicopters and King Air 200s into and out of the Steamboat Springs Airport. According to Routt County Communications, there were a total of 42 air ambulance flights out of the Steamboat Springs Airport in 2005.

Business/Recreational Transportation: These users desire the utility and flexibility offered by general aviation aircraft. The types of aircraft utilized for personal and business transportation varies with individual preference and resources and generally includes a mix of single-engine, multi-engine and turbojet aircraft. This category also includes skiing and tourism traffic. There are 89 based and frequent use aircraft registered to businesses. These numbers are expected to continue to increase as the community continues to grow and the number of second homes continues to increase.

Wildfire Management: The U.S. Forest Service utilizes the airport for wildfire control and suppression. The number of these operations varies greatly depending on the fire season in the area. According to airport management, during fire season there is a Bell Jet Ranger helicopter and fire crew based at the airport. During a fire, large helicopters are also utilized and the Forest Service sets up a command center at the City-owned maintenance facility, located on the south end of the airport. The Medicine Bow-Routt National Forest fire control officer was contacted regarding the usage of the Steamboat Springs Airport. The fire control officer stated that the airport usage varies anywhere from twenty to several hundred operations per year depending on the fire season.

Flight Training: Two flight instructors conduct fixed-wing training out of Steamboat Springs and flight schools from other airports in the state and region have students perform cross-country flights to Steamboat Springs Airport. Flight training includes instructional flying to obtain a pilot's license or proficiency checks including biennial flight reviews. The majority of aircraft used for flight instruction include single and multi engine piston. Helicopter training is also provided at the airport by Zephyr Helicopters. Appendix C contains the most current information on pilot training activities at Bob Adams Field as reported in the Steamboat Springs Airport Managers Report presented during the Yampa Valley Airport Commission meeting on December 13, 2007.

Search and Rescue: Routt County Search and Rescue utilizes the Steamboat Springs Airport for their operations. Routt County often uses Zephyr Helicopters during emergency situations. The Civil Air Patrol (CAP) also utilizes the Steamboat Springs Airport during search and rescue missions and during flight instruction. CAP currently has one airplane based at the airport.

EXISTING BASED AIRCRAFT DEMAND

The City of Steamboat Springs currently has a list of 21 people waiting for available hangars at the airport. These individuals have indicated a strong interest in basing an aircraft as soon as adequate hangar space is available or land on the airport is made available to lease and allow the aircraft owner to build a hangar at their own expense. According to airport management, the number of based aircraft could increase by 30-50 aircraft if adequate hangar space were made available. There has also been local interest expressed in developing a fly-in residential community adjacent to the airport.

HISTORICAL BASED AIRCRAFT AND OPERATIONS

Airport management has kept a record of based aircraft and operations since 1996. The airport has shown a 15.5 percent average annual increase in based aircraft over the period. Table 2-3 shows the number of historical based aircraft and operations since 1996.

TABLE 2-3 HISTORICAL BASED AIRCRAFT AND OPERATIONS

Year	Based Aircraft	Operations
1996	36	6,102
1997	42	7,912
1998	40	7,996
1999	48	9,190
2000	50	7,996
2001	62	10,698
2002	62	10,706
2003	65	9,718
2004	76	10,682
2005	92	10,764

Source: Steamboat Springs Airport Management

FORECASTS OF AVIATION ACTIVITY

FACTORS INFLUENCING AVIATION DEMAND

There are several factors influencing aviation demand at the Steamboat Springs Airport. These factors include population growth, Steamboat Springs Ski Resort development, additional primary and second home development in the area and the attraction of location-neutral businesses. The economic development taking place in Steamboat Springs is a major factor in the demand for airport facilities. Private recreational, government, business and tourism flying will continue to be factors in the utilization of the airport, as well as flight training, air ambulance, fire fighting and search and rescue.

BASED AIRCRAFT

A comparative analysis of based aircraft forecasts was accomplished using four methodologies to derive a preferred forecast of based aircraft for the Steamboat Springs Airport. The first method utilized a bottom-up per capita approach that projects the number of based aircraft in direct proportion to the projected population for Routt County. This resulted in 150 based aircraft at the Steamboat Springs Airport in 2025 (see Table 2-4). According to FAA Order 5090.3C, when forecast data is not available, a satisfactory procedure is to forecast based aircraft using the statewide growth rate from the TAF and to develop activity statistics by estimating annual operations per based aircraft. The second forecasting method for based aircraft utilized the FAA's Terminal Area Forecast annual growth rate for the State of Colorado which is approximately 1.6% per year. This growth rate of 8% every five years would result in approximately 125 based aircraft in Steamboat Springs in 2026 (see Table 2-5).

TABLE 2-4 PER CAPITA METHOD

Year	Population	Aircraft
2005	21,313	92
2010	24,022	104
2015	27,407	119
2020	30,824	134
2025	34,562	150

TABLE 2-5 STATE OF COLORADO TAF METHOD

Year	Based Aircraft
2005	92
2010	99
2015	107
2020	116
2025	125

The third forecasting method for based aircraft utilized a trend of historical based aircraft growth and projected the percentage of increased based aircraft to continue on the same percentage. According to historical data provided by the airport management, over the last 10 years the number of based aircraft grew from 36 in 1996 to 92 in 2006. This equates to a 15.5 percent average annual increase over the 10 year period. The 15.5 percent annual increase was used to project the number of based aircraft over the 20 year period which would result in 167 based aircraft in 2025 (see Table 2-6).

TABLE 2-6 HISTORICAL TREND METHOD

Year	Based Aircraft
2005	92
2010	107
2015	124
2020	144
2025	167

After reviewing the different methods, it is recommended that an adjusted per capita method be considered as the preferred based aircraft forecast. As previously stated, airport forecasts are not an exact science. Forecasting numbers for a specific year, particularly beyond 10 years in the future, is very difficult. The aviation industry is volatile and susceptible to change with the economy. Figure 2-4 shows the variation in number of based aircraft for each type of forecasting method.

Airport management has a list of airport users waiting for a hangar or space to build hangars. Once additional hangar space is made available, it is expected that there will be a nearly immediate increase in the number of based aircraft. The per capita method would fit as the preferred method if demographics, income, second homes and employment were not changing; however, those items are expected to change and the number of based aircraft is expected to increase at a faster rate beginning with the availability of facilities such as hangars. Therefore, the adjusted method takes the anticipated increase over the first five years then trends toward the per capita method based on the projected population for Routt County. Table 2-7 shows the adjusted per capita method which results in 158 based aircraft in 2025.

TABLE 2-7 ADJUSTED PER CAPITA METHOD (RECOMMENDED METHOD)

2005	**92**
2010	**122**
2015	**130**
2020	**141**
2025	**158**

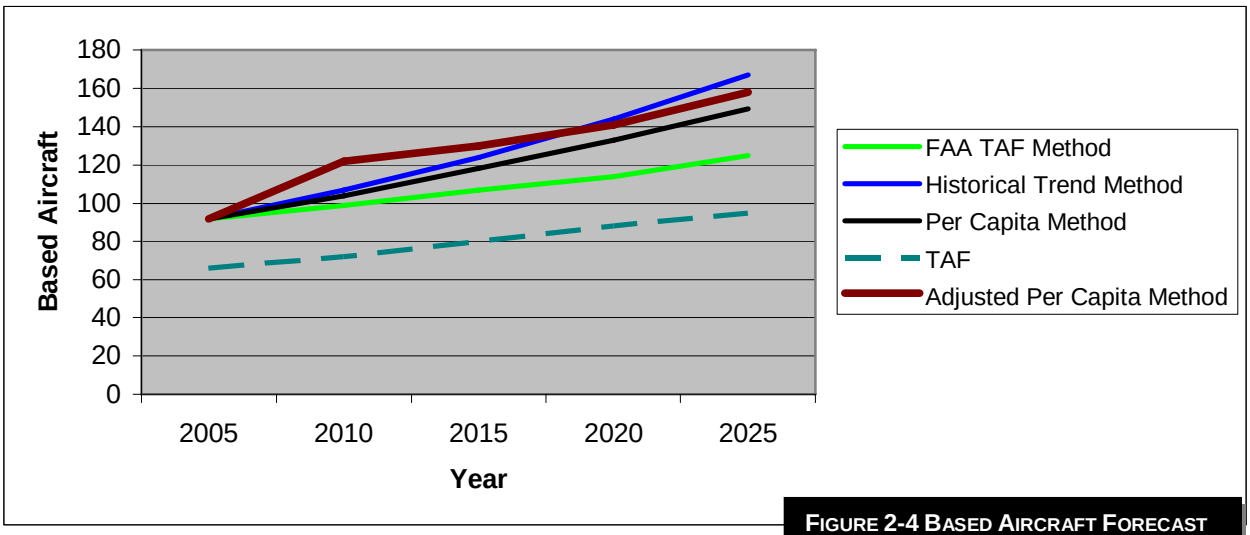


FIGURE 2-4 BASED AIRCRAFT FORECAST

ANNUAL AIRCRAFT OPERATIONS

In order to develop a preferred forecast of aircraft operations at the Steamboat Springs Airport, a number of methods were analyzed. Each method utilizes the recommended based aircraft forecast of 158 based aircraft from 2006 to 2025, then applies an operations per based aircraft (OPBA) to the based aircraft forecast. The methods are summarized as follows:

Method 1: Existing operations per based aircraft (186 OPBA)

Method 2: FAA Order 5090.3C (350 OPBA)

Method 3: FAA TAF (265 OPBA)

For the first method, the base year level of operations per based aircraft of 186 was applied to the recommended based aircraft forecast. Applying 186 OPBA to the recommended based aircraft forecast (see Table 2-7) results in 29,388 annual operations in 2025.

A general guideline from FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)* of 350 OPBA for busier general aviation airports with more itinerant traffic was applied to the based aircraft forecast for Method 2. Applying 350 OPBA to the preferred based aircraft forecast results in 55,300 forecast operations in 2025.

The third method, applied the FAA TAF OPBA (265) guideline to the forecast. This method results in a forecast of 41,870 operations in 2025.

These estimates provide a likely range of activity for future operations at the Steamboat Springs Airport and are shown in Figure 2-5. With improvements to the facilities and services such as enhanced radar coverage, improved approaches and additional hangar space, it is reasonable to anticipate the OPBA to increase over the planning period from 186 existing to 265 in 2025. The increasing OPBA trend was applied to the recommended based aircraft forecast to derive the recommended unconstrained operations forecast.

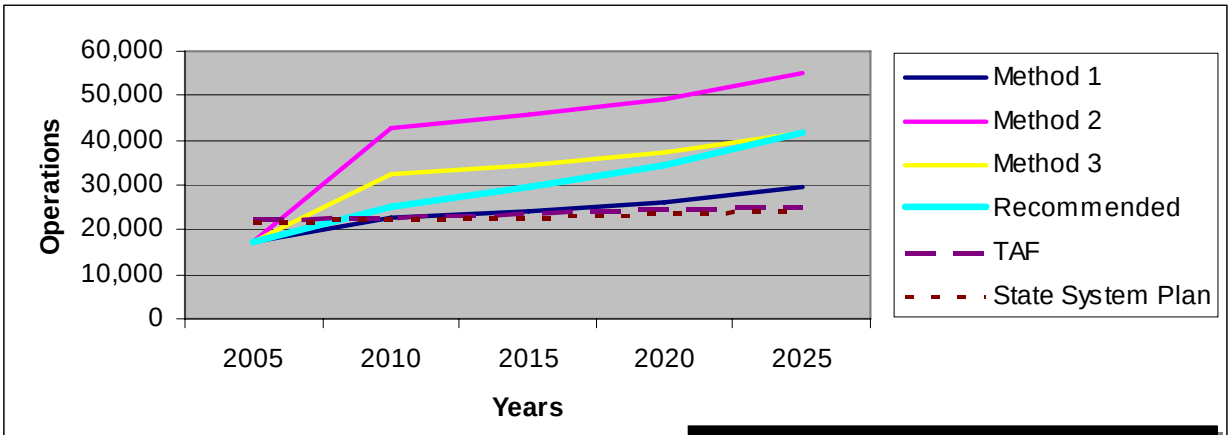


FIGURE 2-5 AIRCRAFT OPERATIONS FORECASTS

ITINERANT AND LOCAL OPERATIONS

Local operations consist primarily of training and recreational flights in the area. The remaining itinerant flights primarily consist of personal transportation, business transportation and recreational flights to and from other airports. Operations that would be considered local include ranchers, aerial observation and surveying, recreation and tourism, fire management and flight

training. The percentage of local versus itinerant operations was determined using the airport user survey results along with information provided by the instrument flight activity database. Instrument flight plans are required to be filed by larger corporate and commercial type aircraft that fly above 18,000 feet means sea level (MSL), along with other general aviation airplanes during inclement weather conditions. All instrument flight plans that are activated into or out of the Steamboat Springs Airport are kept in a database. This data provides fairly accurate information for the jet and turboprop type aircraft; however, it does not reflect the number of small general aviation aircraft that are operating under visual flight rules (VFR) and are not required to file an instrument flight plan. Table 2-8 shows the preferred forecast of aviation activity.

TABLE 2-8 PREFERRED FORECAST OF AVIATION ACTIVITY

Year	Based Aircraft	Local Operations	Itinerant Operations	Total Operations
2005	92	6,428	10,664	17,092
2010	122	8,909	16,193	25,102
2015	130	10,291	19,096	29,315
2020	141	12,053	22,527	34,580
2025	158	14,594	27,276	41,870

Source: Airport User's Survey (October, 2006) Instrument Flight Plan Database (GCR and Associates October, 2006)

AIRPORT USERS AND FLEET MIX

The existing number of operations was based in part on the instrument flight plan data system which tracks all instrument flight plans filed into or out of an airport. Instrument flight plans are primarily used by pilots of jet and turboprop aircraft (as they typically fly above flight level 18,000 feet MSL) and used by some pilots flying piston aircraft during instrument meteorological conditions. The number of turboprop operations was estimated from the instrument flight activity assuming that 20 percent of the turbo-prop aircraft operated VFR. This resulted in 625 annual turboprop operations during 2005. Turbojet operations were also estimated using the instrument flight data assuming that 10 percent of the jet aircraft operated under VFR. This results in approximately 133 turbojet operations. Figures 2-6 and 2-7 illustrate the forecasted change to Steamboat Springs Airport's fleet mix. Figure 2-8 shows a King Air at the Steamboat Springs Airport.

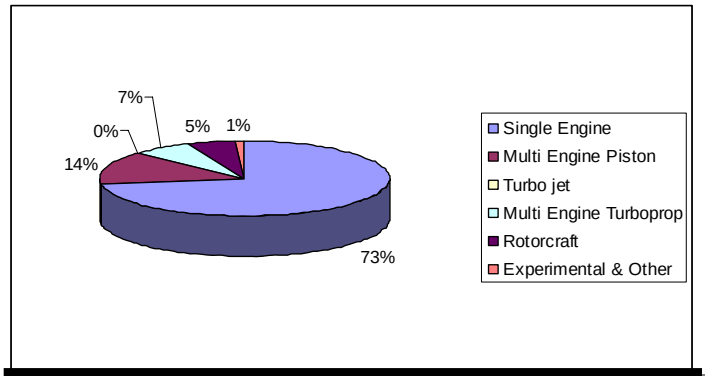


FIGURE 2-6 STEAMBOAT SPRINGS AIRPORT EXISTING FLEET MIX

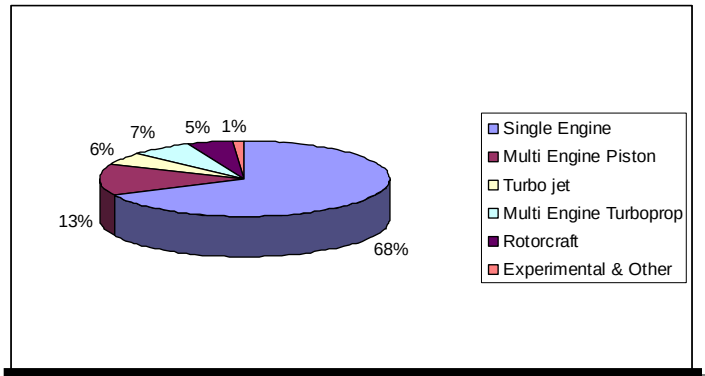


FIGURE 2-7 STEAMBOAT SPRINGS AIRPORT FUTURE FLEET MIX

As previously stated, a user survey was distributed to airport users to gather information on operations including touch and goes. Results from the survey indicated that touch and go operations are mainly attributed to single-engine piston, multi-engine piston and helicopter operations. Based on local fuel sales trends VLJ development, GAMA forecasts and trends in aircraft utilization the operational fleet mix is expected to remain constant during the planning period with the exception of a trend toward having an increase in the number of based jets to closer match the GAMA forecast of 6% jet. These trends were applied to the operations forecast to derive the forecast by aircraft type shown in Table 2-9.

TABLE 2-9 DETAILED FORECASTS BY AIRCRAFT TYPE

		2005	2010	2015	2020	2025
Single Engine Aircraft		67	84	90	96	107
	Itinerant Operations	8,152	11,220	13,022	15,363	18,603
	Local Operations	4,000	5,515	5,909	6,970	8,439
	Total Operations	12,152	16,735	18,931	22,333	27,042
Multi-Engine Piston		13	17	18	19	21
	Itinerant Operations	1,576	2,560	3,011	3,552	4,300
	Local Operations	500	1,000	1,060	1,250	1,514
	Total Operations	2,076	3,560	4,071	4,802	5,814
Turbo Jet Aircraft		0	5	5	7	9
	Itinerant Operations	133	1,000	1,500	1,769	2,142
	Local Operations	0	0	0	0	0
	Total Operations	133	1,000	1,500	1,769	2,142
Multi- Engine Turboprop		6	8	9	10	11
	Itinerant Operations	625	1,200	1,350	1,592	1,928
	Local Operations	0	0	0	0	0
	Total Operations	625	1,200	1,350	1,592	1,928
Rotorcraft		5	6	6	7	8
	Itinerant Operations	178	213	213	251	303
	Local Operations	1,828	2,194	3,000	3,539	4,285
	Total Operations	2,006	2,407	3,213	3,790	4,588
Experimental & Other		1	2	2	2	2
	Operations	100	200	250	294	356
Annual Operations		**17,092**	**25,102**	**29,315**	**34,580**	**41,870**

FIGURE 2-8 KING AIR AT STEAMBOAT SPRINGS

AIRPORT SEASONAL USE DETERMINATION

A seasonal fluctuation in aircraft operations may be expected at any airport. This fluctuation is most apparent in regions with severe winter weather patterns and at non-towered general aviation airports. The fluctuation is less pronounced at major airports, with a high percentage of commercial and scheduled airline activity.

Non-towered airports generally experience a substantially higher number of operations in summer months than off-season months. The average seasonal use trend for FAA towered airports from the 1979-1984 records (total aircraft operations handled by tower facilities nationally from *FAA Statistical Handbook of Aviation*) was used as a baseline for determining seasonal use trends. As discussed above, the seasonal fluctuation is more pronounced at non-towered airports than towered airports. The seasonal use trend for towered airports was adjusted to approximate seasonal use trends at non-towered airports. This is presented in Table 2-10 and in Figure 2-9.

TABLE 2-10 SEASONAL USE TREND

Month	Non-towered	Towered
January	3.5%	7.2%
February	4.0%	8.2%
March	4.8%	8.6%
April	7.5%	9.0%
May	11.3%	9.1%
June	13.5%	9.4%
July	14.8%	9.1%
August	13.0%	8.7%
September	10.0%	8.7%
October	8.0%	7.8%
November	5.8%	7.1%
December	3.8%	7.1%

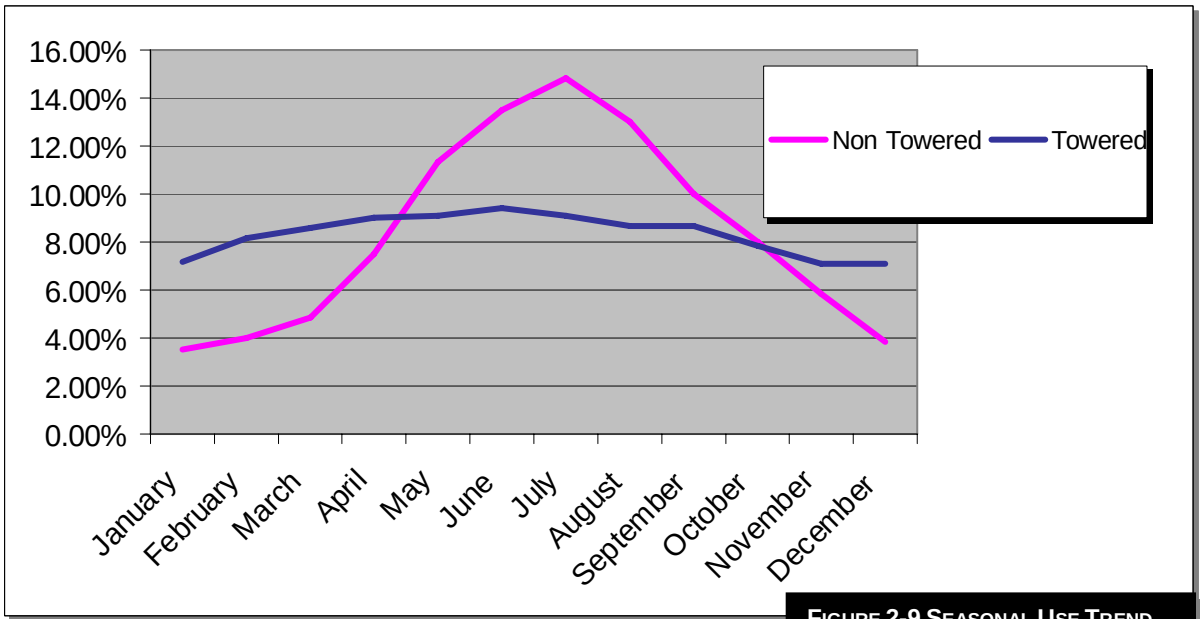


FIGURE 2-9 SEASONAL USE TREND

HOURLY DEMAND AND PEAKING TENDENCIES

In order to arrive at a reasonable estimate of demand at the airport facilities, it was necessary to develop a method to calculate the levels of activity during peak periods. The periods normally used to determine peaking characteristics are defined below:

Peak Month: The calendar month when peak enplanements or operations occur.

Design Day: The average day in the peak month derived by dividing the peak month enplanements or operations by the number of days in the month.

Busy Day: The Busy Day of a typical week in the peak month. In this case, the Busy Day is equal to the Design Day.

Design Hour: The peak hour within the Design Day. This descriptor is used in airfield demand/capacity analysis, as well as in determining terminal building, parking apron and access road requirements.

Busy Hour: The peak hour within the Busy Day. In this case, the Busy Hour is equal to the Design Hour.

The Seasonal Use Trend Curve, as presented in Figure 2-9, was used as a tool to determine the peaking characteristics for the Steamboat Springs Airport. Using the Seasonal Use information, a formula was derived which will calculate the average daily operations in a given month, based on the percentage of the total annual operations for that month, as determined by the curve. The formula is as follows:

$$M = A (T / 100)$$
$$D = M / (365 / 12)$$

Where T = Monthly percent of use (from curve)
M = Average monthly operations
A = Total annual operations
D = Average Daily Operations in a given month

Approximately 90% of total daily operations occur between the hours of 7:00 AM and 7:00 PM (12 hours) at a typical general aviation airport, meaning the maximum peak hourly occurrence may be 50% greater than the average of the hourly operations calculated for this time period.

The Estimated Peak Hourly Demand (P) in a given month was, consequently, determined by compressing 90% of the Average Daily Operations (D) in a given month into the 12-hour peak use period, reducing that number to an hourly average for the peak use period and increasing the result by 50% as follows:

$$P = 1.5 (0.90D / 12)$$

Where D = Average Daily Operations in a given month.
P = Peak Hourly Demand in a given month.

The calculations were made for each month of each phase of the planning period. The results of the calculations are shown in Table 2-11. As is evident in Table 2-11, the Design Day and Design Hour peak demand in the planning year occurs under VFR weather conditions in the month of July (highlighted in bold in Table 2-11).

TABLE 2-11 ESTIMATED HOURLY DEMAND/MONTH

MONTHLY/DAILY/HOURLY DEMAND

Planning Year: 2010
Operations: 25,102

Month	% Use	Operations Monthly	Daily	Hourly
January	3.5	879	29	3.3
February	4.0	1,004	33	3.7
March	4.8	1,205	40	4.5
April	7.5	1,883	62	7.0
May	11.3	2,837	93	10.5
June	13.5	3,389	111	12.5
July	**14.8**	**3,715**	**122**	**13.7**
August	13.0	3,263	107	12.0
September	10.0	2,510	83	9.3
October	8.0	2,008	66	7.4
November	5.8	1,456	48	5.4
December	3.8	954	31	3.5

Planning Year: 2015
Operations: 29,315

Month	% Use	Operations Monthly	Daily	Hourly
January	3.5	1,026	34	3.8
February	4.0	1,173	39	4.4
March	4.8	1,407	46	5.2
April	7.5	2,199	72	8.1
May	11.3	3,313	109	12.3
June	13.5	3,958	130	14.6
July	**14.8**	**4,339**	**143**	**16.1**
August	13.0	3,811	125	14.1
September	10.0	2,932	96	10.8
October	8.0	2,345	77	8.7
November	5.8	1,700	56	6.3
December	3.8	1,114	37	4.2

Planning Year: 2020
Operations: 34,580

Month	% Use	Operations Monthly	Daily	Hourly
January	3.5	1,210	40	4.5
February	4.0	1,383	45	5.1
March	4.8	1,660	55	6.2
April	7.5	2,594	85	9.6
May	11.3	3,908	128	14.4
June	13.5	4,668	153	17.2
July	**14.8**	**5,118**	**168**	**18.9**
August	13.0	4,495	148	16.7
September	10.0	3,458	114	12.8
October	8.0	2,766	91	10.2
November	5.8	2,006	66	7.4
December	3.8	1,314	43	4.8

Planning Year: 2025
Operations: 41,870

Month	% Use	Operations Monthly	Daily	Hourly
January	3.5	1,465	48	5.4
February	4.0	1,675	55	6.2
March	4.8	2,010	66	7.4
April	7.5	3,140	103	11.6
May	11.3	4,731	156	17.6
June	13.5	5,652	186	20.9
July	**14.8**	**6,197**	**204**	**23.0**
August	13.0	5,443	179	20.1
September	10.0	4,187	138	15.5
October	8.0	3,350	110	12.4
November	5.8	2,428	80	9.0
December	3.8	1,591	52	5.9

FORECAST SUMMARY

Recommended forecasts of aviation activity were derived for based aircraft, operations and fleet mix for the airport. These forecasts represent low, medium and high expected activity trends. The interest in basing aircraft at the airport shows the potential demand at the airport. This demand is currently constrained by the lack of available hangar space and the lack of a future terminal area plan at the airport. Once a terminal area plan is developed, the City of Steamboat Springs can begin leasing ground on the airport to allow aircraft owners to construct hangars. Another option for the City of Steamboat Springs is to construct hangars and lease the hangar space to these aircraft owners. This demand for basing aircraft and operating at the Steamboat Springs Airport explains why the master plan preferred forecasts exceed the TAF forecasts by more than 10 percent. The TAF is also incorrect with the number of current based aircraft at the airport due to expired data collected by the FAA. Table 2-12 shows the summary for the recommended Master Plan forecast for the Steamboat Springs Airport.

TABLE 2-12 FORECAST SUMMARY

	Based Aircraft	**Enplanements**		**Itinerant Operations**					**Local Operations**				
Year		AC	COMM	AC	AT & COM	GA	MIL	TOTAL	GA	MIL	TOTAL	TOT OPS	INST OPS
2005	92	0	0	0	1,500	9,164	0	10,664	6,428	0	6,428	17,092	1,112
2010	122	0	0	0	2,000	14,193	0	16,193	8,909	0	8,909	25,102	1,196
2015	130	0	0	0	2,500	16,596	0	19,096	10,291	0	10,291	29,315	1,292
2020	141	0	0	0	3,000	19,527	0	22,527	12,053	0	12,053	34,580	1,401
2025	158	0	0	0	3,500	23,776	0	27,276	14,594	0	14,594	41,870	1,510

Chapter Three
Facility Requirements

Steamboat Springs
Airport Master Plan

Chapter Three
Facility Requirements

INTRODUCTION

One of the primary objectives of this planning study is to determine the size and configuration of airport facilities needed to accommodate the types and volume of aircraft expected to utilize the airport. Data from Chapter 1 and forecasts from Chapter 2 are coupled with established planning criteria to determine the improvements that are necessary to airside and landside areas. Once the facility requirements are established, alternatives for providing these facilities are developed to determine the viability of meeting the facility needs. These alternatives are presented in Chapter 4.

The time frame for addressing development needs usually involves short-term (up to five years), medium-term (six to ten years) and long-term (eleven to twenty year) periods. Long range planning primarily focuses on the ultimate role of the airport and is related to development. Medium-term planning focuses on a more detailed assessment of needs, while the short-term analysis focuses on immediate action items and may include details not geared towards long-term development.

AIRPORT REFERENCE CODE

The Airport Reference Code (ARC) is a system established by the FAA that is used to relate airport design criteria to the operational and physical characteristics of the aircraft currently operating and/or intended to operate at the airport. The ARC has two components relating to the airport design aircraft. The first component, depicted by a letter, is the Aircraft Approach Category and relates to aircraft approach speed (operational characteristics). The second component, depicted by a Roman numeral, is the Aircraft Design Group and relates to aircraft wingspan and tail height (physical characteristics). Generally, aircraft approach speed applies to runway dimensional criteria and safety zones prior to and beyond the end of the runway. Aircraft wingspan is primarily associated with separation criteria involving taxiways and taxilanes. Table 3-1 lists the limits of approach and design classifications for both Aircraft Approach Categories and Aircraft Design Groups. Figure 3-1 shows examples of aircraft and their Airport Reference Codes.

TABLE 3-1 AIRPORT REFERENCE CODE

Approach Category	Approach Speed (knots)	
Category A	less than 91	
Category B	91 to 120	
Category C	121 to 140	
Category D	141 to 165	
Category E	166 or more	
Design Group	**Wingspan (ft)**	**Tail Height (ft)**
Group I	less than 49	Less than 20
Group II	49 to 78	20 to 29
Group III	79 to 117	30 to 44
Group IV	118 to 170	45 to 59
Group V	171 to 213	60 to 65
Group VI	214 to 261	66 to 79

AI

Primarily Single-Engine Propeller Aircraft, some light twins

Example Type: Cessna 172 Skyhawk

BI

Primarily Light Twin-Engine Propeller Aircraft

Example Type: Piper Navajo

BII

(<12,500 lbs)
Primarily Light Turboprops

Example Type: Beechcraft King Air

BII

(>12,500 lbs)
Mid-sized corporate jets and commuter airliners

Example Type: Cessna Citation II

A/BIII

Primarily large commuter-type aircraft

Example Type: De Havilland Dash 8

CI, DI

Primarily small and fast corporate jets

Example Type: Lear Jet 36

C/DII

Large corporate jets and regional-type commuter jets

Example Type: Gulfstream IV

C/DIII

Commercial airliners (approx. 100-200 seats)

Example Type: Boeing 737

C/DIV

Large commercial airliners (approx. 200-350 seats)

Example Type: Boeing 767

DV

Jumbo commercial airliners (approx. 350+ seats)

Example Type: Boeing 747

FIGURE 3-1 AIRPORT REFERENCE CODES

To ensure that all airport facilities are designed to accommodate the expected air traffic and to meet FAA criteria, the specific ARC for the airport must be determined. In order to designate a specific ARC for an airport, aircraft in that ARC should perform a minimum of 500 annual operations. The aircraft currently using the Steamboat Springs Airport on a regular basis have an ARC of A-I, B-I and B-II. The majority of the business jet aircraft and very light jet aircraft fall into the B-I and B-II ARC. Airport users and fleet mix were discussed in Chapter 2. Examples of aircraft with an ARC of A-I and B-I are listed in Table 3-2. Examples of aircraft with an ARC of A-II and B-II are listed in Table 3-3. Examples of aircraft with an ARC of C-II and D-II are listed in Table 3-4. Aircraft with an ARC of A-I through B-II are expected to utilize the airport in the short, medium and long-term time frames. A small number of operations by C-I and C-II aircraft occur (approximately 60 operations per year) at the Steamboat Springs Airport given the available runway length and the existing non-precision instrument approach. During the previous airport master plan aircraft with an ARC of A-III were using the airport on a regular basis, this was when the airport was still receiving regular scheduled commercial service. The airport is no longer serving commercial service aircraft and A-III aircraft are no longer using the airport on a regular basis.

This information indicates that fundamental development items should be based on an ARC of B-II for aircraft weighing up to 30,000 pounds. It is also anticipated that occasional operations will occur by C-I, D-I, C-II and C-III aircraft weighing up to 65,000 pounds. However, an upgrade to ARC C-II or C-III is not warranted at Steamboat Springs Airport given the limited number of operations and facilities designed to accommodate Category C and D aircraft and the close location to Yampa Valley Regional Airport.

TABLE 3-2 EXAMPLE AIRCRAFT HAVING AN ARC OF A-I OR B-I

Aircraft	Approach Speed (knots)	Wingspan (feet)	Tail Height (feet)	Max T.O. Weight (pounds)
Beech Baron 58P	101	37.8	9.1	6,200
Beech Bonanza V35B	70	33.5	6.6	3,400
Beech King Air B100	111	45.9	15.3	11,799
Cessna 150	55	33.3	8.0	1,670
Cessna 172	60	36.0	9.8	2,200
Cessna 177	64	35.5	8.5	2,500
Cessna 182	64	36.0	9.2	2,950
Cessna 340	92	38.1	12.2	5,990
Cessna 414	94	44.1	11.5	6,750
Cessna Citation I	108	47.1	14.3	11,850
Gates Learjet 28/29	120	42.2	12.3	15,000
Mitsubishi MU-2	119	39.1	13.8	10,800
Piper Archer II	86	35.0	7.4	2,500
Piper Cheyenne	110	47.6	17.0	12,050
Rockwell Sabre 40	120	44.4	16.0	18,650
Swearingen Merlin	105	46.3	16.7	12,500
Raytheon Beechjet	105	43.5	13.9	16,100
Eclipse 500 Jet	90	37.9	13.5	5,920

Source: FAA AC 150/5300-13, Airport Design

TABLE 3-3 EXAMPLE AIRCRAFT HAVING AN ARC OF A-II OR B-II

Aircraft	Approach Speed (knots)	Wingspan (feet)	Tail Height (feet)	Max T.O. Weight (pounds)
Air Tractor 802F	105	58.0	11.2	16,000
Beech King Air C90-1	100	50.3	14.2	9,650
Beech Super King Air B200	103	54.5	14.1	12,500
Cessna 441	100	49.3	13.1	9,925
Cessna Citation II	108	51.6	15.0	13,300
Cessna Citation III	114	50.6	16.8	17,000
Dassault Falcon 50	113	61.9	22.9	37,480
Dassault Falcon 200	114	53.5	17.4	30,650
Dassault Falcon 900	100	63.4	24.8	45,500
DHC-6 Twin Otter	75	65.0	19.5	12,500
Grumman Gulfstream I	113	78.5	23.0	35,100
Pilatus PC-12	85	52.3	14.0	9,920

Source: FAA AC 150/5300-13, Airport Design

TABLE 3-4 EXAMPLE AIRCRAFT HAVING AN ARC OF C-II OR D-II

Aircraft	Approach Speed (knots)	Wingspan (feet)	Tail Height (feet)	Max T.O. Weight (pounds)
Canadair CL-600	125	61.8	20.7	41,250
Gulfstream-III	136	77.8	24.4	68,700
1329 JetStar	132	54.5	20.4	43,750
Sabre 80	128	50.4	17.3	24,500
Gulfstream-II	141	68.8	24.5	65,300
Gulfstream-IV	145	77.8	24.4	71,780
Rockwell 980	121	52.1	14.9	10,325
Cessna Citation 650	126	53.6	16.8	23,000
Cessna Citation 750 X	131	63.6	18.9	36,100
Astra 1125	126	52.5	18.1	23,500
Hawker 125-1000	130	61.9	17.1	36,000
Falcon 900 EX	126	63.5	24.2	48,300

Source: FAA AC 150/5300-13, Airport Design

AIRSIDE FACILITY REQUIREMENTS

The airside facilities of an airport are described as the runway configuration, the associated taxiway system, the ramp and aircraft parking area and any visual or electronic approach aids.

RUNWAY REQUIREMENTS

Annual Service Volume: The Annual Service Volume (ASV) is a calculated reasonable estimate of an airport's annual capacity; taking into account differences in runway utilization, weather conditions and aircraft mix that would be encountered in one year. When compared to the forecasts or existing operations of an airport, the ASV will give an indication of the adequacy of a facility in relationship to its activity level. The ASV is determined by reference to the charts contained in FAA Advisory Circular (AC) 150/5060-5, *Airport Capacity and Delay*.

The FAA Airport Design Program was used to calculate the ASV for a one-runway airport with the forecasted operation levels determined in Chapter 2. Annual Service Volume for the runway

configuration is 230,000 operations per year. Under these conditions, the existing runway facilities will adequately meet the demand within the time frame of this study.

Runway Length: FAA Advisory Circular 150/5325-4B, Runway Length Requirements for Airport Design, provides guidance for determining runway length requirements. Furthermore, the FAA has developed a computer software program entitled "Airport Design." The program provides the user with recommended runway lengths and other facilities on an airport according to FAA design standards. The information required to execute the program for recommended runway lengths, includes airfield elevation, mean maximum temperature of the hottest month and the effective gradient for the runway. This specific information for the Steamboat Springs Airport that was used for the purposes of this portion of the study for Runway 14/32:

Field Elevation: 6,878.1' MSL
Mean Maximum Temperature of Hottest Month: 82.4^{o} F
Effective Gradient: 7.5 Feet

(Note: The actual difference in feet from runway end to runway end is required to run the FAA software program and is listed as the effective gradient. However, the effective gradient is usually shown as a percent.)

With this data, the Airport Design program provides several runway length recommendations for both small and large aircraft according to varying percentages of aircraft fleet and associated takeoff weights. A summary of the data provided by the program is listed in Table 3-5.

TABLE 3-5 RECOMMENDED RUNWAY LENGTH

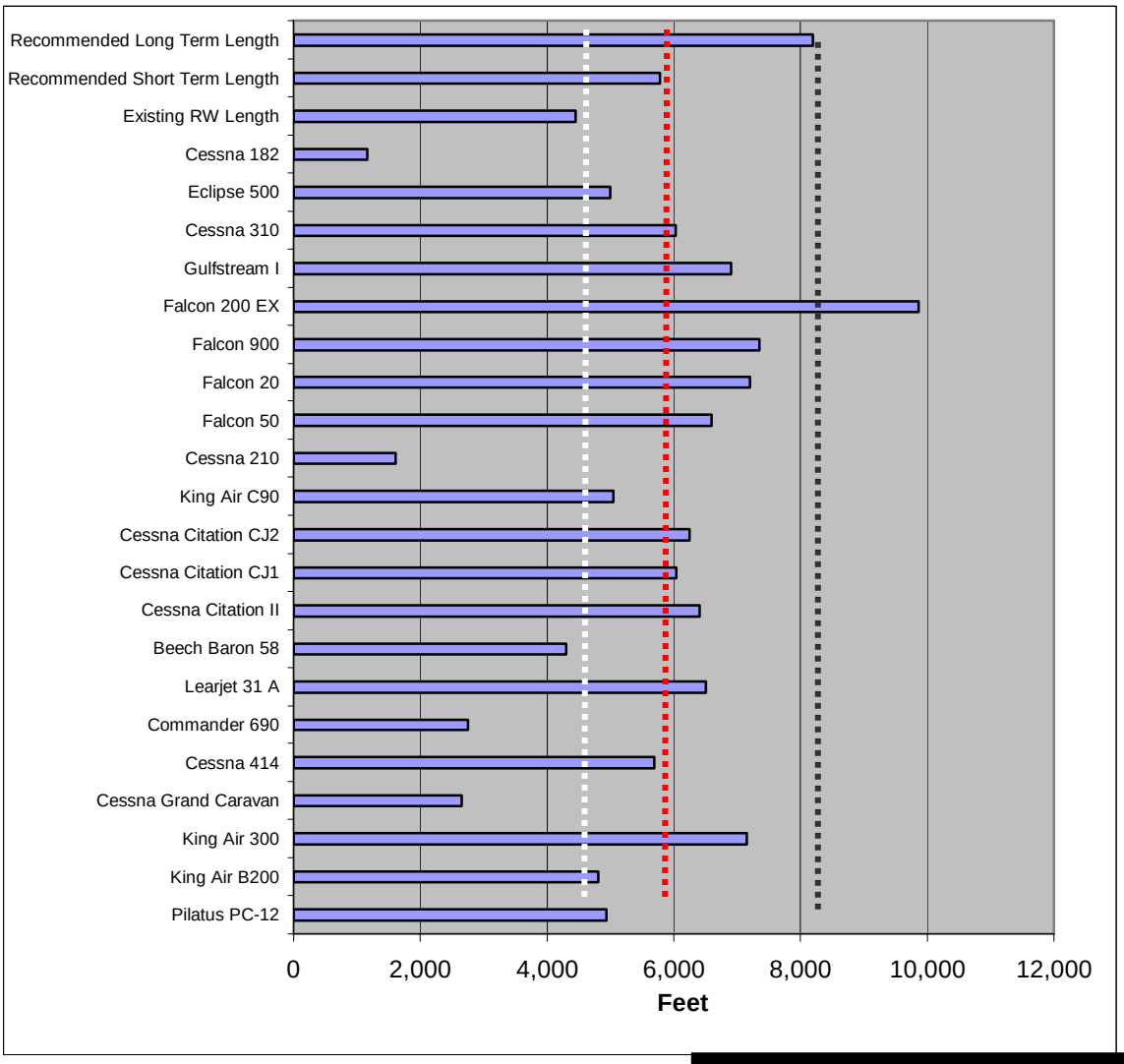
Description	Runway Length
Existing Runway Length	4,452'
Recommended to accommodate:	
Small Aircraft (<12,500 lbs.)	
Less than 10 passenger seats	
75 percent of these small airplanes at 100 percent useful load	5,780'
95 percent of these small airplanes at 100 percent useful load	8,200'
100 percent of these small airplanes at 100 percent useful load	8,200'
10 or more passenger seats	8,200'
Large Aircraft (>12,500 lbs., <60,000 lbs.)	
75 percent of these planes at 60 percent useful load	7,430'
75 percent of these planes at 90 percent useful load	8,680'
100 percent of these planes at 60 percent useful load	11,080'
100 percent of these planes at 90 percent useful load	11,080'

Source: FAA Computer Software Program, Airport Design Version 4.2d
Balanced Field Length (Accelerate/Stop)

Using the results of the FAA's software program, it is recommended that Runway 14/32 have a minimum length of 5,780 feet. This length would accommodate 75 percent of the small aircraft fleet. The aircraft used in the FAA Advisory Circular that make up 75 percent of the large fleet and the remaining 25 percent that make up 100 percent of the fleet for large aircraft is included in Appendix D.

Takeoff Distance Requirements: When determining runway length requirements for any airport it is necessary to consider the types of aircraft (aircraft design group and critical aircraft) that will be using the airport and their respective takeoff distance requirements. Figures 3-2 and 3-3 gives examples of takeoff distance requirements for the aircraft currently using the Steamboat Springs Airport along with some large B-II aircraft that currently do not use the airport in different temperature conditions.

Based on the required runway lengths for these categories of aircraft, the existing runway length of 4,452 feet limits many of the larger B-II aircraft especially during high summertime temperatures. A runway extension to a length of 5,780 feet is recommended in the short term and 8,200 feet in the long term. The actual runway length may vary depending on several factors including topographical, environmental and fiscal constraints. The use of the existing runway at any runway length is strictly at the discretion of the aircraft operator/pilot. Increased runway length would increase safety at the airport by providing increased accelerate stop distance and landing distance. The increased runway length will also increase the utility of the airport by allowing aircraft to operate at normal weight when high summertime temperatures increase density altitude. A runway extension to the northwest would also increase safety by increasing the altitude of aircraft when departing on Runway 14 and decrease noise exposure over the City of Steamboat Springs.



SOURCE: AIRCRAFT MANUFACTURERS DATA

FIGURE 3-2 RUNWAY LENGTH REQUIREMENTS

**Aircraft performance data based on maximum certificated takeoff weight and mean maximum temperature of the hottest month of 82° F and an airport elevation of 6,878 feet above mean sea level (MSL).*

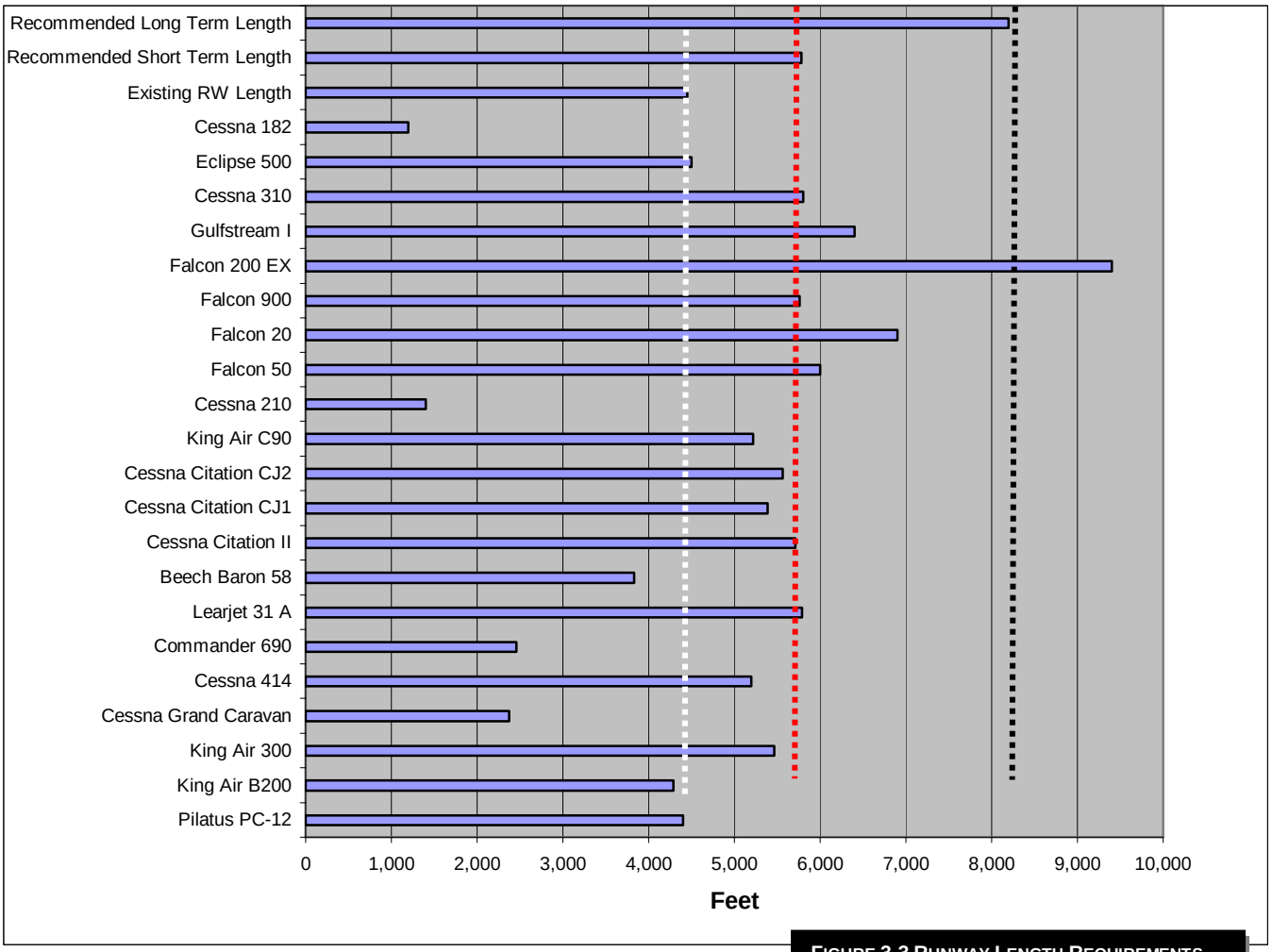


FIGURE 3-3 RUNWAY LENGTH REQUIREMENTS

SOURCE: AIRCRAFT MANUFACTURES DATA

**Aircraft performance data based on maximum certificated takeoff weight and the average mean maximum temperature of 55°F and an airport elevation of 6,878 feet mean seal level (MSL).*

Runway Strength and Width: Runway strength requirements are normally based upon the design aircraft that may be expected to use the airport on a regular basis. The existing strength of Runway 14/32 is 50,000 pounds Single Wheel Gear (SWG), 60,000 pounds Dual Wheel Gear (DWG). This strength exceeds existing and projected future requirements. It is recommended that future pavements be constructed to 30,000 SWG and 45,000 DWG to accommodate the B-II aircraft fleet.

FAA design standards for runways serving aircraft having an ARC of B-II and less than ¾-mile approach minimums require a minimum runway width of 100 feet. Therefore maintaining the runway at 100 feet wide is recommended.

CROSSWIND RUNWAY REQUIREMENTS

Aircraft generally takeoff into the wind. Aircraft performance and pilot ability dictate the amount of wind from the side (i.e. crosswind) that can be handled. The FAA recommends that a runway's orientation provide at least 95 percent crosswind coverage which means that 95 percent of the time the wind does not exceed the allowable crosswind component (10.5 knots

for Category B-II aircraft). If the wind coverage of the runway does not meet this 95 percent minimum for the appropriate ARC, then a crosswind runway should be considered. Crosswind coverage for Runway 14/32 is 96.06 percent for a 10.5 knot crosswind and 98.03 percent for a 13.0 knot crosswind; therefore, a crosswind runway is not justified.

The wind study analysis described in Chapter 1 indicated that Runway 14/32 at the Steamboat Springs Airport meets the FAA standard of at least 95 percent combined crosswind coverage. The airport has an automated weather observation system (AWOS) to provide pilots with real time weather conditions when operating at the Steamboat Springs Airport. It is recommended that the AWOS be connected to the National Airspace Data Interchange Network (NADIN) to allow pilots to obtain weather information during flight planning. It is recommended that the signal strength of the AWOS be increased to allow pilots to obtain weather information on the frequency prior to entering the airport environment.

RUNWAY INCURSIONS

There are currently no formal runway incursion mitigation measures in place at the Steamboat Springs Airport. However, there is an electronic vehicle access gate to minimize the potential for wildlife and vehicle incursions. In addition, a perimeter wildlife fence surrounds the airport. This fence is in poor condition in areas and is not considered to be adequate to keep animals out of the airport environment. As previously mentioned, this perimeter fence is an eight-foot electric fence, but the electric portion of the fence is inoperative due to the brush growing around it. Therefore, new wildlife fencing is recommended to help prevent runway incursions.

HELICOPTER PARKING

There are currently no designated helicopter parking areas. Helicopters currently park on the existing tiedown area. Designated helicopter parking areas are recommended based on expected helicopter demand noted in Chapter 2. Bell 206 helicopters currently use and are expected to continue to use the airport. A helicopter parking apron with 3 parking pads is recommended for the airport.

TAXIWAY REQUIREMENTS

Length and Width: The primary function of a taxiway system is to provide access between runways and the terminal area. The taxiways should be located so that aircraft exiting the runway will have minimal interference with aircraft entering the runway or remaining in the traffic pattern. Taxiways expedite aircraft departures from the runway and increase operational safety and efficiency.

According to FAA Advisory Circular 150/5300-13, Airport Design, the minimum recommended runway to taxiway centerline separation for a runway with an ARC of B-II is 240 feet and the minimum recommended width is 35 feet. The minimum recommended runway to taxiway separation for an airport with an ARC of B-II with an instrument approach with visibility minimums lower than ¾-mile is 300 feet. There are two existing mid field connector taxiways at the Steamboat Springs Airport. These two connector taxiways are setup with a runway centerline to taxiway centerline distance of 300 feet.

The construction of a parallel taxiway system is considered essential at airports having at least 20,000 annual operations or those served by commercial service. Given the activity levels at Steamboat Springs Airport, a partial parallel taxiway to Runway 32 is recommended initially and a full length parallel taxiway in the medium to long term after annual operations reach approximately 20,000.

Strength: The strength of the taxiway should be constructed at a strength equal to that of the associated runway pavement. The current taxiway strength is rated at 30,000 lbs SWG and 45,000 DWG.

AIRCRAFT APRON

The apron space requirements recommended in this planning document were developed according to AC 150/5300-13, *Airport Design*. Consideration must be made in the overall apron sizing for aircraft parking and tiedown requirements, taxilanes, adjacent taxiways and proximity to all aircraft expected to use the airport, including turboprops and business jets.

The majority of transient aircraft are currently parked on the apron along with some based aircraft (Figure 3-4 shows the existing apron layout). The existing aircraft parking apron occasionally becomes filled to capacity during peak periods in the summertime. Consequently, future apron size should be planned for both transient and based aircraft.

Tiedown Requirements: Aircraft tiedowns should be provided for those small and medium sized aircraft utilizing the airport. These aircraft risk being damaged or may cause damage or injury in sudden wind gusts if not properly secured. A number of tiedowns are required to accommodate the peak daily transient aircraft and overnight transient aircraft, plus based aircraft that are not hangared. Tiedown requirements for the 20-year planning period are listed in Table 3-6. The number of transient aircraft at the airport was calculated using the peak number of operations that were derived in the Forecast Chapter. This information was used in the calculation of tiedown requirements. The current tiedown layout is based on Group I taxilane OFAs. The future apron layout should be planned to provide for Group II taxilane OFAs. Typically large aircraft, including business jets, are not tied down and can usually be parked using the space of three or four aircraft tiedowns.

TABLE 3-6 TIEDOWN AND APRON AREA REQUIREMENTS

Year	Tie-downs	Apron Area (SY)
2005	17	24,000
2010	43	38,400
2015	48	40,140
2020	55	42,504
2025	64	45,600

Apron Size Requirements:

Generally speaking, an apron tiedown area should provide 300 square yards per based aircraft not hangared and 360 square yards per transient aircraft. This square yardage per aircraft provides adequate space for tiedowns, circulation and fuel truck movement. The City of Steamboat Springs should plan for additional apron expansion and taxilane expansion to hangar development areas. Demand for hangar space has been indicated and the City should take advantage of this revenue generating opportunity. Table 3-6 shows the recommended apron area square yardage that was determined using information from the peak operations from the Forecast Chapter.

FIGURE 3-4 AIRCRAFT APRON

NAVIGATIONAL AIDS

A Navigational Aid (NAVAID) is any ground based visual (i.e. PAPI) or electronic device used to provide course or altitude information to pilots. NAVAIDs include Very High Omnidirectional Range (VORs), Very High Frequency Omnidirectional Range with Tactical Information (VOR-TACs), Nondirectional Beacons (NDBs) and Tactical Air Navigational Aids (TACANs), as examples. The Robert VOR is located approximately 4 nautical miles south of the airport. PAPIs on Runway 14 are recommended, pending that it would meet the clearance requirements.

INSTRUMENT APPROACH PROCEDURES

Non-precision Global Positioning System (GPS) approaches do not require ground-based facilities on or near the airport for navigation. The GPS receiver uses satellites for navigation. Therefore, it involves little or no cost for the airport sponsor. GPS was developed by the United States Department of Defense for military use and is now available for civilian use. GPS approaches are rapidly being commissioned at airports across the United States. Approach minimums as low as 350-foot ceilings and 1-mile visibility are typical for this type of approach. An instrument approach increases the utility of the airport by providing for the capability to operate in inclement weather conditions. This is especially important for air medivac/air ambulance, physician transport and business flights. It is also useful for conducting training and maintaining instrument currency and proficiency requirements.

The existing approach procedures at the airport includes a non-precision instrument GPS approach and a VOR/DME-C approach. The minimums for these approaches are 1,262-foot ceiling and 1½-mile visibility and 902-foot ceiling and 1¼-mile visibility. A future potential approach that should be considered is a GPS approach procedure with vertical guidance (LNAV/VNAV) using the Wide Area Augmentation System (WAAS). The airport has been surveyed for a WAAS approach. The WAAS approach could potentially provide instrument

minimums as low as 300-foot ceilings and ¾-mile visibility. The LNAV/VNAV approach with minimums less than 1-mile would increase the FAR Part 77 Primary Surface from 500 feet wide to 1,000 feet wide. An approach lighting system (ALS) such as ODALS, MALS, MALSF, SSALS or SALS would be necessary to obtain ¾-mile visibility minimums. The ALS is designed to provide early visual acquisition of the runway approach in visibility limiting Instrument Meteorological Conditions (IMC). The installation of LNAV/VNAV is recommended to obtain the lowest possible ceilings and visibility minimums as low as 1-mile.

AIRFIELD LIGHTING, SIGNAGE, MARKING AND VISUAL AIDS

Airport lighting enhances safety during periods of inclement weather and nighttime operations by providing visual guidance to pilots in the air and on the ground. Lighting and visual aids can consist of a variety of equipment or a combination thereof as described in Chapter 1. The airport's existing inventory of lighting and visual aids includes two-box precision approach path indicators on Runway 32, a rotating beacon, medium intensity runway lights (MIRLs), runway end identifier lights (REILs), 6-light runway threshold lights on Runway 14 and 8-light runway threshold lights on Runway 32, visual runway markings on Runway 14 and nonprecision instrument markings on Runway 32, a segmented circle and taxiway reflectors. The airport terminal area is also equipped with area lighting. The airfield lighting and visual aids are in good condition and should be maintained in their present condition. The lighting of the taxiways with medium intensity taxiway lights (MITLs) and appropriate signage is recommended.

Runway 14 is currently marked as a visual runway and Runway 32 is marked as a nonprecision instrument runway. Runway 14/32 markings are in good condition but are beginning to fade. The markings will need to be re-painted with the next several years.

LANDSIDE FACILITY REQUIREMENTS

Landside facilities are another important aspect of the airport. Landside facilities serve as the processing interface between the surrounding community and the airport operating environment. Likewise, it offers the air traveler the first impression of the airport and the local area. Landside facilities house the support infrastructure for airside operations and often generate substantial revenues for the airport.

TERMINAL BUILDING

The terminal building at any airport offers many amenities to passengers, local and transient pilots and airport management. Terminal buildings (often called pilot lounges at general aviation airports) most often house public restrooms, public telephones, a pilot's lounge and information regarding airport services.

FIGURE 3-5 EXISTING TERMINAL BUILDING

The existing terminal building at the Steamboat Springs Airport was built to serve air carrier operations. Since air carriers have stopped serving the airport, the City is utilizing a portion of the building to operate the FBO services. The remainder of the terminal building is leased to Smartwool (a textile manufacturer). The terminal building includes a lobby area, restrooms, telephone, a flight planning room and airport management offices. The terminal building is well maintained and provides adequate space and amenities to accommodate existing and long term demand. Figure 3-5 shows the existing terminal building at the airport.

It is recommended that the City continue to lease to Smartwool until there is aeronautical demand for the building. There has been discussion about a private FBO providing service at the airport. A private FBO may want to utilize the terminal building or construct a new FBO on land leased from the City. With the anticipated very light jet usage, it is recommended that the future use of the terminal building be an aeronautical use.

HANGAR FACILITIES

Hangars are typically classified as either T-hangars (small multi-unit storage complexes that usually accommodate one single engine aircraft in each unit) or conventional hangars, which accommodate a variety of aircraft types or corporate fleets. The number of aircraft that each conventional hangar can hold varies according to the manufacturer and the specifications of the airport owner or operators. The existing hangars at the Steamboat Springs Airport include nine T-hangar units and 34 conventional hangars. There are 33 privately owned hangars and 10 City owned hangars. The privately owned hangars are located on land that is leased from the City of Steamboat Springs. Figure 3-6 shows a row of existing conventional hangars.

FIGURE 3-6 EXISTING HANGARS

Based Aircraft Hangar Requirements: Future facility requirements for based aircraft typically determine the number of tiedown locations, number of shaded spaces, number of T-hangars and number of conventional type hangars required at the airport. There is current demand for hangar development. Development areas will be identified on the ALP for a mix of T-hangars and conventional hangars. The City of Steamboat Springs currently has a list of 25 people waiting for hangars.

Transient Aircraft Hangar Requirements: Transient single-engine aircraft operators generally do not require aircraft storage facilities unless there is inclement weather expected (such as hail or snow) or if the operator is planning an extended stay. Some higher performance single-engine and multi-engine aircraft operators may desire overnight aircraft storage or a heated hangar in the winter. Airport management reports that transient aircraft hangar space is frequently filled to capacity especially during winter months. It is recommended that 10,000 square feet of hangar space be provided for transient aircraft.

General: The airport sponsor should consider providing long-term land leases to interested parties for the construction of aircraft storage hangars. Allowing the tenant to retain ownership of the hangar while leasing the ground reduces capital outlay requirements for the City of Steamboat Springs. The tenant ownership also enables the City to collect property taxes on the hangar and other improvements. The tenant ownership also provides motivation for the tenant to maintain the hangar in good condition to maximize resale value at the end of the lease period. Recent AIP legislation has made aircraft hangars an eligible cost under the Airport Improvement Program (AIP). While this creates an opportunity for airport sponsors wanting to build hangars to meet existing demand, hangars are considered a lower priority than airside projects which may not always receive AIP funds.

AIRPORT BUSINESS PARK/RESIDENTIAL AIRPARK

The potential exists for the development of an airport business park and/or residential airpark at the airport. The development of the airpark/business park would require through the fence operations that would ensure that owners of the airpark/business park do not have an unfair economic advantage over those users located on airport property. The through the fence agreement would include a yearly or monthly fee and would allow off airport property owners to build a taxiway to access the runway. The through the fence agreement would also require certain security measures to be met. While the FAA strongly discourages through the fence operations it does not prohibit such agreements.

AVIATION FUEL FACILITIES

Fuel is available during normal business hours at the Steamboat Springs Airport. The City sells 100-Low Lead avgas and Jet A to based and transient aircraft owners. It is recommended that a self-serve credit card reader fueling system be installed to provide 24-hour fuel access at the airport. The siting of the self-serve fuel island will be to a large extent dependant on the FBO's or private enterprise needs. At a minimum tanks should be 50 feet from adjacent buildings, meet all EPA and local fire code requirements and comply with FAA design standard clearances.

Fuel storage at the airport consists of 10,000 gallons of 100-Low Lead and a 1,200 gallon 100LL fuel truck, 10,000 gallons of Jet A and a 2,200 gallon Jet A truck. The tanks are located inside a secondary containment berm to prevent fuel from entering any ground or surface water. The fuel tanks are owned and operated by the City of Steamboat Springs. With increased jet operations an additional jet fuel truck may be needed.

AIRPORT ACCESS AND VEHICLE PARKING

The Steamboat Springs Airport is accessed via Airport Road, which is a two lane, paved road. Airport Road enters the airport from the northeast side of the airport. Access to the airport is considered adequate for the entire planning period. Airport Road intersects County Road 129 (Elk River Road) approximately a quarter mile from the airport. The airport currently has 140 automobile parking spots available exceeding the amount needed at the airport during the planning period. It is recommended that some of the automobile parking be converted into hangar space.

FENCING

The perimeter of the Steamboat Springs Airport is currently fenced with an eight-foot tall electric wildlife fence. The terminal area is surrounded by an eight-foot chain link fence with an electric vehicle access gate. The primary purpose of this fencing is to restrict inadvertent access to the airport by wildlife and persons. The fence surrounding the airport is an electric fence that is currently inoperative due to the brush growing around the fence that grounds it. Therefore the fence should either be repaired or replaced.

SECURITY

There are several programs designed to increase general aviation airport security including the Aircraft Owners and Pilots Association (AOPA) Airport Watch program which created a 24-hour telephone hotline answered by federal authorities. In addition, the Transportation Security Administration (TSA) Security Guidelines for General Aviation Airports provides a set of federally-endorsed recommendations to enhance security for municipalities, owners, operators, sponsors and other entities charged with oversight of General Aviation airports. The TSA's guidance provides nationwide consistency with regard to security at General Aviation facilities, as well as a rational method for determining when and where these enhancements may be

appropriate based upon the operational profile of differing airports. The guidelines offer an extensive list of options, ideas, suggestions and proven best practices for the municipality, airport operator, sponsor, tenant and/or user to choose from when considering security enhancements. The TSA's guidelines are updated and modified as new security enhancements are developed and as input from the General Aviation community is received. Steamboat Springs currently meets the TSA's and AOPA's recommended security requirements, including controlled access and airport watch measures. The airport standards manual which was developed as part of this master plan also contains information on airport security.

AIRPORT RESCUE AND FIRE FIGHTING (ARFF) EQUIPMENT & STORAGE BUILDING

Airport Rescue and Fire Fighting (ARFF) equipment is not required at airports that do not serve scheduled passenger service with aircraft having 10 or more passenger seats. Local municipal or volunteer fire departments typically provide fire protection to general aviation airports in their district. Mutual aid agreements may also be provided and developed with nearby fire departments to assist in emergency situations. In any case, procedures should be in place to ensure emergency response in case of an accident or emergency at the airport. Although statistically very safe, the most likely emergency situations at general aviation airports are an aircraft accident, fuel or aircraft fire, or hazardous material (fuel) spill. The level of protection recommended in FAA Advisory Circular 150/5210-6D, *Aircraft Fire and Rescue Facilities and Extinguisher Agents*, for small general aviation airports is 190 gallons of aqueous film forming foam (AFFF) supplemented with 300 pounds of dry chemical. Proximity suits should be utilized for fire fighter protection. Aviation rated fire extinguishers should be immediately available in the vicinity of the aircraft apron and fueling facilities. Adequate facilities should be provided to store any ARFF vehicle(s) or equipment that is acquired.

Currently, aviation fire extinguishers are available at the Steamboat Springs Airport. The Steamboat Springs Fire Department responds to emergencies at the airport. The Steamboat Springs Fire Department has 29 fire fighters and five fire trucks. Estimated response time to the airport is ten minutes. The Steamboat Springs Fire Department does meet the recommendations in FAA Advisory Circular 150/5210-6D.

AIRCRAFT DEICING

The airport has the capability of performing aircraft deicing. In recent years the City has not conducted any aircraft deicing due to the hangar space availability for transient aircraft. With hangar space limited for transient aircraft deicing is expected to be needed. The City of Steamboat Springs has standard operating procedures for aircraft deicing. The City also has and maintains Storm Water Pollution Prevention Plan (SWPPP) and a Spill Prevention Control and Countermeasures (SPCC) Plan. Deicing operations are conducted in a location where the fluid can run into a storage tank, the drain and tank are both located on the north edge of the concrete apron.

SNOW REMOVAL EQUIPMENT

The City of Steamboat Springs currently provides snow removal services at the airport. The City has several pieces of snow removal equipment located at the airport including the following: 2000 Ford Sterling with 11 foot reversible plow blade, 1981 Ford with 11 foot reversible blade and sand spreader, 1983 Rolba RSS-1000 2,000 ton per hour snowblower, 1986 Oshkosh H2318 Sno Blower, 2003 Volvo L-90 Wheel Loader with 3 yard bucket, 11 foot reversible blade and 16 foot ramp blade and a 1999 Ford F-250 Pickup with 9 foot reversible plow blade. The airport management personnel conduct snow removal at the airport. The City also has a snow removal equipment storage/maintenance facility located on the south end of the airport. The snow removal equipment is in good condition and is considered to be adequate.

INFRASTRUCTURE NEEDS

UTILITIES

Available utilities at the airport have been designed and sized to meet the typical needs of a general aviation airport. The existing electrical power is a three-phase power line and the water and sewer service is provided via a 10-inch line and an 8-inch line, respectively. Power is provided by Yampa Valley Electric, Inc. Gas in the area is provided by ATMOS Energy and Gas. Telephone service is provided by Qwest. Water and sewer services are provided by the City of Steamboat Springs. The existing utilities are considered adequate for the planning period.

WEATHER REPORTING

Currently weather is available to pilots from the AWOS located on the airport. The weather information provided by the AWOS is only available on the aircraft radio or by telephone. It is recommended that the AWOS be connected to NADIN which reports to the National Weather Service and provides information to Flight Service Stations and aviation web sites. This would allow pilots to check current weather conditions at the airport while flight planning.

LAND USE COMPATIBILITY AND CONTROL

AIRPORT PROPERTY

According to the City of Steamboat Springs records, the existing airport property line encompasses 276.87 acres. The Runway Protection Zone (RPZ) for Runway 14 is owned fee simple, by the airport sponsor. The RPZ for Runway 32 is partially uncontrolled and it is recommended that the airport either acquire the RPZ's fee simple or obtain avigation easements on the land to prevent incompatible development.

AIRPORT ZONING

Airport zoning ordinances should include height restriction and land use compatibility regulations. Development around airports can pose certain hazards to air navigation if appropriate steps are not taken to ensure that buildings and other structures do not penetrate the FAR Part 77 Airspace Surfaces (described in the following section). The FAA, therefore, recommends that all Airport Sponsors implement height restrictions in the vicinity of the airport to protect these Part 77 Surfaces. The City has included in the existing community development code (Article 4 Section 26-109) an "Airport Influence Area Overlay Zone". However, the City has not implemented this overlay zone. A draft height restriction zoning ordinance was prepared as part of this Master Plan project.

COMPATIBLE LAND USE

In addition to ensuring that obstructions to Part 77 Surfaces are avoided or appropriately marked and lighted, it is recommended that the Airport Sponsor make reasonable efforts to prevent incompatible land uses such as residential encroachment from the immediate area of the airport. Land use compatibility considerations include safety, height hazards noise and exposure. FAA standards contained in FAA Advisory Circular 150/5200-33A, *Hazardous Wildlife Attractants On or Near Airports* that landfills and/or transfer stations are incompatible land uses with airports. Therefore, these types of facilities should be located at least 5,000 feet from any point on a runway that serves piston type aircraft and 10,000 feet from any point on a runway that serves turbine type aircraft. Furthermore, any facility which may attract wildlife (especially birds) such as sewage treatment ponds and wastewater treatment plants should also be located this same distance from any point on the runway. Development proposals should

also be reviewed to ensure compatibility in the vicinity of the airport. A draft compatible land use zoning ordinance is included as part of this Master Plan.

Although extremely rare, most aircraft accidents occur within 5,000 feet of a runway. Therefore, the ability of the pilot to bring the aircraft down in a manner that minimizes the severity of an accident is dependent upon the type of land uses within the vicinity of the airport. Land uses are reviewed in four zones surrounding the airport: the Runway Protection Zone (RPZ), the Approach Zone, Airport Influence Zone and the Traffic Pattern Zone. The RPZ is a trapezoidal area extending 1,200 feet beyond the ends of the runway and is typically included within the airport property boundary. Residential and other uses that result in congregations of people are restricted from the runway protection zone. The approach zone generally falls within the FAR Part 77 Approach Surface area. Within the approach zone, public land uses, such as schools, libraries, hospitals and churches should be avoided. New residential developments should include avigation easements and disclosure agreements. The Traffic Pattern Zone is generally the area within one mile of the airport. Within the Traffic Pattern Zone, avigation easements should be considered for residential and public uses and disclosure statements should be required. The Airport Influence Zone is the area where aircraft are transitioning to, or from enroute altitude or airport over-flight altitude to, or from the standard traffic pattern altitude of 800 to 1,000 feet above the airport elevation.

AIRPORT MANAGEMENT STRUCTURE

The Steamboat Springs Airport is the responsibility of a full-time airport manager who reports to the Steamboat Springs Director of Transportation. Additional full and/or part-time staff is employed to assist with the daily operations and maintenance of the airport. This management structure is considered adequate for the safe and efficient operation of the Steamboat Springs Airport.

In order to aid the Steamboat Springs Airport in the daily operation of the airport, an Airport Operations Manual including minimum standards, rules and regulations, statements of rates and charges, standard lease agreements, an emergency plan with a crash/rescue grid map, airport self inspection procedures and an airport security plan are included in this Master Plan.

SUMMARY OF FACILITY REQUIREMENTS

In summary, the facility requirements for the Steamboat Springs Airport are based on the types and volume of aircraft expected to use the airport in the short and long-term timeframes. These facilities will enable the airport to serve its users in a safe and efficient manner. The recommended airside and landside facilities are summarized in Table 3-7.

TABLE 3-7 SUMMARY OF AIRPORT FACILITY REQUIREMENTS

Facility		Existing	Short-Term (0-5 years)	Long-Term (6-20 years)
Runway				
14/32	Length (feet)	4,452'	5,780'	8,200'
	Width (feet)	100'	100'	100'
	Strength (pounds)	50,000 (SWG), 60,000 (DWG)	30,000	30,000
Marking	Runway 14	Visual	Visual	Visual
	Runway 32	Nonprecision	Nonprecision	Nonprecision
Taxiways				
	Parallel	No	Partial Parallel	Full Length
	Bypass Taxiways	No	RW 14	RW 14 and RW 32
	Width (feet)	75	35	35
	Strength (pounds)	50,000 (SWG), 60,000 (DWG)	30,000 (SWG), 45,000 (DWG)	30,000 (SWG) 45,000 (DWG)
Apron				
	Tie Downs	17	48*	64*
NAVAIDS				
	Approaches	NPI (GPS,LNAV,VOR)	WAAS (GPS,LNAV/VNAV, VOR)	WAAS (GPS,LNAV/VNAV, VOR)
Lighting & Visual Aids				
	Runway Edge	HIRL	HIRL	HIRL
	Taxiway/Apron Edge	Reflectors	MITL	MITL
	Threshold Lights	Yes	Yes	Yes
	REILs	Yes	Yes	Yes
	Approach Slope Indicator	PAPI-2 RW 32	PAPI-2 RW 14/32	PAPI-2 RW14/32
	Segmented Circle/Wind Cone	Yes	Yes	Yes
	Rotating Beacon	Yes	Yes	Yes
	Approach Lighting System	No	No	No
Access & Parking				
	Automobile	140	50	60
Hangar Facilities				
	T-Hangars and Small Conventional Hangars	41	50*	60*
	Conventional-Medium/Large	2	3*	5*
Fuel Storage				
	100 LL (gallons)	10,000 and Truck	10,000 and Truck	10,000 and Truck
	Jet-A (gallons)	10,000 and Truck	10,000 and Truck	10,000 and Truck
Other				
	AWOS	Yes	Yes	Yes
	Unicom	Yes	Yes	Yes

*As required based on demand

FEDERAL AVIATION REGULATION (FAR) PART 77 AIRSPACE SURFACES

Federal Aviation Regulations (FAR) Part 77 establishes several imaginary surfaces that are used as a guide to provide a safe, unobstructed operating environment for aviation. These surfaces, which are typical for civilian airports, are shown in Figure 3-7. While it is desirable to eliminate penetrations of FAR Part 77 airspace surfaces, in some cases, penetrations (also known as obstructions) may be mitigated with appropriate marking and/or lighting.

The Primary, Approach, Transitional, Horizontal and Conical Surfaces identified in FAR Part 77 are applied to each runway. The surfaces are described below and the dimensions are listed in Table 3-8. Figure 3-7 shows the FAR Part 77 Airspace.

For the purpose of this section, a visual/utility runway is a runway that is intended to be used by propeller driven aircraft of 12,500 pound maximum gross weight and less. A non-precision instrument/utility runway is a runway that is intended to be used by aircraft of 12,500 pounds maximum gross weight and less with a straight-in instrument approach procedure and instrument designation indicated on an FAA approved airport layout plan, a military service approved military airport layout plan or by any planning document submitted to the FAA by competent authority. A non-precision instrument/larger-than-utility runway is a runway intended for the operation of aircraft weighing more than 12,500 pounds that also has a straight-in instrument approach procedure. Runways with instrument approaches that include only a circle-to-land maneuver are considered to have a visual approach for FAR Part 77 purposes.

The Steamboat Springs Airport currently has non-precision instrument approaches that involve a circle-to-land maneuver. Runway 14/32 is a larger than utility runway since the pavement strength is greater than 12,500 pounds. The FAR Part 77 Airspace Surfaces for this type of runway are described in the following paragraphs.

PRIMARY SURFACE

The Primary Surface is an imaginary surface of specific width longitudinally centered on a runway. Primary Surfaces extend 200 feet beyond each end of the paved surface of runways, but do not extend past the end of non-paved runways. The elevation of any point on the Primary Surface is the same as the elevation of the nearest point on the runway centerline. The width of the Primary Surface varies from 250, 500 or 1,000 feet depending on the type of approach and approach visibility minimums.

The current primary surface width for Runway 14/32 is 500 feet. This would increase to 1,000 feet if the approach minimums are lowered to ¾-mile. Although the wider primary surface would likely result in primary and transitional surface penetrations, the OFZ would remain clear. Marking and lighting of all Part 77 obstructions is recommended.

APPROACH SURFACE

The Approach Surface is a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the Primary Surface. An Approach Surface is applied to each end of the runway based upon the type of approach available or planned for that runway, either 20:1, 34:1 or 50:1. The inner edge of the surface is the same width as the Primary Surface. It expands uniformly to a width corresponding to the FAR Part 77 runway classification criteria.

TRANSITIONAL SURFACE

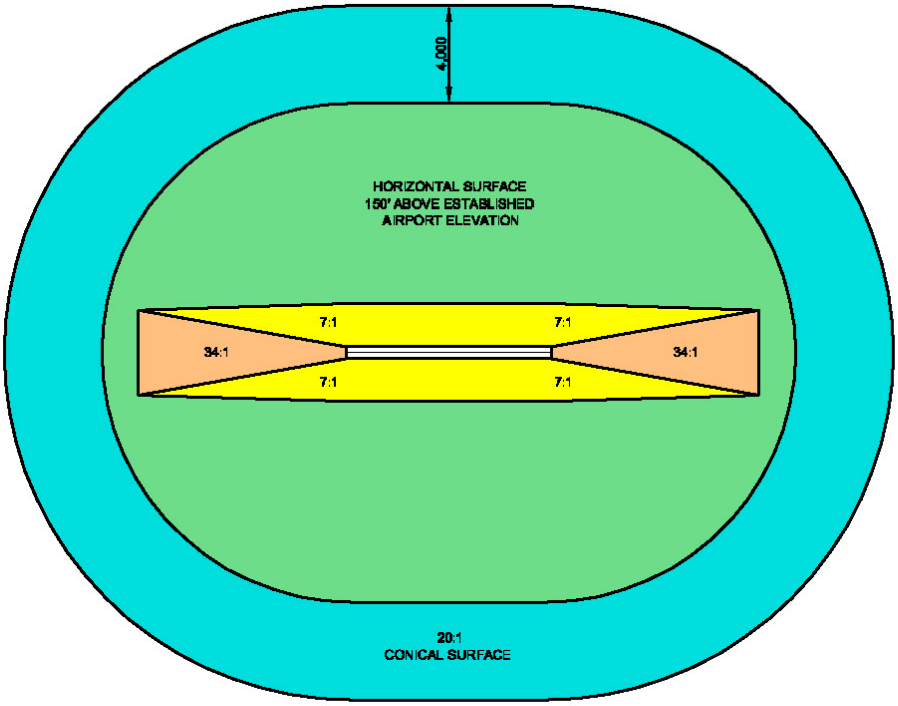
The Transitional Surfaces extend outward and upward at right angles to the runway centerlines from the sides of the Primary and Approach Surfaces at a slope of 7:1 ending at the Horizontal Surface.

HORIZONTAL SURFACE

The Horizontal Surface is considered necessary for the safe and efficient operation of aircraft in the vicinity of an airport. As specified in FAR Part 77, the Horizontal Surface is a horizontal plane 150 feet above the established airport elevation. The airport elevation is defined as the highest point of an airport's useable runways, measured in feet above mean sea level. The perimeter is constructed by arcs of specified radius from the center of each end of the Primary Surface of each runway. The radius of each arc is 5,000 feet for runways designated as utility or visual and 10,000 feet for all other runways.

CONICAL SURFACE

The Conical Surface extends outward and upward from the periphery of the Horizontal Surface at a slope of 20:1 for a horizontal distance of 4,000 feet.



SURFACE LEGEND

- PRIMARY
- APPROACH
- HORIZONTAL
- CONICAL
- TRANSITIONAL

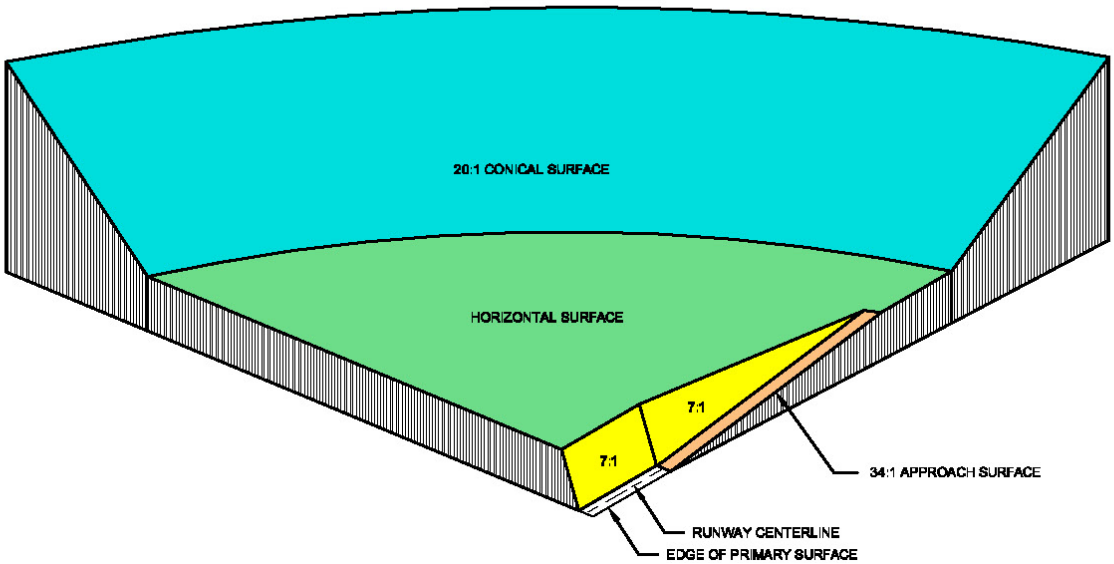


FIGURE 3-7 FAR PART 77 AIRSPACE DRAWING

SUMMARY OF DESIGN STANDARDS

Table 3-8 summarizes the FAA design standards (described in Chapter 1) for the recommended airport facilities.

TABLE 3-8 SUMMARY OF DIMENSIONAL CRITERIA

Design Criteria	**Existing**	**Future**
Airport Reference Code	A-III	B-II
Approach Type	Visual > Utility*	NPI >Utility, < ¾ -mile visibility minimums
Runway centerline to parallel taxiway centerline	300’	300’
Runway centerline to edge of aircraft parking apron	400’	400’
Runway width	100’	100’
Runway shoulder width	20’	10’
Runway Safety Area width	300’	300’
Runway Safety Area length beyond runway end	600’	600’
Runway Object Free Area width	800’	800’
Runway Object Free Area length beyond runway end	600’	600’
Runway Obstacle Free Zone width	400’	400’
Runway Obstacle Free Zone length beyond runway end	200’	200’
Runway Protection Zone	500’x700’x1,000’	500’x700’x1,000’
Taxiway width	75’	35’
Taxiway Safety Area width	118’	79’
Taxiway Object Free Area width	186’	131’
Taxilane Object Free Area width	162’	115’
Runway centerline to aircraft hold lines	200’	200’
Airspace Surfaces (Part 77)		
Primary Surface width	500’	500’
Primary Surface length beyond runway ends	200’	200’
Approach Surface dimensions RW 14	500’x1,500’x5,000’	500’x1,500’x5,000’
Approach Surface dimensions RW 32	500’x1,500’x5,000’	500’x3,500’x10,000’
Approach Surface slope RW 14	20:1	20:1
Approach Surface slope RW 32	20:1	34:1
Transitional Surface slope	7:1	7:1
Horizontal Surface radius from runway	5,000’	10,000’
Conical Surface width	4,000’	4,000’

Source: FAA AC 150/5300-13, Airport Design; FAR Part 77, Objects Affecting Navigable Airspace. *Existing instrument approach procedures involve a circle-to-land maneuver. Runways with such “circling” instrument approaches are considered “visual” for FAR Part 77 purposes.

Chapter Four
Development Alternatives

Steamboat Springs
Airport Master Plan

Chapter Four
Development Alternatives

INTRODUCTION

The preceding discussion of facility requirements provides the basis for formulating alternative development concepts. Chapter Three provided recommended development items for the airport. This Chapter will focus on the logical alternatives the City of Steamboat Springs should consider for the existing and future airport configuration of the Steamboat Springs Airport.

The alternatives evaluated in this Chapter are not requirements for development at the Steamboat Springs Airport, they are options that the City of Steamboat Springs should consider to meet existing and future forecasted demand. The only development that would be required in the future would be safety related development, such as perimeter fencing and routine maintenance of existing facilities. In order to evaluate the options for future development, several important questions need to be answered:

- How can the existing facilities accommodate the future activity?
- Is a runway extension feasible?
- How much land would need to be acquired to protect the airport from incompatible land uses and provide for future development?
- How should short-term and long-term hangar development be accommodated?
- How can the airport be developed in an environmentally and fiscally responsible way?

The improvements evaluated in this master plan are developed from an analysis of projected needs. Though the needs were determined by the best methodology available, it cannot be assumed that future trends will not change these needs. The airport master planning process attempts to develop a viable concept for meeting the needs caused by projected demands through the planning period.

DEVELOPMENT CONCEPTS

The Facility Requirements Chapter provided recommended development to accommodate existing and future demand at Steamboat Springs Airport. Initial and future development items would include those necessary to meet existing demand and future development with a B-II Airport Reference Code (ARC). Because of terrain and development constraints to the southeast, only runway extensions to the northwest are being considered (Alternatives A-E). The landside alternatives (Alternatives L1-L6) include the analysis of several scenarios for apron and hangar development.

INSTRUMENT APPROACH MINIMUMS ALTERNATIVE

Because instrument approach visibility minimums influence the airfield design standards, it is important to first consider the effects of attempting to achieve lower minimums. Two options have been identified for future instrument approach minimums. The first option would be to plan for a future instrument approach with approach minimums lower than ¾-mile visibility. This would result in larger protection and safety areas surrounding the airport along with increased runway to taxiway separation requirements. The second option would be to plan for the instrument approach minimums to be ¾-mile or greater visibility. This would result in smaller protection and safety areas surrounding the airport and reduced runway to taxiway separation requirements. Table 4-1 shows the different dimensions associated with the design criteria.

TABLE 4-1 SUMMARY OF DIMENSIONAL CRITERIA			
Design Criteria	**¾-mile and greater Approach Minimums (ARC B-II)**	**Lower than ¾-mile Approach Minimums (ARC B-II)**	**Existing Conditions (ARC A-III)**
Runway centerline to parallel taxiway centerline	240'	300'	300'
Runway centerline to edge of aircraft parking apron	250'	300'	300'
Runway width	75'	100'	100'
Runway shoulder width	10'	10'	10'
Runway Safety Area width	150'	300'	300'
Runway Safety Area length beyond runway end	300'	600'	600'
Runway Object Free Area width	500'	800'	800'
Runway Object Free Area length beyond runway end	300'	600'	600'
Runway Obstacle Free Zone width	400'	400'	400'
Runway Obstacle Free Zone length beyond runway end	200'	200'	200'

The FAA recommends that airports protect for a future instrument approach with visibility minimums lower than ¾-mile whenever possible. However, a future instrument approach procedure with minimums lower than ¾-mile is not feasible at Steamboat Springs Airport due to terrain in the vicinity of the airport (Seattle FAA Flight Procedures Office). Therefore, it is recommended that the future minimums be planned for "not lower than ¾-mile" and the parallel taxiway be developed at 240 feet from the runway centerline.

AIRSIDE DEVELOPMENT ALTERNATIVES

Airside development is typically the most critical and physically dominant feature of airport development and therefore the focal point of the airport. Each airside development alternative addresses the needs for accommodating existing and future aviation demand identified in the previous Chapter. Estimated costs for each alternative and associated project elements are shown in order to identify significant cost factors and to conduct an overall comparative analysis. The phasing of projects of the preferred development alternative for scheduling and budgeting purposes will be included in Chapter Five, Airport Development and Financial Plan. The No Action Alternative (Alternative E) is also discussed. The following airside development alternatives evaluated the advantages, disadvantages and costs associated with the airport meeting Airport Reference Code B-II with an instrument approach with ¾-mile or greater minimums. Alternatives A1-A6 compare runway extension options only. Evaluation of the parallel taxiway costs are presented later in this Chapter.

RUNWAY DEVELOPMENT ALTERNATIVES

The runway development alternatives were developed from the Facility Requirements Chapter based on recommended runway lengths from FAA Advisory Circular 150/5325-4B, Runway Length Requirements for Airport Design. Table 4-2 shows the runway length alternatives evaluated. The runway development alternatives are shown graphically at the end of this Chapter; along with a full length parallel taxiway.

TABLE 4-2 RUNWAY DEVELOPMENT ALTERNATIVES		
Alternative	**Runway Extension Length**	**Runway Length**
A	600’	5,052’
B	1,328’	5,780’
C	2,978’	7,430’
D	3,748’	8,200’
E (No Action)	0’	4,452’

Alternative A: This alternative includes a 600 foot runway extension to the northwest to provide 5,052 feet of runway for takeoff on Runway 32 and 4,452 feet for takeoff and landing on Runway 14 and landing on Runway 32 (because of the displaced threshold). The estimated development costs for Alternative A are shown in Table 4-3.

The major advantages to this alternative are:

- Provides increased runway length to accommodate approximately 70 percent of the small aircraft fleet
- Allows B-II aircraft the ability to increase passenger and fuel loads while operating out of the Steamboat Springs Airport on warm days when density altitude is high
- Increases the altitude of aircraft as they depart Runway 14 and over fly the City of Steamboat Springs, thus enhancing safety and decreasing noise exposure
- Remains clear of the drainage located off the end of Runway 14, thus minimizing environmental impacts and costs associated with the development

The major disadvantages to this alternative are:

- Requires the relocation of County Road 44
- Does not accommodate the recommended 75 percent of the small aircraft fleet

TABLE 4-3 ALTERNATIVE A ESTIMATED COST				
Project	**Total Cost**	**Federal Share**	**State Share**	**Local Share**
Environmental Assessment	$150,000	$142,500	$3,750	$3,750
Grading and Drainage (RW)	$9,000,000	$8,550,000	$225,000	$225,000
Paving, Lighting & Marking (RW)	$500,000	$475,000	$12,500	$12,500
County Road Relocation	$400,000	$380,000	$10,000	$10,000
TOTAL	**$10,050,000**	**$9,547,500**	**$251,250**	**$251,250**

***Cost associated with the grading and drainage took into account the cost of either drilling and blasting rock for fill material or importing fill materials from an off-site location. Estimated costs include runway (RW) grading and construction only.

Alternative B: This alternative includes a 1,328 foot runway extension to the northwest to provide 5,780 feet of runway for takeoff on Runway 32 and 5,180 feet for takeoff and landing on Runway 14 and landing on Runway 32 (because of the displaced threshold). The estimated development costs for Alternative B are shown in Table 4-4.

The major advantages to this alternative are:

- Provides increased runway length to accommodate 75 percent of the small aircraft fleet
- Allows B-II aircraft the ability to increase passenger and fuel loads while operating out of Steamboat Springs Airport on warm days when density altitude is high
- Increases the altitude of aircraft as they depart Runway 14 and over fly the City of Steamboat Springs, thus enhancing safety and decreasing noise exposure

The major disadvantages to this alternative are:

- Requires the relocation of County Road 44
- Requires substantial investment in airport development locally and federally

TABLE 4-4 ALTERNATIVE B ESTIMATED COST

Project	Total Cost	Federal Share	State Share	Local Share
Environmental Assessment	$150,000	$142,500	$3,750	$3,750
Grading and Drainage (RW)	$18,000,000	17,100,000	$450,000	$450,000
Paving, Lighting & Marking (RW)	$800,000	$760,000	$20,000	$20,000
County Road Relocation	$400,000	$380,000	$10,000	$10,000
TOTAL	**$19,350,000**	**$18,382,500**	**$483,750**	**$483,750**

***Cost associated with the grading and drainage took into account the cost of either drilling and blasting rock for fill material or importing fill materials from an off-site location. Estimated costs include runway (RW) grading and construction only.

Alternative C: This alternative includes a 2,978 foot runway extension to the northwest to provide 7,430 feet of runway for takeoff on Runway 32 and 6,830 feet for takeoff and landing on Runway 14 and landing on Runway 32 (because of the displaced threshold). The estimated development costs for Alternative C are shown in Table 4-5.

The major advantages to this alternative are:

- Provides increased runway length to accommodate 85 percent of the small aircraft fleet and 75 percent of the large aircraft fleet mix at 60 percent useful load
- Allows B-II aircraft the ability to increase passenger and fuel loads while operating out of Steamboat Springs Airport on warm days when density altitude is high
- Increases the altitude of aircraft as they depart Runway 14 and over fly the City of Steamboat Springs, thus enhancing safety and decreasing noise exposure

The major disadvantages to this alternative are:

- Requires a large amount of earthwork for runway extension
- Requires a substantial investment in airport development federally and locally
- Requires the relocation of County Road 44
- Requires land acquisition for the runway extension and approach protection
- Increased potential for environmental impacts

TABLE 4-5 ALTERNATIVE C ESTIMATED COST

Project	Total Cost	Federal Share	State Share	Local Share
Environmental Assessment	$150,000	$142,500	$3,750	$3,750
Grading and Drainage (RW)	$41,100,000	$39,045,000	$1,027,500	$1,027,500
Paving, Lighting & Marking (RW)	$1,600,000	$1,520,000	$40,000	$40,000
Land Acquisition (RW)	$515,000	$489,250	$12,875	$12,875
County Road Relocation	$400,000	$380,000	$10,000	$10,000
TOTAL	**$43,765,000**	**$41,576,750**	**$1,094,125**	**$1,094,125**

***Cost associated with the grading and drainage took into account the cost of either drilling and blasting rock for fill material or importing fill materials from an off-site location. Estimated costs include runway (RW) grading and construction only.

Alternative D: This alternative includes a 3,748 foot runway extension to the northwest to provide 8,200 feet of runway for takeoff on Runway 32 and 7,600 feet for takeoff and landing on Runway 14 and landing on Runway 32 (because of the displaced threshold). The estimated development costs for Alternative D are shown in Table 4-6.

The major advantages to this alternative are:

- Provides increased runway length to accommodate 100 percent of the small aircraft fleet and approximately 70 percent of the large aircraft fleet mix at 90 percent useful load
- Allows B-II aircraft the ability to increase passenger and fuel loads while operating out of Steamboat Springs Airport on warm days when density altitude is high
- Increases the altitude of aircraft as they depart Runway 14 and over fly the City of Steamboat Springs, thus enhancing safety and decreasing noise exposure

The major disadvantages to this alternative are:

- Requires a large amount of earthwork for runway extension
- Requires a substantial investment in airport development federally and locally
- Requires the relocation of County Road 44
- Requires land acquisition for the runway extension and approach protection
- Increased potential for environmental impacts

TABLE 4-6 ALTERNATIVE D ESTIMATED COST

Project	Total Cost	Federal Share	State Share	Local Share
Environmental Assessment	$150,000	$142,500	$3,750	$3,750
Grading and Drainage (RW)	$49,000,000	$46,550,000	$1,225,000	$1,225,000
Paving, Lighting & Marking (RW)	$2,500,000	$2,375,000	$62,500	$62,500
Land Acquisition (RW)	$795,000	$755,250	$19,875	$19,875
County Road Relocation	$400,000	$380,000	$10,000	$10,000
TOTAL	**$52,845,000**	**$50,202,750**	**$1,321,125**	**$1,321,125**

***Cost associated with the grading and drainage took into account the cost of either drilling and blasting rock for fill material or importing fill materials from an off-site location. Estimated costs include runway (RW) grading and construction only.

Alternative E: This alternative is the no action alternative. The runway length would essentially remain as is, with pavement maintenance and no runway extension projects. The option of constructing a partial or full-length parallel taxiway could still be considered based on available funding.

The major advantages to this alternative are:

- Requires small investment locally and federally
- Little or no potential environmental impacts

The major disadvantages to this alternative are:

- Does not meet the recommended runway length
- Constrains potential economic benefits
- Limits full utilization of the airport

Table 4-7 shows a summary of the runway extension alternatives and the estimated cost with each alternative.

TABLE 4-7 SUMMARY OF ESTIMATED RUNWAY EXTENSION COSTS

Alternative	Total Cost	Federal Share	State Share	Local Share
A	$10,050,000	$9,547,500	$251,250	$251,250
B	$19,350,000	$18,382,500	$483,750	$483,750
C	$43,765,000	$41,576,750	$1,094,125	$1,094,125
D	$52,845,000	$50,202,750	$1,321,125	$1,321,125
E	-	-	-	-

RUNWAY EXTENSION LOCAL SHARE BREAK EVEN ANALYSIS

In order to determine the optimum and financially feasible runway extension investment, the cost of development of the runway extension alternatives must be compared with one another along with the estimated benefit to the airport in terms of costs and benefits. The longer runway would allow for increased fuel sales which would result in increased airport revenue.

For the most part single-engine piston aircraft are able to use the airport with the existing runway length with only occasional nominal weight restrictions; therefore, the greatest economic benefit would be gained through increased fuel sales to turboprop and turbojet aircraft. Five turboprop and turbojet aircraft known to use the airport on a regular basis, including the King Air 90, King Air 200, Cessna 560, Cessna 550 and Learjet 31, were evaluated to determine the existing maximum takeoff weight using the average annual maximum temperature of 55 degrees Fahrenheit and the existing runway length of 4,452 feet. The same aircraft performance data was then used to determine the maximum takeoff weight for a runway length of 5,052 feet, 5,780 feet, 7,430 feet and 8,200 feet. The difference in weight was assumed to be fuel (approximately 7 pounds per gallon). Using information from the Inventory and Forecast Chapters, increased fuel sales resulting from the various runway extension alternatives were estimated.

Serving as the FBO, the City of Steamboat Springs' average gross margin from fuel sales is currently $1.01 per gallon. This factor was applied to the estimated increase in fuel sales to determine the estimated increase in airport revenue resulting from the various runway extension lengths. Table 4-8 shows the projected revenue using the forecasted operations numbers provided in Table 2-9 of Chapter 2. The estimated increase in fuel sales annually is approximately 11 percent over the 20 year period. Should the FBO be privatized in the future the City's fuel sales margin would likely be reduced to a fuel flowage fee of $.15 per gallon. Table 4-9 shows the projected revenue under this scenario.

TABLE 4-8 RUNWAY EXTENSION LOCAL SHARE BREAK EVEN ANALYSIS WITH CITY PROVIDING FUEL

Runway Length	Local Development Cost [1]	Estimated Increased Gross Revenue (20-Year)	20-Year Net Revenue or Subsidy (+,-)
5,052'	$251,250	$2,295,007	+$2,043,757
5,780'	$483,750	$4,993,863	+$4,510,113
7,430'	$1,094,125	$6,663,397	+$5,569,272
8,200'	$1,321,125	$7,005,939	+$5,684,814

TABLE 4-9 RUNWAY EXTENSION LOCAL SHARE BREAK EVEN ANALYSIS WITH PRIVATE FBO PROVIDING FUEL

Runway Length	Local Development Cost [1]	Estimated Increased Gross Revenue (20-Year)	20-Year Net Revenue or Subsidy (+,-)
5,052'	$251,250	$340,843	+$89,593
5,780'	$483,750	$741,663	+$257,913
7,430'	$1,094,125	$989,613	-$104,512
8,200'	$1,321,125	$1,040,486	-$280,639

[1] Assumes 95% FAA and 2.5% State Grant Participation.
Information assumes 2007 dollars.

The increased runway length would enhance safety at the Steamboat Springs Airport by providing increased pavement in the event of an emergency such as an aborted takeoff. The increased runway length would enhance safety for aircraft taking off as wells as landing. This should be a consideration when evaluating the alternatives for runway length.

ACCOMMODATION OF AVIATION DEMAND LEVELS

Runway Alternatives A through D would meet FAA safety and design standards and would accommodate the projected aviation demand levels through 2025. The Alternatives would provide increased utility; although at higher costs for each increased runway length. Alternative E would also meet FAA safety and design standards by maintaining existing facilities but would not accommodate the recommended runway length for the existing types of aircraft using and projected to continue using the airport.

The potential environmental impacts related to Alternatives B through D are considered to be higher since the runway extensions would cross over the drainage wash located off the end of the runway. The potential environmental impacts associated with Alternative A are considered less since the area of potential effect is smaller. The potential environmental impacts are expected to be greater respectively with the longer extension lengths, including land acquisition and potential wetland impacts.

TAXIWAY DEVELOPMENT ALTERNATIVES

The City has the options of providing a full-length parallel taxiway, partial parallel taxiways to either runway end or no parallel taxiways. The following taxiway alternatives include locating the taxiway centerline 240 feet from the runway centerline. The taxiway could be extended initially to the end of Runway 32 with a partial parallel taxiway and a bypass taxiway on the end of Runway 14. Then eventually a partial parallel taxiway could be constructed to the end of Runway 14 resulting in a full length parallel taxiway.

The estimated taxiway development costs for each alternative are depicted in Table 4-10. Costs are related to construction, engineering, administration and land acquisition for the partial parallel taxiway to Runway 32. Costs vary between alternatives due to variances in the size and earthwork with each project. Although parallel taxiways do not usually generate revenues at an airport they do enhance the safety and utility of an airport by eliminating back-taxiing and make the airport more attractive to potential based aircraft owners. The taxiway development may also include an option of construction a retaining wall to keep the "toe of fill" from the taxiway on existing airport property. The costs show below do not take into the cost of land acquisition or the cost of a retaining wall for the taxiway development.

TABLE 4-10 TAXIWAY DEVELOPMENT ALTERNATIVES COST COMPARISON

Runway Length	Partial Parallel (RW 14)[1]	Partial Parallel (RW 32)[1]	Total Cost	Federal Cost	State Cost	Local Cost
4,452'	$4,700,000	$7,000,000	$11,700,000	$11,115,000	$292,500	$292,500
5,052	$8,000,000	$7,000,000	$15,000,000	$14,250,000	$375,000	$375,000
5,780'	$12,000,000	$7,000,000	$19,000,000	$18,050,000	$475,000	$475,000
7,430'	$22,000,000	$7,000,000	$29,000,000	$27,550,000	$725,000	$725,000
8,200'	$26,000,000	$7,000,000	$33,000,000	$31,350,000	$825,000	$825,000

[1] Includes the cost of a bypass taxiway on Runway 14 and Runway 32

The development of a parallel taxiway would enhance the safety of the airport by eliminating or reducing the need for aircraft to back-taxi on the active runway for arrival or departure, thus reducing the risk of runway incursions. The development of bypass taxiways would also allow aircraft an area of run-ups without blocking the active runway and provide circulation.

LANDSIDE DEVELOPMENT ALTERNATIVES

Landside facilities are another important aspect of the airport. Landside facilities serve as the processing interface between the surrounding community and the airport operating environment. Likewise, it offers the traveler the first impression of the airport and local area. Landside facilities house the supporting infrastructure for airside operations and often generate substantial revenues for the airport. Table 4-11 shows landside alternatives that are evaluated in this Chapter. The alternatives are shown graphically at the end of this Chapter.

TABLE 4-11 LANDSIDE DEVELOPMENT ALTERNATIVES

Alternative	Description
L1	Expand hangar development northeast of the existing apron area including the conversion of a portion of the automobile parking lot to hangar development.
L2	Expand apron and hangar development area to the north of the existing hangar and apron area.
L3	Expand apron and hangar development area to the southwest of the existing landside development on the opposite side of Runway 14/32.
L4	Expand apron and hangar development area to the southeast of the existing hangar and apron area.
L5	Develop residential/industrial airpark southwest of the existing landside development on the opposite side of Runway 14/32.
L6	No action alternative

Alternative L1

Alternative L1 would convert the northern and southern portions of the automobile parking lot into approximately 60,000 square feet of hangar space. A future FBO hangar would be included adjacent to the terminal building. The estimated development cost of Alternative L1 is shown in Table 4-12.

The major advantages to this alternative are:

- Provides an area for landside/hangar development
- Infrastructure and utilities are available nearby
- The majority of the land has been previously disturbed
- The land is currently owned by the airport
- Development occurs on existing airport property

The major disadvantages to this alternative are:

- Would reduce the amount of existing automobile parking at the airport
- Would require the airport access to be reconfigured
- Does not provide increased aircraft parking apron

TABLE 4-12 ALTERNATIVE L1 ESTIMATED COST

Project	Total Cost	Federal Share	State Share	Local Share
Grading and Drainage	$300,000	$285,000	$7,500	$7,500
Paving	$250,000	$237,500	$6,250	$6,250
Fencing	$10,000	$9,500	$250	$250
Reconfigure Access Road	$10,000	$9,500	$250	$250
Utilities	-	-	-	-
TOTAL	**$570,000**	**$541,500**	**$14,250**	**$14,250**

Alternative L2
Alternative L2 includes hangar and apron development north of the existing apron. The estimated development cost of Alternative L2 is shown in Table 4-13.

The major advantages to this alternative are:
- Provides an area for landside/hangar development
- Provides increased apron area for aircraft parking during peak periods
- Existing and future development areas integrate well
- Located in close proximity to existing utilities
- Development occurs on existing airport property

The major disadvantages to this alternative are:
- Requires apron/taxilane expansion to provide access to the hangar development area
- Higher potential for environmental impacts since development takes place on land not previously disturbed
- Significant earthwork required to meet grades

TABLE 4-13 ALTERNATIVE L2 ESTIMATED COST

Project	Total Cost	Federal Share	State Share	Local Share
Grading and Drainage	$6,600,000	$6,270,000	$165,000	$165,000
Paving	$1,200,000	$1,140,000	$30,000	$30,000
Utilities	$40,000	$38,000	$1,000	$1,000
TOTAL	**$7,840,000**	**$7,448,000**	**$196,000**	**$196,000**

Alternative L3
Alternative L3 includes hangar and apron development southwest of the existing apron on the opposite side (southwest) of Runway 14/32. The estimated development cost of Alternative L3 is shown in Table 4-14.

The major advantages to this alternative are:
- Provides an area for landside/hangar development
- Provides increased apron area for more aircraft parking during peak periods
- Future development would allow for potential industrial/residential airpark development
- Excavation required to meet grades could be used as embankment on other areas of the airport

The major disadvantages to this alternative are:
- Requires the extension of infrastructure to the development area
- Higher potential for environmental impacts since development takes place on land not previously disturbed
- Significant earthwork required to meet grades
- Land acquisition required
- Landside facilities would be developed on both sides of Runway 14/32 requiring runway crossing to access fuel and FBO services

TABLE 4-14 ALTERNATIVE L3 ESTIMATED COST				
Project	**Total Cost**	**Federal Share**	**State Share**	**Local Share**
Grading and Drainage	$17,400,000	$16,530,000	$435,000	$435,000
Paving	$1,200,000	$1,140,000	$30,000	$30,000
Utilities	$1,274,000	$1,210,300	$31,850	$31,850
Land Acquisition	$355,000	$337,250	$8,875	$8,875
Access Road	$2,000,000	$1,900,000	$50,000	$50,000
TOTAL	**$22,229,000**	**$21,117,550**	**$555,725**	**$555,725**

Alternative L4

Alternative L4 includes hangar and apron development southeast of the existing apron. The development would be phased and would occur as increases in demand occur. The estimated development cost of Alternative L4 is shown in Table 4-15.

The major advantages to this alternative are:

- Provides an area for landside/hangar development
- Provides increased apron area for more aircraft parking during peak periods
- Future and ultimate development areas integrate well
- Located in close proximity to existing utilities

The major disadvantages to this alternative are:

- Requires apron/taxilane expansion to provide access to the hangar development area
- Higher potential for environmental impacts since development takes place on land not previously disturbed
- Significant earthwork required to meet grades
- Land Acquisition required

TABLE 4-15 ALTERNATIVE L4 ESTIMATED COST				
Project	**Total Cost**	**Federal Share**	**State Share**	**Local Share**
Grading and Drainage	$6,500,000	$6,175,000	$162,500	$162,500
Paving	$1,200,000	$1,140,000	$30,000	$30,000
Utilities	$150,000	$142,500	$3,750	$3,750
Land Acquisition	$200,000	$190,000	$5,000	$5,000
TOTAL	**$8,050,000**	**$7,647,500**	**$201,250**	**$201,250**

Alternative L5 (Through the Fence)

Alternative L5 includes developing a residential/industrial airpark southwest of the existing apron on the opposite (southwest) side of Runway 14/32. The development would provide additional landside facilities including hangars by allowing development off airport property to have access to the airport and its facilities. The State and Federal grant eligible items associated with this development are shown in Table 4-16.

The major advantages to this alternative are:

- Provides an area for landside/hangar development
- Provides for increased revenue to the airport with minimal costs for development
- No land acquisition required
- Excavation required to meet grades could be used as embankment on other areas of the airport

The major disadvantages to this alternative are:

- Requires a through the fence agreement and approval from the FAA

- Safety and security procedures need to be implemented and enforced
- Allows for development on both sides of Runway 14/32 requiring runway crossing to access fuel and FBO services

TABLE 4-16 ALTERNATIVE L5 ESTIMATED COST

Project	Total Cost	Federal Share	State Share	Local Share
Taxiway Grading and Drainage	$1,600,000	$1,520,000	$40,000	$40,000
Taxiway Paving	$400,000	$380,000	$10,000	$10,000
TOTAL	**$2,000,000**	**$1,900,000**	**$50,000**	**$50,000**

Alternative L6 (No Action)

This alternative is the no action alternative. The airport's landside facilities would essentially remain as is, with pavement maintenance and no major airside development projects.

The major advantages to this alternative are:

- Requires small investment locally and federally
- Little or no potential environmental impacts

The major disadvantages to this alternative are:

- Constrains potential economic benefits and limits full utilization of the airport

LANDSIDE DEVELOPMENT LOCAL SHARE BREAK EVEN ANALYSIS

The cost of development for each of the landside development alternatives must be compared to the estimated benefit to the airport in terms of revenue generation. The more landside development, the more land leases the City of Steamboat Springs can collect along with additional fuel sales from an increased number of based aircraft. The estimated increase of square feet of hangar land lease space was multiplied by the current average ground lease rate of $.56/sq.ft./yr. The estimated increase in fuel sales was determined by assuming that the development of hangar space would increase the number of based aircraft by 15, which was multiplied by the current operations per based aircraft (OPBA) 186 and multiplied by 3 gallons per operation. This provides a conservative estimate of revenue generated directly as a result of the landside development. The landside cost benefit analysis is shown in Table 4-17.

TABLE 4-17 LANDSIDE DEVELOPMENT LOCAL SHARE BREAK EVEN ANALYSIS

Project	Local Development Cost	Estimated Increased Gross Revenue (20-Year)	20-Year Net Revenue or Subsidy (+,-)
Alternative L1	$14,250	$1,205,106	+$1,190,856
Alternative L2	$196,000	$1,205,106	+$1,009,106
Alternative L3	$555,725	$1,205,106	+$649,381
Alternative L4	$201,250	$1,205,106	+$1,003,856
Alternative L5	$50,000	$1,205,106	+$1,155,106
Alternative L6	-	-	-

Information assumes 2007 dollars.

DEVELOPMENT ALTERNATIVES COMPARISON

AIRSIDE DEVELOPMENT ALTERNATIVES

An airport steering committee meeting was held to discuss and obtain input on the development alternatives. A public information meeting was also held to inform the public of the status of the study and to solicit input on development alternatives. The layouts in Figures 4-9 through 4-12 were presented during the meetings.

Phasing is recommended to accommodate budgetary constraints. In addition, phasing should mirror, to the extent practicable, the requirements of users at the airport by phasing according to known and forecast operations referenced in Chapter 2. Table 4-18 shows the comparison of the airside development alternatives. Based on information in this study, including consideration of the Steering Group, Public, FAA and State Aeronautics input, Armstrong Consultants will formulate the recommended development alternative(s) for consideration by the City in its selection of the preferred development alternative(s) for the Steamboat Springs Airport Master Plan.

TABLE 4-18 COMPARISON OF AIRSIDE DEVELOPMENT ALTERNATIVES

	A	B	C	D	E
Aviation Demand	●	●	●	●	○

● Meet Criteria ⦿ Marginal ○ Does Not Meet Criteria

LANDSIDE DEVELOPMENT ALTERNATIVES

Estimated development costs for each landside alternative are depicted in Table 4-19. The landside development alternative layouts are shown in Figures 4-13 through 4-17. The possibility exists of selecting more than one landside layout alternative and phasing the development as demand for hangar and landside development occur. One example would be to construct hangars and taxilanes in the short term at the Alternative L1 location and then construct apron and hangar development in another alternative location when the demand occurs.

TABLE 4-19 COST COMPARISON OF LANDSIDE DEVELOPMENT ALTERNATIVES

Alternatives	Total Cost
Alternative L1	$570,000
Alternative L2	$7,840,000
Alternative L3	$22,229,000
Alternative L4	$8,050,000
Alternative L5	$2,000,000
Alternative L6	-

FINANCIAL FEASIBILITY OF SELECTING THE PREFERRED ALTERNATIVES

During the selection of the preferred alternative the financial feasibility must be considered. Four options for the future include: 1) no action, 2) no/reduced subsidy from the City of Steamboat Springs, 3) limited subsidy from the City of Steamboat Springs and 4) unlimited subsidy from the City of Steamboat Springs. Table 4-20 shows the development that would be available under each option.

TABLE 4-20 FINANCIAL FEASIBILITY

Subsidy	Airside Development	Taxiway Development	Landside Development
No Action	Alternative E	No taxiway	Alternative L6
No/Reduced Subsidy	Alternative A	Bypass	Alternative L1
Limited Subsidy[1]	Alternative B	Partial Parallel and Bypass	Alternative L2/L6 or L4
Unlimited Subsidy	Alternative D	Full length Parallel	Alternative L3

[1] Assumes status quo on the subsidy of approximately $400,000/year from the City of Steamboat Springs

ENVIRONMENTAL OVERVIEW INTRODUCTION

This environmental overview examines the potential environmental impacts associated with the proposed airport improvements shown in the recommended development. The proposed improvements most likely to result in environmental impacts include the extension of Runway 14/32, taxiway development, landside development and the acquisition of land for the Runway Protection Zones (RPZs). This chapter is intended to provide an overview of the potential impacts and identify additional environmental documentation that may be required as a prerequisite to development.

AIR QUALITY

The Clean Air Act of 1970 was enacted to reduce emissions of specific pollutants via uniform Federal standards. These standards include the National Ambient Air Quality Standards (NAAQS) which set maximum allowable ambient concentrations of ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), lead (Pb) and particulate matter 10 microns or smaller (PM_{10}). Section 176(c) of the Act, in part, states that no Federal agency shall engage in, support in any way or provide financial assistance for, license or permit or approve any activity that does not conform to the State Implementation Plan.

Federal Aviation Administration Orders 5050.4B and 1050.1E require air quality analysis for projects in areas not in compliance with the Environmental Protection Agency (EPA) approved State Implementation Plan (SIP). Because the entire area is considered in attainment with the SIP, no further air quality analysis is required (see Figure 4-1).

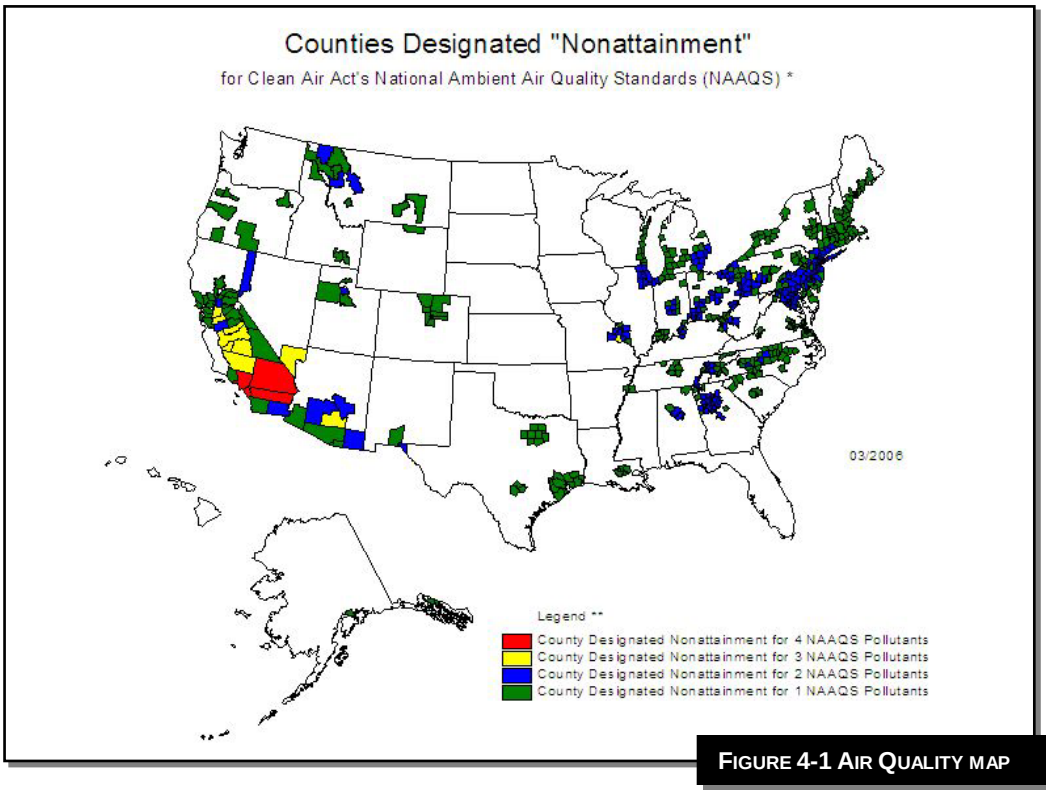


FIGURE 4-1 AIR QUALITY MAP

Construction emissions, specifically dust, are not a long-term factor. These emissions are described in the "Construction Impacts" section of this Chapter. The necessary permits will be obtained before construction begins and construction projects will conform to FAA Advisory Circular (AC) 150/5370-10B, *Standards for Specifying Construction of Airports*.

The following best management practices are recommended to minimize construction emissions:

I. Site Preparation
   A. Minimize land disturbance;
   B. Use watering trucks to minimize dust;
   C. Cover trucks when hauling dirt or debris;
   D. Stabilize the surface of dirt piles and any disturbed areas;
   E. Use windbreaks to prevent any accidental dust pollution; and
   F. Segregate storm water drainage from construction sites and material piles.

II. Construction Phase
   A. Cover trucks when transferring materials; and
   B. Minimize unnecessary vehicular and machinery activities.

III. Completion Phase
   A. Revegetate any disturbed land not used;
   B. Remove unused material and dirt piles; and
   C. Revegetate all disturbed areas if appropriate.

Correspondence was sent to the Colorado Department of Public Health and Environment Air Pollution Control Division concerning any actions that should be taken before improvements begin. No response has yet been received from the Colorado Department of Public Health and Environment Air Pollution Control Division.

COASTAL RESOURCES

There are no coastal zones associated with the proposed development. Therefore, compliance with the Coastal Zone Management Act of 1972 and the Coastal Barriers Resources Act of 1982 is not a factor.

COMPATIBLE LAND USE

Land use compatibility considerations include safety, height hazards and noise exposure. Although extremely rare, most aircraft accidents occur within 5,000 feet of a runway. Therefore, the ability of the pilot to bring the aircraft down in a manner that minimizes the severity of an accident is dependent upon the type of land uses within the vicinity of the airport. Land uses are reviewed in four zones surrounding the airport: the Runway Protection Zone (RPZ), the Approach Zone, Airport Influence Zone and the Traffic Pattern Zone. The RPZ is a trapezoidal area extending 1,200 feet beyond the ends of the runway and is typically included within the airport property boundary. Residential and other uses that result in congregations of people are restricted from the Runway Protection Zone. The Approach Zone generally falls within the FAR Part 77 Approach Surface area. Within the Approach Zone, public land uses, such as schools, libraries, hospitals and churches should be avoided. New residential developments within the Approach Zone should include avigation easements and disclosure agreements. The Traffic Pattern Zone is generally the area within one mile of the airport. Within the Traffic Pattern Zone, avigation easements should be considered for residential and public uses within this area and disclosure statements should be required. The

Airport Influence Zone is the area where aircraft are transitioning to or from enroute altitude or airport over-flight altitude to or from the standard traffic pattern altitude of 800 to 1,000 feet above airport elevation.

The closest populated areas to the Steamboat Springs Airport are located immediately southeast of the airport. The majority of the City of Steamboat Springs is located within either the Traffic Pattern Zone or the Airport Influence Zone. There are also a number of land uses in the Approach Zone to Runway 32. Figures 4-3 and 4-4 show the land use plans for the City of Steamboat Springs and the West Steamboat Springs development plan. The development shown on the plans is located outside of the Traffic Pattern Zone and is therefore considered compatible. The airport has recently submitted the paper work to change the traffic pattern from standard left hand traffic to Runway 14 to non-standard right hand traffic to Runway 14 due to terrain within the traffic pattern. Figure 4-2 Off Airport Land Use shows the traffic pattern and land uses surrounding the airport.

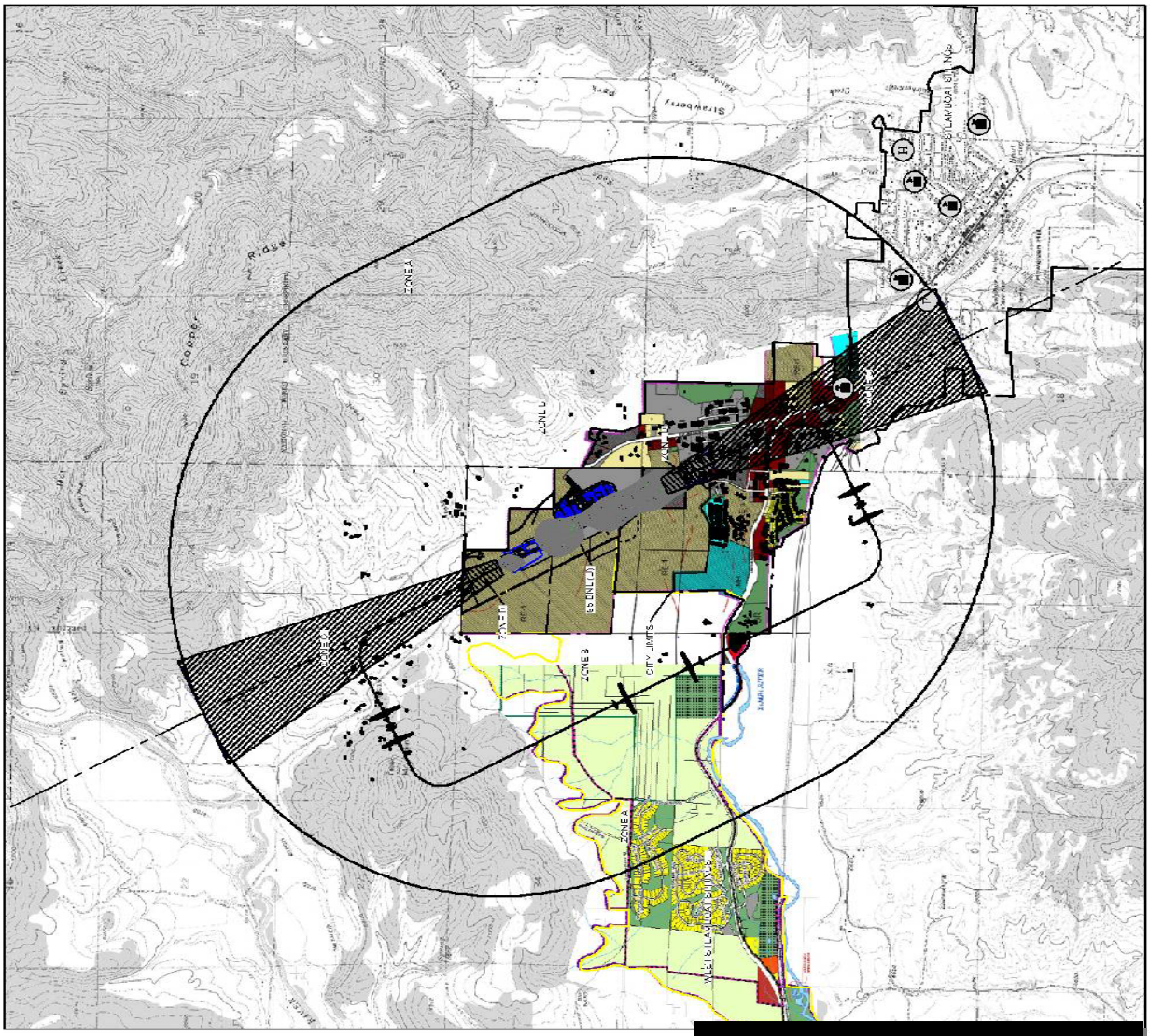


FIGURE 4-2 OFF AIRPORT LAND USE MAP

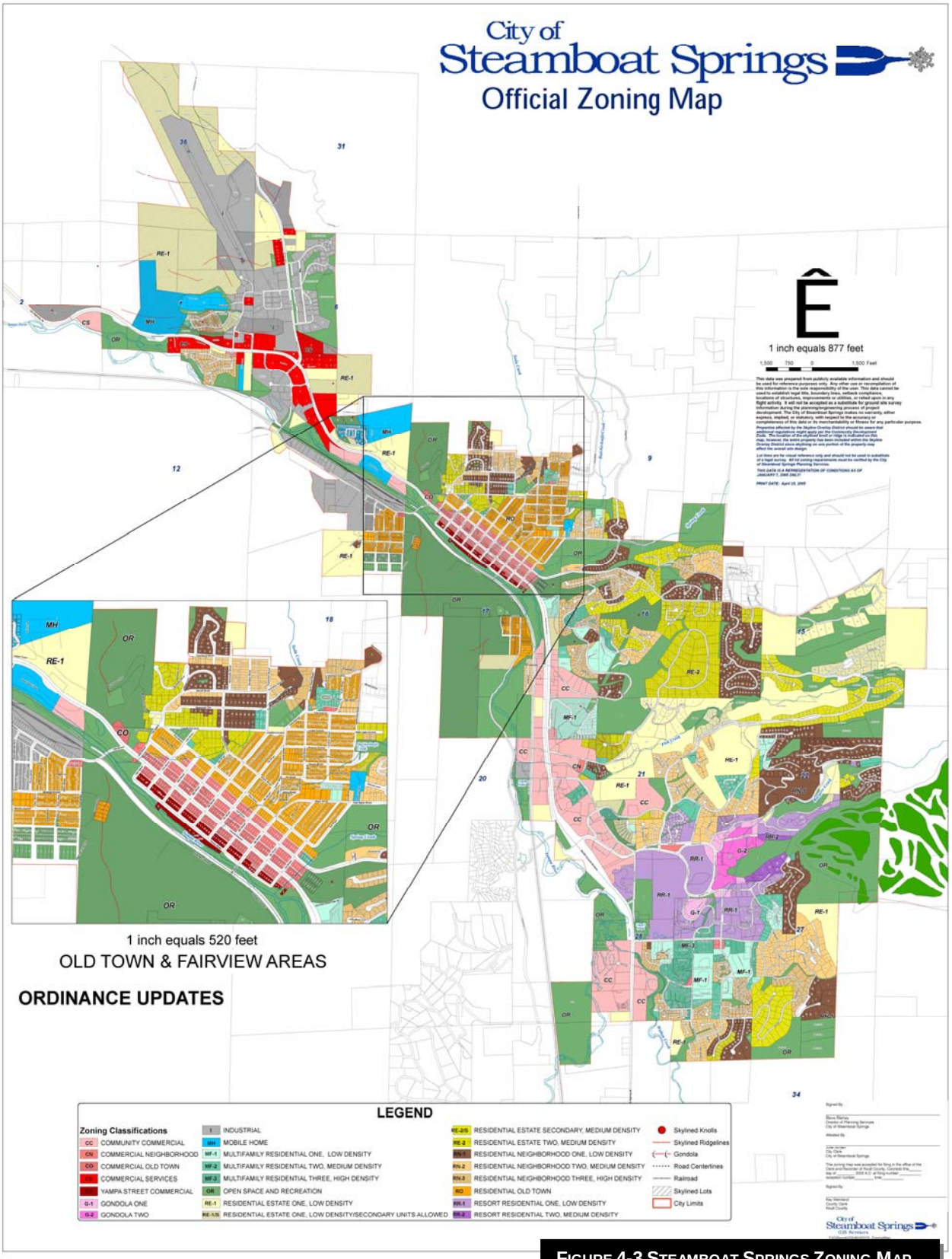


FIGURE 4-3 STEAMBOAT SPRINGS ZONING MAP

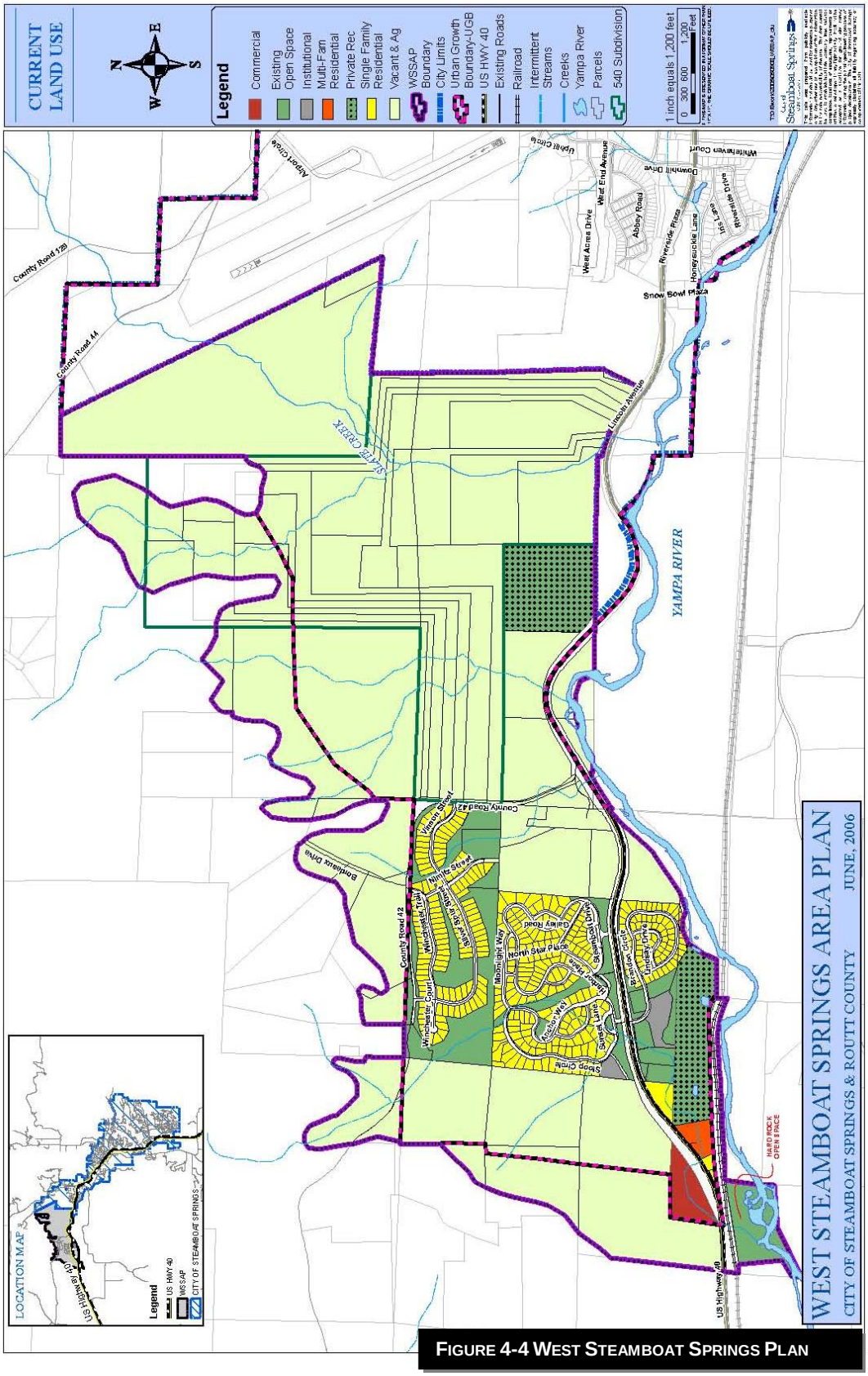


FIGURE 4-4 WEST STEAMBOAT SPRINGS PLAN

Federal Aviation Regulation (FAR) Part 77, *Objects Affecting Navigable Airspace*, provides imaginary surfaces surrounding an airport that should be protected from penetration by objects. These include the approach surface, horizontal surface and conical surface. These surfaces were described in Chapter 4. Proposed structures in the vicinity of the airport should be reviewed against the Part 77 criteria to ensure hazards to air navigation are not created. Because the terrain off the end of the runways is lower than the runway elevation, no penetrations to the approach surface currently exist. Objects penetrating these surfaces could result in a hazard to air navigation.

As part of the community development code for the City of Steamboat Springs, Article 4 Section 26-109, specifically refers to the "Airport Influence Area Overlay Zone". However, this overlay zone has not been adopted and is stated as "reserved". Copies of the land use zoning maps are included in Chapter 1. An updated ordinance and drawings have been included as part of this Master Plan and should be adopted by the City of Steamboat Springs. This ordinance and drawings protect the airport from future incompatible land uses and objects that may be considered hazards to air navigation. Copies of the ordinance and zoning maps are included in Appendix E.

CONSTRUCTION IMPACTS

Local, State and Federal ordinances and regulations address the impacts of construction activities, including dust and noise from heavy equipment traffic, disposal of construction debris and air and water pollution.

Construction operations for the proposed development will cause specific impacts resulting solely from and limited exclusively to the construction period. Construction impacts are distinct in that they are temporary in duration and the degree of adverse impacts decreases as work is concluded. The following construction impacts can be expected:

- A temporary increase in particulate and gaseous air pollution levels as a result of dust generated by construction activity and by vehicle emissions from equipment and worker's automobiles;
- Increases in solid and sanitary wastes from the workers at the site;
- Traffic volumes that would increase in the airport vicinity due to construction activity (workers arriving and departing, delivery of materials, etc.);
- Increase in noise levels at the airport during operation of heavy equipment; and
- Temporary erosion, scarring of land surfaces and loss of vegetation in areas that are excavated or otherwise disturbed to carry out future developments.

Construction projects will comply with guidelines set forth in FAA Advisory Circular 150/5370-10B, *Standards for Specifying the Construction of Airports*. The contractor will obtain the required construction permits. The contractor will also prepare Storm Water Pollution Prevention and Fugitive Dust Control Plans for construction. These requirements will be specified in the contract documents for the construction of the proposed improvements.

DOT ACT – SECTION 4(F)

Section 303c of Title 49, U.S.C., formerly Section 4(f) of DOT Act of 1966, provides that the Secretary of Transportation shall not approve any program or project that requires the use of any publicly owned land from a public park, recreation area or wildlife or waterfowl refuge of

National, State or Local significance or land from an historic site of National, State or Local significance, as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such project includes all possible planning to minimize impacts. The proposed improvements will not require land from any public park, recreation area or wildlife or waterfowl refuge.

FARMLANDS

The Farmland Protection Policy Act (FPPA) authorizes the Department of Agriculture to develop criteria for identifying the effects of Federal programs upon the conversion of farmland to uses other than agriculture.

Conversion of "Prime or Unique" farmland may be considered a significant impact. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed or fiber without intolerable soil erosion as determined by the Secretary of Agriculture. Unique farmland is land other than prime farmland which is used to produce specific high value food and fiber crops, such as citrus, tree nuts, olives, cranberries, fruits and vegetables.

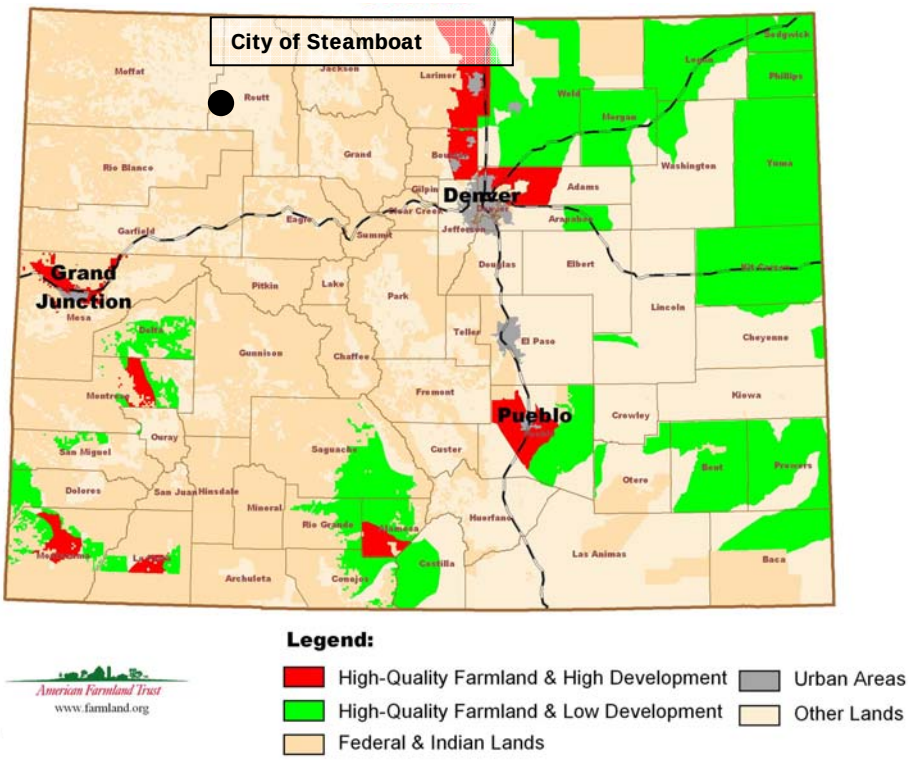


FIGURE 4-5 COLORADO HIGH QUALITY FARMLAND

Figure 4-5 shows the high quality farmland in the State of Colorado in Red and Green. As shown, there is no high quality farmland located in Routt County. Correspondence with the USDA stated that "most of the soils in Routt County including those around the Steamboat Springs Airport are considered to be in a cyric soil temperature regime (very cold). This precludes them from being designated as Prime Farmland".

FISH, WILDLIFE AND PLANTS

This category concerns potential impacts to existing wildlife habitat and threatened and endangered species. Examining both the area of land to be altered or removed and its relationship to surrounding habitat quantify the significance of the impacts in this category. For example, removal of a few acres of habitat which represents a small percentage of the area's total similar habitat or which supports a limited variety of common species would not be considered significant. However, removal of a sizeable percentage of the area's similar habitat or habitat which is known to support rare species, would be considered a significant impact. Improvements to the Steamboat Springs Airport would remove approximately 29 acres of habitat. The surrounding area offers an abundance of similar habitat and the proposed improvements are not considered to be a significant habitat loss.

Section 7 of the Endangered Species Act, as amended, requires each Federal agency to insure that "any action authorized, funded or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat of such species . . .".

An *Endangered Species* is defined as any member of the animal or plant kingdoms determined to be in danger of extinction throughout all or a significant portion of its range. A *Threatened Species* is defined as any member of the plant or animal kingdoms that are likely to become endangered in the foreseeable future.

The following species are currently listed for Routt County, but do not necessarily occur in the vicinity of Steamboat Springs or within the project areas.

<u>Endangered</u>
Bonytail, Gila elegans
Colorado Pikeminnow, Ptychocheilus lucius
Humpback Chub, Gila cypha
Razorback Sucker, Xyrauchen texanus

<u>Threatened</u>
Canada Lynx, Lynx candensis

<u>Candidate</u>
Yellow-billed Cuckoo, Coccyzus americanus

Correspondence was sent to the U.S. Fish and Wildlife Service (USFWS) concerning the possibility of the proposed development actions impacting any area threatened or endangered species. The USFWS responded with a list of federally listed threatened or endangered species, candidates for potential future listing that occur in or could be affected by activities in Routt County. The letter stated "the list was complied from an inventory for Routt County and therefore, some or all of the species may not presently occupy or use the proposed project area. If it is determined that a species listed above is not present, and/or that no habitats for the species exist in the project area, a no effect finding for that species would be applicable". A copy of the letter can be found in Appendix F.

FLOODPLAINS

Floodplains are defined by Executive Order 11988, Floodplain Management, as the lowland and relatively flat areas adjoining coastal water . . . including at a minimum, that area subject to a one percent or greater chance of flooding in any given year . . . ", that is, an area which would be inundated by a 100-year flood. If a proposed action involves a 100-year floodplain, mitigating measures must be investigated in order to avoid significant changes to the drainage system.

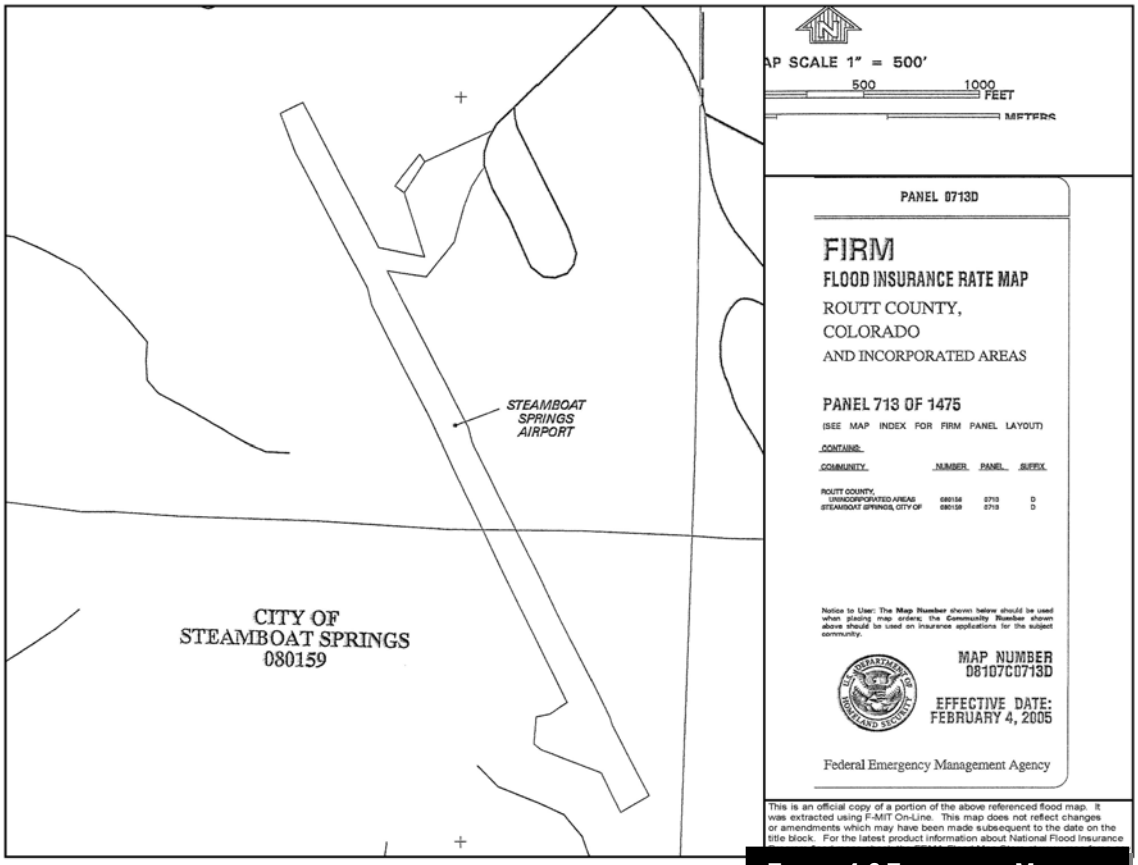


FIGURE 4-6 FLOODPLAIN MAP

As described in FAA Order 5050.4B, an airport development project would be a significant impact pursuant to NEPA if it results in notable adverse impacts on natural and beneficial floodplain values. Mitigation measures for base floodplain encroachments may include committing to special flood related design criteria, elevating facilities above base flood level, locating nonconforming structures and facilities out of the floodplain or minimizing fill placed in floodplains. The existing and planned property lines for the Steamboat Springs Airport do not encroach upon a designated 100-year floodplain and no floodplain impacts are expected. Figure 4-6 shows the floodplain map for the Steamboat Springs Airport.

HAZARDOUS MATERIALS, POLLUTION PREVENTION AND SOLID WASTE

Four primary laws have been passed governing the handling and disposal of hazardous materials, chemicals, substances and wastes. The two statutes of most importance to the FAA in proposing actions to construct and operate facilities and navigational aids are the Resource Conservation and Recovery Act (RCRA) (as amended by the Federal Facilities Compliance Act of 1992) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA or Superfund) and the Community Environmental Response Facilitation Act of 1992. RCRA governs the generation, treatment, storage and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment.

The airport is located in an area that was previously used as a landfill. The area should be further evaluated to ensure that future development is suitable on land that has been previously used as a landfill.

Airport development actions that relate only to construction or expansion of runways, taxiways and related facilities do not normally include any direct relationship to solid waste collection, control or disposal other than that associated with the construction itself. The nature of the proposed airport meets these criteria and will not significantly increase net waste output for the City of Steamboat Springs.

Any existing and future solid waste disposal facility (i.e. sanitary landfill) which is located within 5,000 feet of all runways planned to be used by piston-powered aircraft or within 10,000 feet of all runways planned to be used by turbine aircraft, is considered by the FAA to be an incompatible land use because of the potential for conflicts between birds and low-flying aircraft. This determination is found in FAA Advisory Circular 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*. There are no existing solid waste disposal facilities within 10,000 feet of the airport. Any planned solid waste disposal facilities should be located at least 10,000 feet from the runway.

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

The National Historic Preservation Act of 1966 requires that an initial review be made in order to determine if any properties in or eligible for inclusion in the National Register of Historic Places are within the area of a proposed action's potential environmental impact (the area within which direct and indirect impacts could occur and thus cause a change in historic, architectural, archaeological or cultural properties).

The Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery and preservation of significant scientific, prehistorical, historical, archaeological or paleontological data when such data may be destroyed or irreparably lost due to a federal, federally funded or federally licensed project.

Correspondence was sent to the Colorado State Historical Society concerning the possibility of the proposed development actions impacting any historical archaeological and cultural resources. The Colorado State Historical Society responded stating, "A search of the Colorado Cultural Resource Inventory indicated that no surveys for cultural resources have been conducted within the areas proposed for future construction and no cultural resources have been recorded therein". The Colorado State Historical Society recommended that a cultural resources survey be conducted in the location of the proposed construction in areas that have not been previously disturbed to determine if cultural resources which may be eligible for the National Register of Historic Places (NRHP) are present. A copy of the letter can be found in Appendix F.

LIGHT EMISSIONS AND VISUAL IMPACTS

Airfield lighting is the main source of light emissions from an airport. Rotating airport beacons are provided so pilots can identify the location of an airport at night or in reduced visibility conditions. Rotating beacons consist of alternating white and green lights rotating at six rotations per minute. Beacons are typically mounted on a tower or on top of a hangar or other building. Specifications for airport beacons allow the beam to be angled from 2° to 12° above

the horizon. The standard setting is 6°. If necessary, the beacon can be shielded to reduce visibility of the beacon from below the horizon line. Medium Intensity Runway Edge Lights (MIRLs) are single white or yellow lights mounted on 14 to 30 inch posts spaced at 200 foot intervals along both edges of the runway. They define the boundaries of the runway surface usable for takeoff and landing. Precision Approach Path Indicators (PAPIs) are used for visual descent guidance and consist of two or four light units located to the left of the runway and perpendicular to the runway centerline. The lights are directed at a glide path angle of 3° above the runway. If the aircraft is above the glide path, the pilot will see all white lights. If the pilot is on the proper glide path, the light unit closest to the runway will be red and the unit farthest from the runway will be white. When the pilot is below the glide path the light units will be red. PAPIs have an effective visual range from the air of approximately five miles during the day and up to twenty miles at night. These visual aids are extremely useful and enhance safety in situations where there are few visual references surrounding the airport. Runway End Identifier Lights (REILs) are synchronized flashing lights located laterally on each side of the runway threshold. They are angled upward and outward from the runway and provide rapid and positive identification of the threshold of a runway. This is especially useful in metropolitan and densely developed areas where lights in the vicinity of the airport make it difficult to identify the runway.

The proposed improvements will not substantially increase light emission impacts at the Steamboat Springs Airport. If complaints are received, the lights can be shielded or baffled to minimize their impact.

NATURAL RESOURCES, ENERGY SUPPLY AND SUSTAINABLE DESIGN

Executive Order 13123, Greening the Government Through Efficient Energy Management (64FR 30851, June 8, 1999), encourages each Federal agency to expand the use of renewable energy within its facilities and in its activities. E.O. 13123 also requires each Federal agency to reduce petroleum use, total energy use and associated air emissions and water consumption in its facilities.

It is also the policy of the FAA, consistent with NEPA and the CEQ regulations, to encourage the development of sustainability. All elements of the transportation system should be designed with a view to their aesthetic impact, conservation of resources such as energy, pollution prevention, harmonization with the community environment and sensitivity to the concerns of the traveling public.

Energy requirements associated with airport improvements generally fall into two categories: 1) changed demand for stationary facilities (i.e. airfield lighting and terminal building heating) and 2) those that involve the movement of air and ground vehicles (i.e. fuel consumption). The use of natural resources includes primarily construction materials and water which are in sufficient supply.

Energy requirements are not expected to significantly increase as a result of the proposed improvements. Demand for aircraft fuel is expected to increase over the 20-year planning period. Aircraft fuel should continue to be stored in above ground tanks at the airport that conform to EPA regulations. Significant increases in ground vehicle fuel consumption are not anticipated.

NOISE

Noise analysis considerations include whether the Federal thresholds of noise exposure are exceeded, whether the 65 day-night level (DNL) noise contour extends beyond airport property and if there are any residences, churches, schools, hospitals or other noise sensitive land uses within the 65 DNL noise contour.

The basic measure of noise is the sound pressure level that is recorded in decibels (dBA). The important point to understand when considering the impact of noise on communities is that equal levels of sound pressure can be measured for both high and low frequency sounds. Generally, people are less sensitive to sounds of low frequency than they are to high frequencies. An example of this might be the difference between the rumble of automobile traffic on a nearby highway and the high-pitched whine of jet aircraft passing overhead. At any location, over a period of time, sound pressure fluctuates considerably between high and low frequencies. Figure 4-7 depicts a Sound Level Comparison of different noise sources. The identification of airport generated noise impacts and implementation of noise abatement measures is a joint responsibility of airport operators and users. FAA Order 5050.4B states that "no noise analysis is needed for proposals involving Design Group I and II airplanes operating at airports whose forecast operations in the period covered by the EA do not exceed 90,000 annual adjusted propeller operations or 700 annual adjusted jet operations . . .". Noise analysis is not required for the Steamboat Springs Airport since operations are forecasted to be 41,870 in 2025. Noise contours were generated for the existing and future operations at the airport. The future noise contour is shown in Figure 4-8.

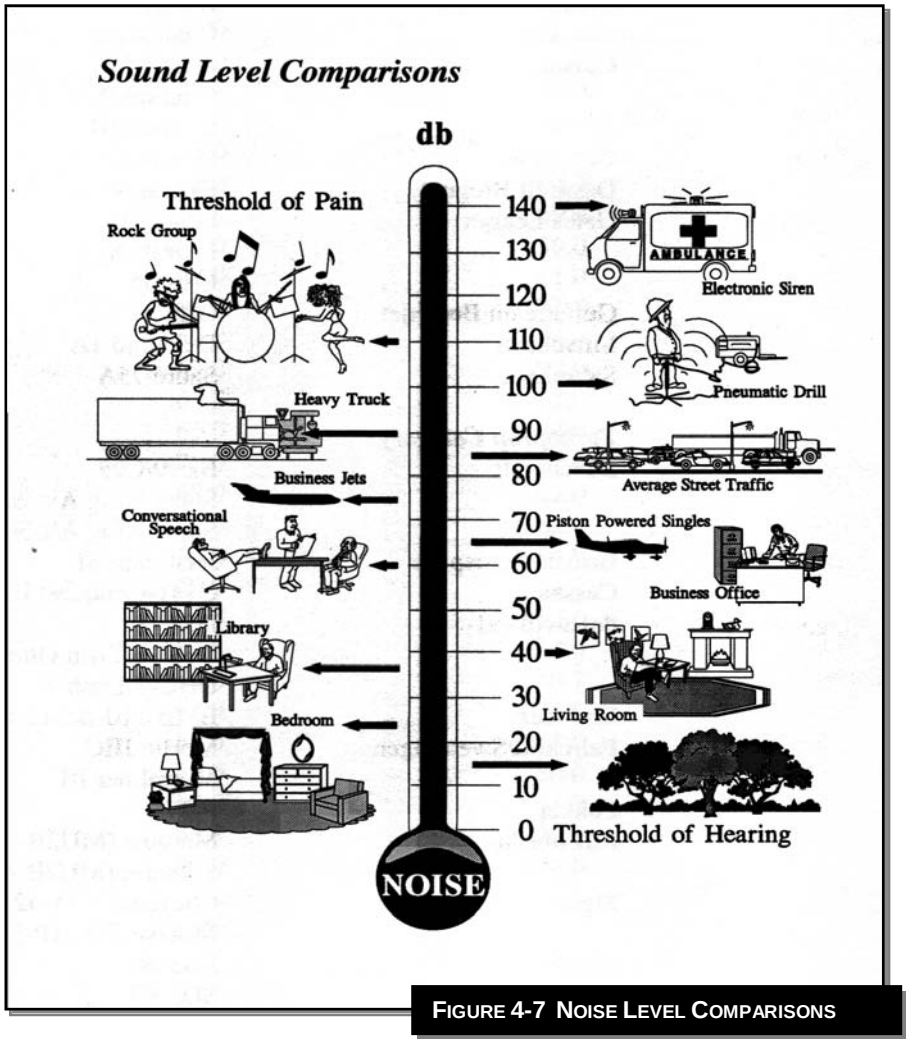


FIGURE 4-7 NOISE LEVEL COMPARISONS

There are no incompatible or noise sensitive land uses within the existing or ultimate 65 DNL noise contour. Only a small portion (3.9 acres) of the ultimate 65 DNL noise contour extends beyond the existing airport property. The topography of this area does not lend itself to the development of a noise sensitive land use and is therefore, not anticipated to become an incompatible land use.

VOLUNTARY NOISE ABATEMENT PROGRAM

Although the noise exposure levels will not exceed 65 DNL over any noise sensitive area, several voluntary measures can be applied to minimize noise exposure to surrounding areas. Several of these measures are listed below. It is recommended that a voluntary noise abatement program be implemented for the airport and publicized to all based and transient pilots.

Pilots:

- Be aware of noise sensitive areas, particularly residential areas near the airport and avoid low flight over these areas.
- Fly traffic patterns tight and high, keeping the aircraft as close to the field as possible.
- In constant-speed-propeller aircraft, do not use high RPM settings in the pattern. Propeller noise from high-performance singles and twins increases drastically at high RPM settings.
- On takeoff, reduce to climb power as soon as safe and practical.
- Climb after liftoff at best-angle-of-climb speed until crossing the airport boundary, then climb at best rate.
- Depart from the start of the runway rather than intersections, for the highest possible altitude when leaving the airport vicinity.
- Avoid prolonged run-ups and do them inside the airport area, rather than at its perimeter.
- Try low-power approaches and always avoid the low, dragged-in approach.

Instructors:

- Teach noise abatement procedures to all students, including pilots you take up for flight reviews.
- Know noise-sensitive areas and point them out to students.
- Assure students fly at or above the recommended pattern altitude.
- Practice maneuvers over unpopulated areas and vary practice areas so that the same locale is not constantly subjected to aircraft operations.
- During practice of ground-reference maneuvers, be particularly aware of houses or businesses in your flight path.
- Stress that high RPM propeller settings are reserved for takeoff and for short final but not for flying in the pattern. Pushing the propeller to high RPM results in significantly higher levels of noise.

Fixed Base Operators (FBOs):

- Identify noise-sensitive areas and work with customers to create voluntary noise abatement procedures.
- Post any noise abatement procedures in a prominently visible area and remind pilots of the importance of adhering to them.
- Call for the use of the least noise sensitive runway whenever wind conditions permit.
- Initiate pilot education programs to teach and explain the rationale for noise abatement procedures and positive community relations.

Airport Owner and Surrounding Jurisdictions:

- Maintain appropriate zoning in the vicinity of the airport and see that noise sensitive land uses are not authorized within pattern, approach and departure paths.
- Disclose the existence of the airport and the airport influence area to real estate purchasers.

- Publish voluntary noise procedures on the Internet.
- Publish voluntary calm runway use procedures.

Source: Aircraft Owners and Pilots Association (AOPA)

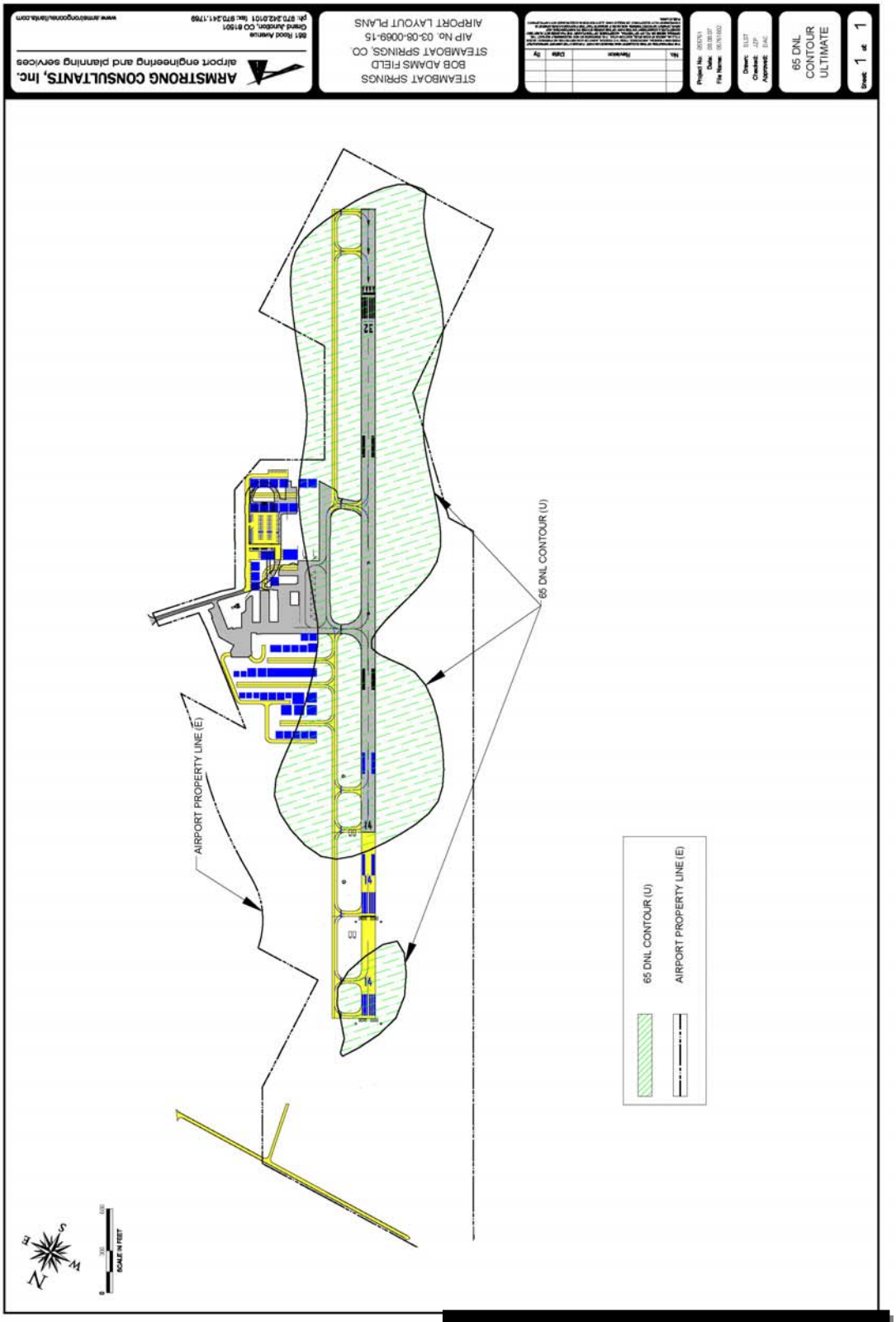


FIGURE 4-8 ULTIMATE 65 DNL NOISE CONTOUR

SECONDARY (INDUCED) IMPACTS

These secondary or induced impacts involve major shifts in population, changes in economic climate or shifts in levels of public service demand. The effects are directly proportional to the scope of the project under consideration. Assessment of induced socioeconomic impacts is usually only associated with major development at large air carrier airports, which involve major terminal building development or roadway alignments and similar work. The extent of the indirect socioeconomic impacts of the proposed development is not of the magnitude that would normally be considered significant; however, positive impacts can be foreseen in the form of direct, indirect and induced economic benefits generated from the airport.

SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, the accompanying Presidential Memorandum and Order DOT 5610.2, Environmental Justice, require the FAA to provide for meaningful public involvement by minority and low-income populations and analysis, including demographic analysis that identifies and addresses potential impacts on these populations that may be disproportionately high and adverse. Included in this process is the disclosure of the effects on subsistence patterns of consumption of fish, vegetation or wildlife and effective public participation and access to this information. The Presidential Memorandum that accompanied E.O. 12898, as well as the CEQ and EPA Guidance, encourage consideration of environmental justice impacts in EA's especially to determine whether a disproportionately high and adverse impact may occur. Environmental Justice is examined during evaluation of other impact categories, such as noise, air quality, water, hazardous materials and cultural resources.

SOCIOECONOMIC IMPACTS

Induced socioeconomic impacts are usually only associated with major development at large air carrier airports. The socioeconomic impacts produced as a result of the proposed improvements to the Steamboat Springs Airport are expected to be positive in nature and would include direct, indirect and induced economic benefits to the local area. These airport improvements are expected to attract additional users and in turn to encourage tourism, industry and to enhance the future growth and expansion of the community's economic base.

If acquisition of real property or displacement of persons is involved, 49 CFR part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended must be met for Federal projects and projects involving Federal funding. Otherwise, the FAA, to the fullest extent possible, observes all local and State laws, regulations and ordinances concerning zoning, transportation, economic development, housing, etc. when planning, assessing or implementing the proposed action.

TRANSPORTATION AND GROUND ACCESS

The major surface transportation routes in the vicinity of the Steamboat Springs Airport are County Road 129 (also known as Elk River Road) and US Highway 40. County Road 129 provides direct access to the airport access road. County Road 129 intersects with Highway 40 approximately ½-mile from the airport. County Road 129 is a two-lane paved road. According to Routt County Road and Bridge Department there are 2,313 Annual Average Daily Traffic (AADT) counts on County Road 129 near the Steamboat Springs Airport access road. According to the Institute of Transportation Engineers, Trip Generation, Volume V, average daily

trips at general aviation airports, such as this one, are estimated at 6.067 per based aircraft. Currently, 92 aircraft are based at the airport, resulting in approximately 558 daily trips attributable to the airport. Based aircraft are forecasted to increase to 158 in 2025 resulting in an estimated 958 daily vehicle trips. This is not considered to be a significant increase and the road is expected to be able to accommodate the increased usage without degrading the road's service level.

ENVIRONMENTAL JUSTICE

The focus of the Environmental Justice evaluation is to determine whether the proposed action results in an inequitable distribution of negative effects to special population groups, as compared to negative effects on other population groups. These special population groups include minority or otherwise special ethnicity or low-income neighborhoods.

The proposed action is not expected to result in any significant negative impacts to any population groups and therefore, would not result in disproportionate negative impacts to any special population group. Socioeconomic and induced economic impacts are expected to be positive in nature and are expected to benefit all population groups in the area.

CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Pursuant to Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, Federal agencies are directed, as appropriate and consistent with the agency's mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. Agencies are encouraged to participate in implementation of the Order by ensuring that their policies, programs, activities and standards address disproportionate risks to children that result from environmental health risks or safety risks.

The proposed improvements are not expected to result in any environmental health risks or safety risks on children.

WATER QUALITY

Water quality considerations related to airport development often include increased surface runoff and erosion and pollution from fuel, oil, solvents and deicing fluids. Potential pollution could come from petroleum products spilled on the surface and carried through drainage channels off of the airport. State and Federal laws and regulations have been established to safeguard these facilities. These regulations include standards for above ground and underground storage tanks, leak detection and overflow protection. An effective Stormwater Pollution Prevention Plan (SWPPP) which the City of Steamboat Springs has and maintains for the airport, identifies stormwater discharge points on the airport, describes measures and controls to minimize discharges and details spill prevention and response procedures. The City of Steamboat Springs also has and maintains a Spill Prevention Control and Countermeasures (SPCC) Plan for the airport that identifies the direction of flow for a fuel spill and outlining procedures for responding to such an incident.

In accordance with Section 402(p) of the Clean Water Act, a National Pollution Discharge Elimination System (NPDES) General Permit is required from the Environmental Protection Agency for construction projects that disturb one or more acres of land. Applicable contractors will be required to comply with the requirement and procedures of the NPDES General Permit, including the preparation of a Notice of Intent, prior to the initiation of construction activities.

Correspondence was sent to the Colorado Department of Environmental Quality, Water Quality Division concerning any actions that should be taken before improvements proceed. The Colorado Department of Environmental Quality, Water Quality responded stating that the proposed projects would require a construction stormwater permit. The Colorado Department of Environmental Quality, Water Quality also stated that if deicing operations are conducted that the proper disposal should be conducted. A copy of the letter can be found in Appendix F.

Recommendations established in FAA Advisory Circular 150/5370-10B, *Standards for Specifying Construction of Airports*, Item P-156, *Temporary Air and Water Pollution, Soil Erosion and Siltation Control,* will be incorporated into the project design and specifications. The design and construction of the proposed improvements will incorporate Best Management Practices (BMP) to reduce erosion, minimize sedimentation, control non-storm water discharges and to protect the quality of surface water features potentially effected. These practices will be selected based on the site's characteristics and those factors within the contractor's control and may include: construction scheduling, limiting exposed areas, runoff velocity reduction, sediment trapping and good housekeeping practices.

Future fuel storage and dispensing facilities should be designed, constructed, operated and maintained in accordance with Federal, State and Local regulations. Waste fluids, including oils, coolants, degreasers and aircraft wash facility wastewater will be managed and disposed of in accordance with applicable Federal, State and Local regulations.

WETLANDS

Wetlands are defined in Executive Order 11990, *Protection of Wetlands*, as "those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support, a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs and similar areas such as sloughs, potholes, wet meadows, river overflows and natural ponds. Jurisdictional Waters of the United States may also include drainage channels, washes, ditches, arroyos or other waterways that are tributaries to Navigable Water of the United States or other waters where the degradation or destruction of which could affect interstate or foreign commerce.

Correspondence was sent to the US Army Corps of Engineers, Colorado District regarding potential impacts to wetlands and waters of the United States. The Army Corps of Engineers responded with a telephone call stating that wetlands delineation and mapping should be completed as part of the Environmental Assessment for the runway extensions. The US Army Corps of Engineers also stated that any impacts to drainages would require a permit. A copy of the memo can be found in Appendix F.

WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act (PL 90-542) describes those river areas eligible for protection from development. As a general rule, these rivers possess outstanding scenic, recreational, geological, fish and wildlife, historical, cultural or other similar value.

The Wild and Scenic River list from the National Park Service indicated one Wild and Scenic River listed in Colorado. The Cache La Poudre River is located on the eastern side of the continental divide and would not be affected by the proposed improvements.

MEANS TO MITIGATE AND/OR MINIMIZE ADVERSE ENVIRONMENTAL IMPACTS

Where appropriate, the mitigation or minimization of environmental impacts was noted in the discussion of impacts. These actions are summarized below:

- Maintain compatible land uses in the vicinity of the airport;
- Adhere to the land acquisition policies in Subpart B of 49 CFR Part 24 for land acquisition;
- Utilize pilot controlled lighting on all airfield lighting and visual aids. Utilize timers or motion sensors for apron and automobile parking area lights;
- Adhere to FAA AC 150/5370-10B, *Standards for Specifying the Construction of Airports* and best management practices to minimize or eliminate impacts to water quality and air quality during construction.

SUMMARY AND CONCLUSIONS OF ENVIRONMENTAL IMPACTS

Tables 4-21 and 4-22 provide a summary of the analysis ratings for the eighteen environmental impact categories with respect to the development alternatives.

TABLE 4-21 COMPARISON OF POTENTIAL ENVIRONMENTAL IMPACTS ON AIRSIDE DEVELOPMENT ALTERNATIVES

Environmental Category	Alt A	Alt B	Alt C	Alt D	Alt E
Air Quality	⦿	⦿	⦿	⦿	○
Coastal Resources	○	○	○	○	○
Compatible Land Use	○	○	○	○	○
Construction Impacts	⦿	⦿	●	●	○
DOT Act Section 4 (F)	○	○	○	○	○
Farmlands	○	○	○	○	○
Fish, Wildlife and Plants	○	○	○	○	○
Floodplains	○	○	○	○	○
Hazardous Materials Pollution Prevention and Solid Waste	○	○	○	○	○
Historical, Architectural, Archaeological and Cultural Resources	○	○	○	○	○
Light Emissions and Visual Impacts	○	○	○	○	○
Natural Resources and Energy Supply	○	○	○	○	○
Noise	○	○	○	○	○
Secondary (Induced) Impacts	○	○	○	○	○
Socioeconomic Impacts, Environmental Justice and Children's Environmental Health	○	○	○	○	○
Water Quality	○	○	○	○	○
Wetlands	○	⦿	⦿	⦿	○
Wild and Scenic Rivers	○	○	○	○	○

Legend:
○ No Impact
⦿ Minor Impact
● Significant Impact

TABLE 4-22 COMPARISON OF POTENTIAL ENVIRONMENTAL IMPACTS ON LANDSIDE DEVELOPMENT ALTERNATIVES

Environmental Category	ALT L1	ALT L2	ALT L3	ALT L4	ALT L5	ALT L6
Air Quality	⦿	⦿	⦿	⦿	⦿	○
Coastal Resources	○	○	○	○	○	○
Compatible Land Use	○	○	○	○	○	○
Construction Impacts	⦿	⦿	⦿	⦿	⦿	○
DOT Act Section 4 (F)	○	○	○	○	○	○
Farmlands	○	○	○	○	○	○
Fish, Wildlife and Plants	○	○	○	○	○	○
Floodplains	○	○	○	○	○	○
Hazardous Materials Pollution Prevention and Solid Waste	○	○	○	○	○	○
Historical, Architectural, Archaeological and Cultural Resources	○	○	○	○	○	○
Light Emissions and Visual Impacts	○	○	○	○	○	○
Natural Resources and Energy Supply	○	○	○	○	○	○
Noise	○	○	○	○	○	○
Secondary (Induced) Impacts	○	○	○	○	○	○
Socioeconomic Impacts, Environmental Justice and Children's Environmental Health	○	○	○	○	○	○
Water Quality	○	○	○	○	○	○
Wetlands	○	○	○	○	○	○
Wild and Scenic Rivers	○	○	○	○	○	○

Legend:
○ No Impact
⦿ Minor Impact
● Significant Impact

SUMMARY

The development alternatives have been evaluated to provide the City of Steamboat Springs options for meeting existing and future airport demand. The alternatives include a detailed analysis of the costs and impacts associated with the development.

Upon selection of the preferred alternatives(s) the City of Steamboat Springs an airport master plan concept can be developed. The resulting plan would represent an airport facility that meets safety and design standards for both airside and landside development at various levels of capacity and utility depending on the alternative(s) selected. The development alternatives evaluated in this chapter are not requirements for future development. The development alternatives present options that the City should consider based on the level of service the City chooses to provide. The final decision on what improvements will be shown on the Airport Layout Plan rests with the City of Steamboat Springs. Figure 4-10 shows the recommended development concepts.

The recommendations of the alternatives are reasonable in that no major environmental impacts are anticipated. The recommendations are justified based on existing and future forecasted demand as well as FAA design standards. The recommended development concepts are also financially feasible, the costs of future development shall be phased and occur as demand warrants.

Based on the analysis and results of the study to-date along with Steamboat Springs Airport Steering Group and public input the following actions are recommended:

1) Accomplish all safety-related and pavement maintenance projects including wildlife perimeter fencing (these types of projects are not included in the Alternatives analysis but will be included in the Financial and Airport Development Plans).

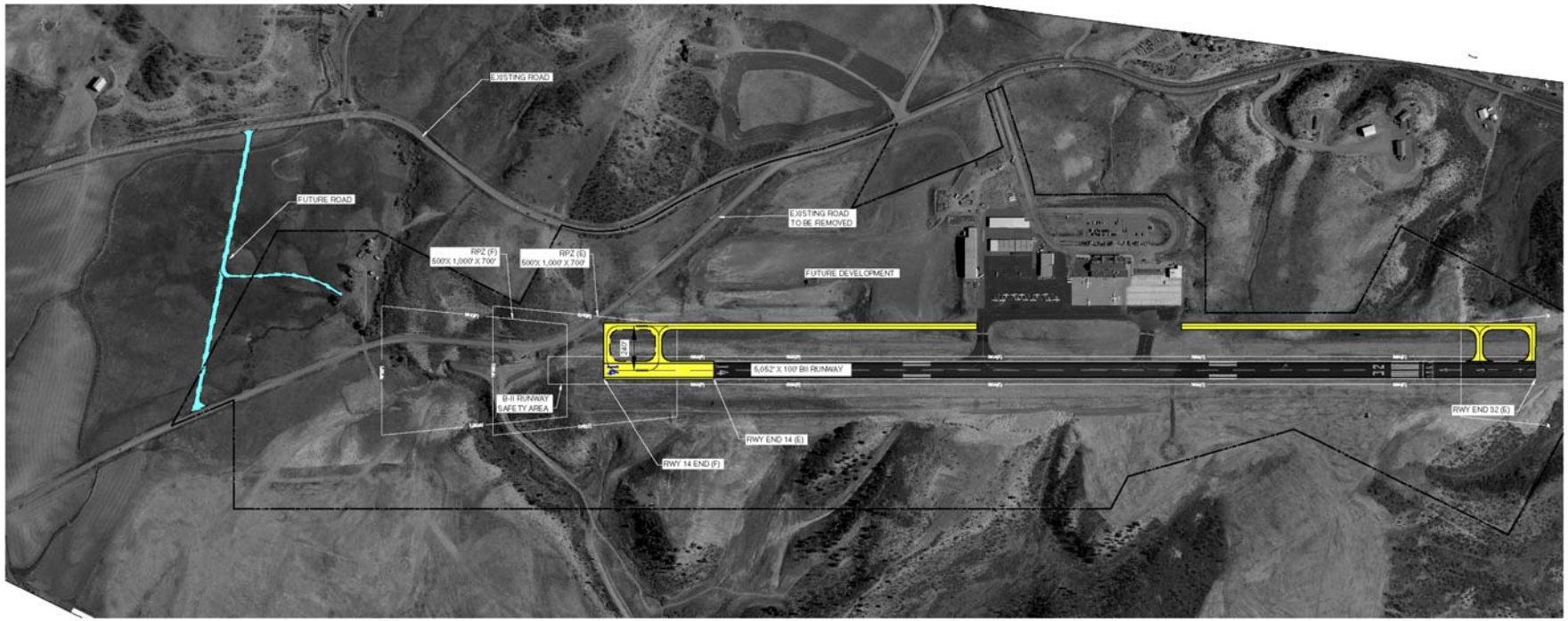
2) Plan for and implement construction of a partial parallel taxiway to Runway 32 and construct a bypass taxiway at the Runway 14 end. FAA funding for a partial parallel taxiway to Runway 14 is not likely. However, if the City is able to obtain excess fill material from other projects to create the embankment then obtaining FAA funding for the paving and lighting would be a higher probability.

3) Plan for and implement Alternative A for a 600 foot runway extension for the initial runway extension and plan for Alternative B in the ultimate for a total runway length of 5,780 feet which would accommodate the recommended 75 percent of the small aircraft fleet. Implement the runway extension alternatives after other higher priority projects (such as wildlife fencing and L1) have been completed.

4) Plan for and implement Alternative L1 and plan for Alternatives L2 the area located north of Alternative L2 should also be protected for future landside development occurring adjacent to Alternative L2. The potential development of Alternative L5 is also a possibility should a private developer approach the City.

SELECTION OF PREFERRED ALTERNATIVE(S)

The alternatives were discussed and analyzed during the Steering Group, Public Information and City Council meetings held on June 13, 26 and August 7, 2007 respectively. Input was received from the Colorado Aeronautics Division and the Federal Aviation Administration. It was determined that the airside alternatives A and B should be shown including initial runway extension 600 feet resulting in a runway length of 5,052 feet, then in the long term constructing a runway extension to an ultimate length of 5,780 feet. Landside Alternatives L1 and L2 were selected as the preferred landside development. These alternatives were recommended based on the criteria identified including financial feasibility and environmental impact. The preferred alternatives are shown in figure 4-18.



ALTERNATIVE A
600' RUNWAY EXTENSION TO THE NORTHWEST
WITH FULL LENGTH PARALLEL AND BYPASS TAXIWAYS

N E S W

0 300 600
SCALE IN FEET

= AREA OF NEW ASPHALT FOR RUNWAY EXTENSION, TAXIWAY, & BYPASS TAXIWAYS

= EXISTING AIRPORT PROPERTY LINE

= FUTURE ROAD

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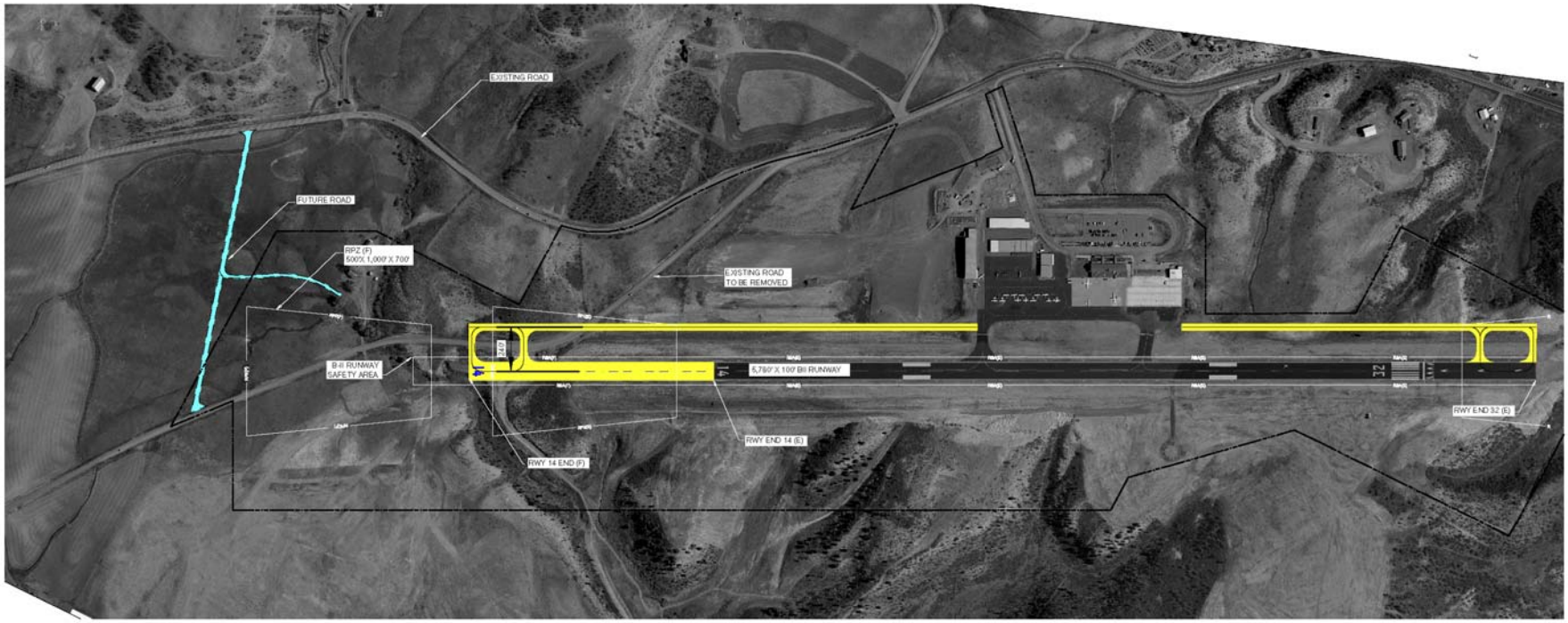
ALTERNATIVE A
FIGURE 4-9

SCALE:	AS SHOWN	DATE:	4/9/07
DRAWN:	BKR	FILE:	5761500-ALT3
CHK'D:	JZP	JOB NO.:	065761



ALTERNATIVE B
1328' RUNWAY EXTENSION TO THE NORTHWEST
WITH FULL LENGTH PARALLEL AND BYPASS TAXIWAYS

N E S W

0 300 600
SCALE IN FEET

= AREA OF NEW ASPHALT FOR RUNWAY EXTENSION, TAXIWAY, & BYPASS TAXIWAYS

= EXISTING AIRPORT PROPERTY LINE

= FUTURE ROAD

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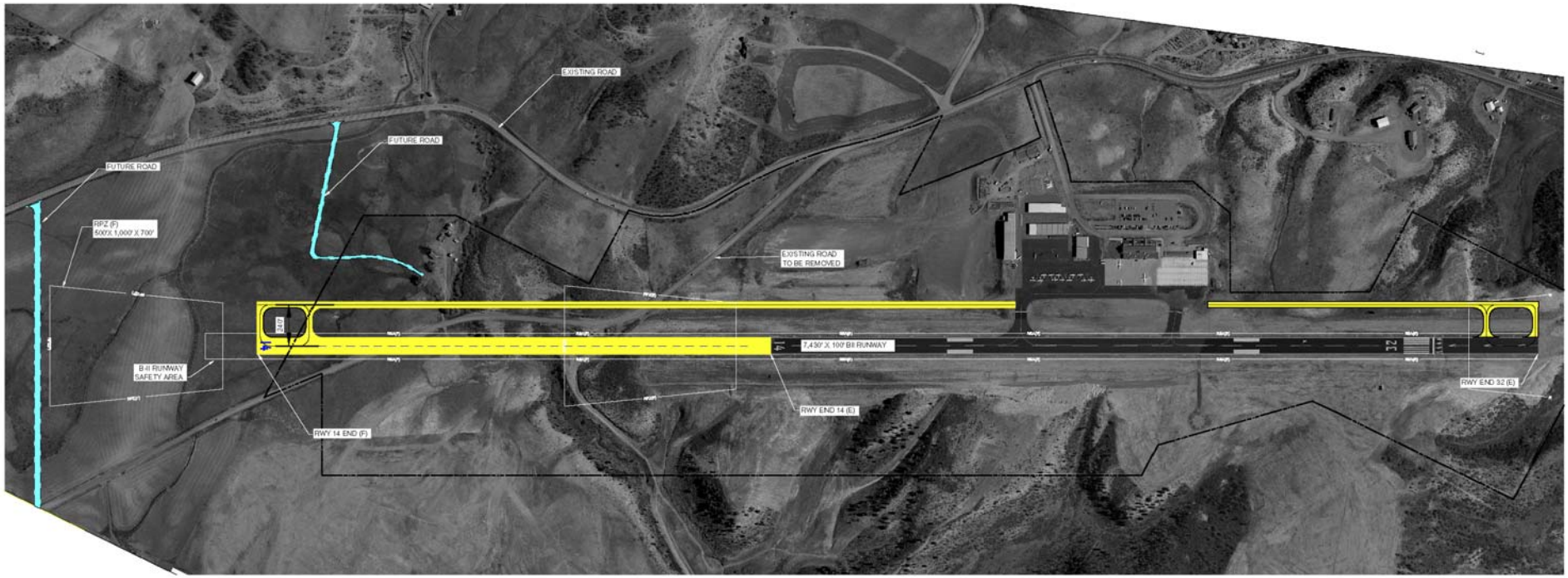
ALTERNATIVE B
FIGURE 4-10

SCALE:	AS SHOWN	DATE:	4/9/07
DRAWN:	BKR	FILE:	5761500-ALT3
CHK'D:	JZP	JOB NO.:	065761



ALTERNATIVE C
2,978' RUNWAY EXTENSION TO THE NORTHWEST
WITH FULL LENGTH PARALLEL AND BYPASS TAXIWAYS

N E S W

0 300 600
SCALE IN FEET

= AREA OF NEW ASPHALT FOR RUNWAY EXTENSION, TAXIWAY, & BYPASS TAXIWAYS

= EXISTING AIRPORT PROPERTY LINE

= FUTURE ROAD

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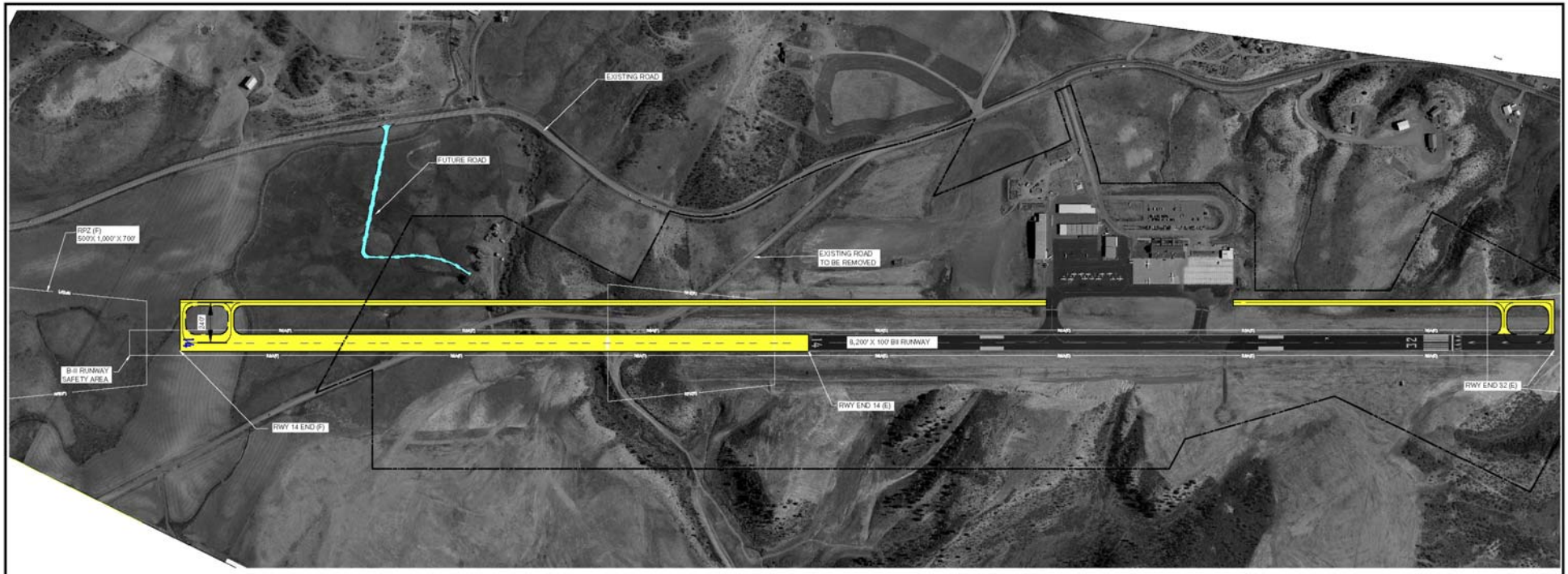
ALTERNATIVE C
FIGURE 4-11

SCALE:	AS SHOWN	DATE:	4/9/07
DRAWN:	BKR	FILE:	5761500-ALT3
CHK'D:	JZP	JOB NO.:	065761



ALTERNATIVE D
3,748' RUNWAY EXTENSION TO THE NORTHWEST
WITH FULL LENGTH PARALLEL TAXIWAY AND BYPASS

= AREA OF NEW ASPHALT FOR RUNWAY EXTENSION, TAXIWAY, & BYPASS TAXIWAYS

= EXISTING AIRPORT PROPERTY LINE

= FUTURE ROAD

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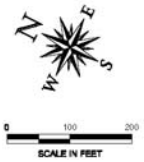
ALTERNATIVE D
FIGURE 4-12

SCALE:	AS SHOWN	DATE:	4/9/07
DRAWN:	BKR	FILE:	5761500-ALT3
CHK'D:	JZP	JOB NO.:	065761



LEGEND

= AREA OF NEW ASPHALT FOR APRON & TAXIWAY DEVELOPMENT

= EXISTING AIRPORT PROPERTY LINE

=FUTURE BUILDINGS

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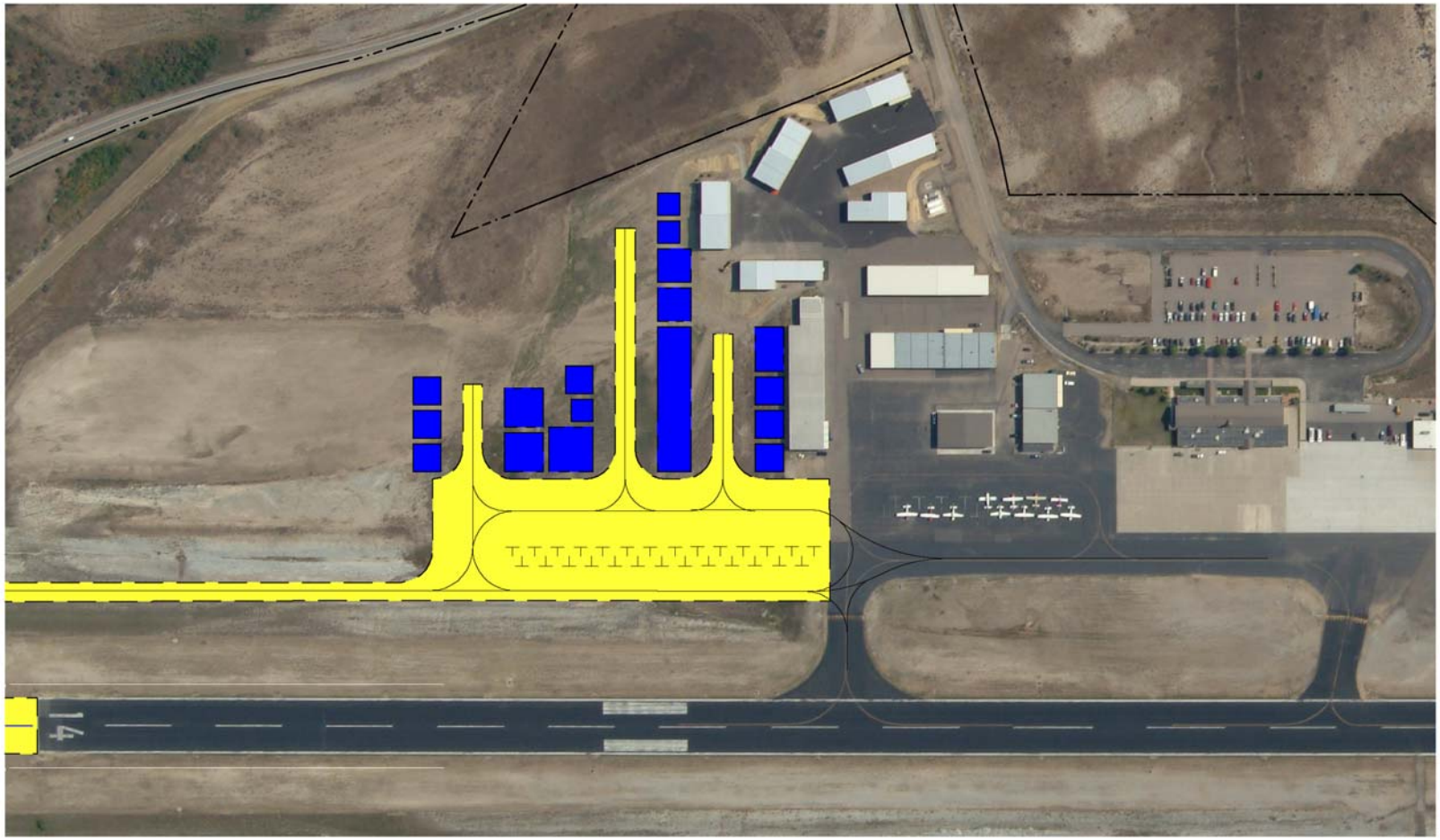
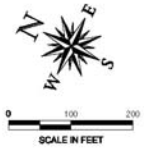
ALTERNATIVE L1
FIGURE 4-13

SCALE:	AS SHOWN	DATE:	04/9/07
DRAWN:	SLST	FILE:	5761500-ALT2
CHK'D:	JZP	JOB NO.:	065761





LEGEND

= AREA OF NEW ASPHALT FOR APRON & TAXIWAY DEVELOPMENT

= EXISTING AIRPORT PROPERTY LINE

=FUTURE BUILDINGS

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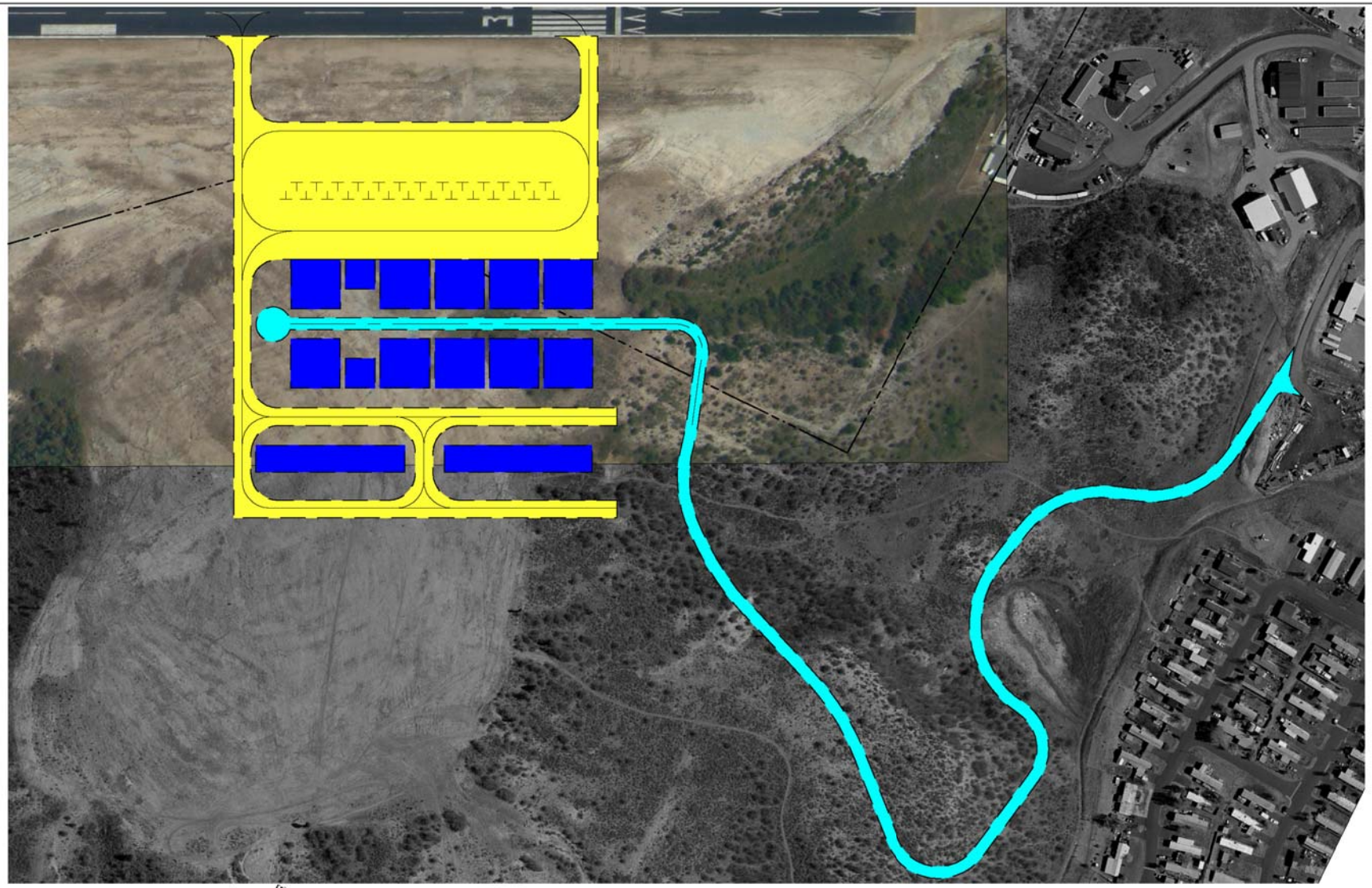
ALTERNATIVE L2
FIGURE 4-14

SCALE:	AS SHOWN	DATE:	04/9/07
DRAWN:	SLST	FILE:	5761500-ALT2
CHK'D:	JZP	JOB NO.:	065761



LEGEND

= AREA OF NEW ASPHALT FOR APRON & TAXIWAY DEVELOPMENT

= EXISTING AIRPORT PROPERTY LINE

=FUTURE BUILDINGS

0 100 200
SCALE IN FEET

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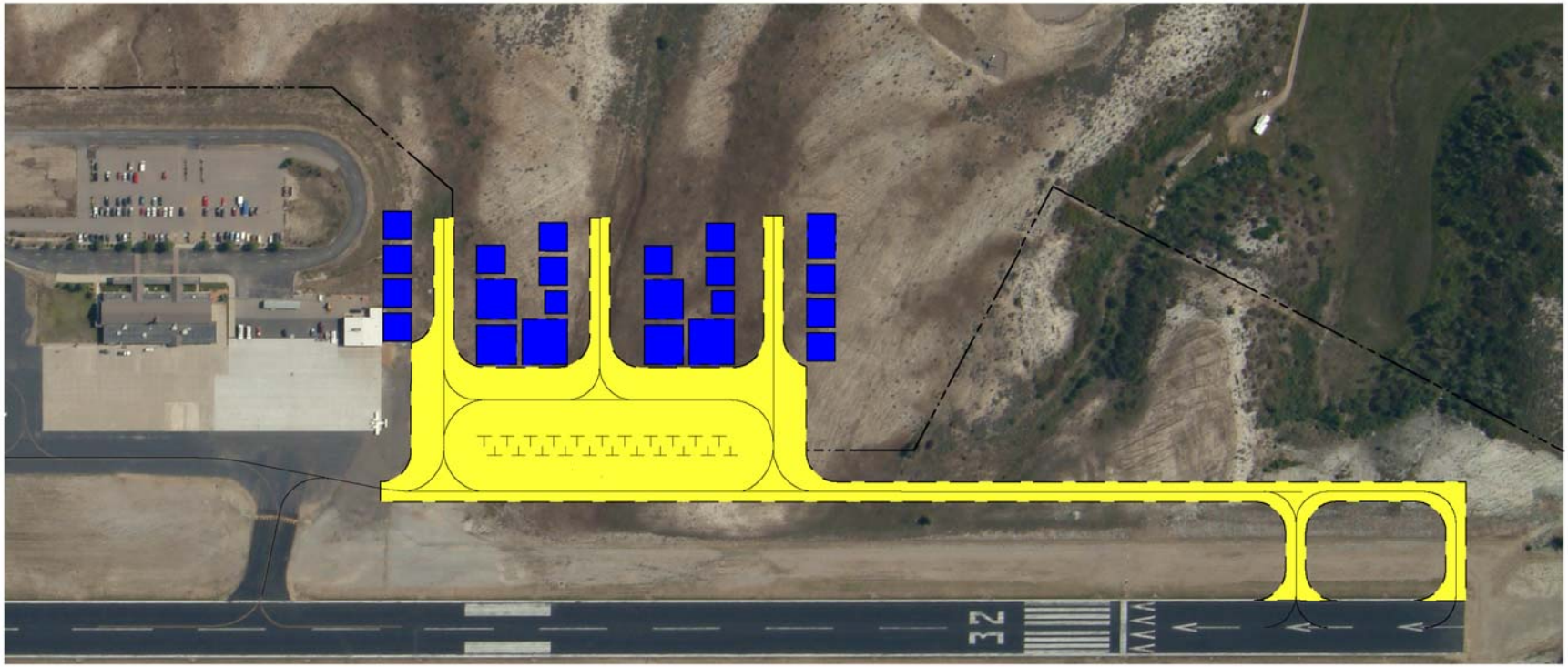
ALTERNATIVE L3
FIGURE 4-15

SCALE:	AS SHOWN	DATE:	04/9/07
DRAWN:	SLST	FILE:	5761500-ALT2
CHK'D:	JZP	JOB NO.:	065761



LEGEND

= AREA OF NEW ASPHALT FOR APRON & TAXIWAY DEVELOPMENT

= EXISTING AIRPORT PROPERTY LINE

=FUTURE BUILDINGS

N E S W

0 100 200

SCALE IN FEET

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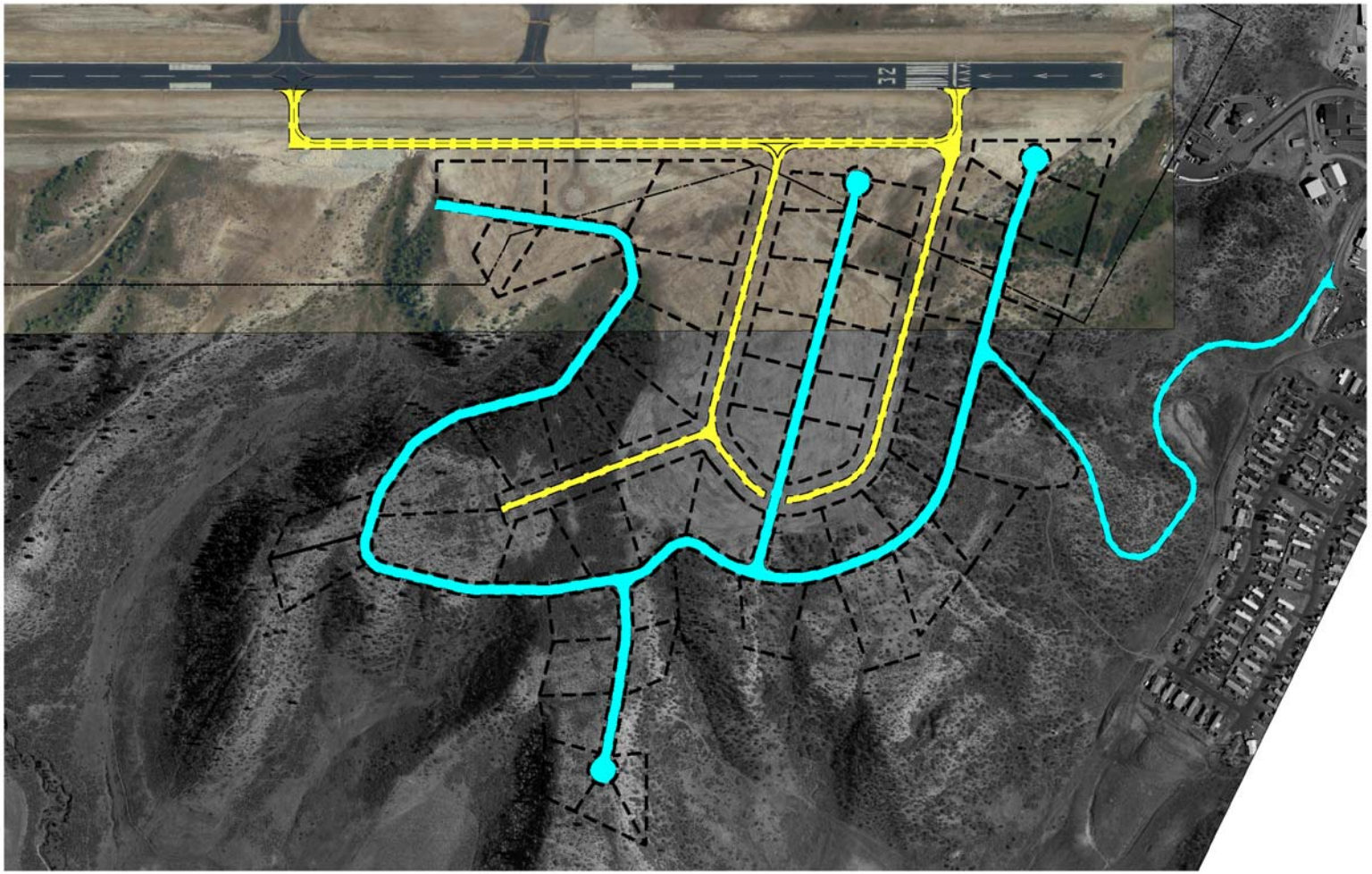
ALTERNATIVE L4
FIGURE 4-16

SCALE:	AS SHOWN	DATE:	04/9/07
DRAWN:	SLST	FILE:	5761500-ALT2
CHK'D:	JZP	JOB NO.:	065761



N E S W

0 200 400

SCALE IN FEET

LEGEND

= AREA OF NEW ASPHALT FOR APRON & TAXIWAY DEVELOPMENT

= EXISTING AIRPORT PROPERTY LINE

=FUTURE BUILDINGS

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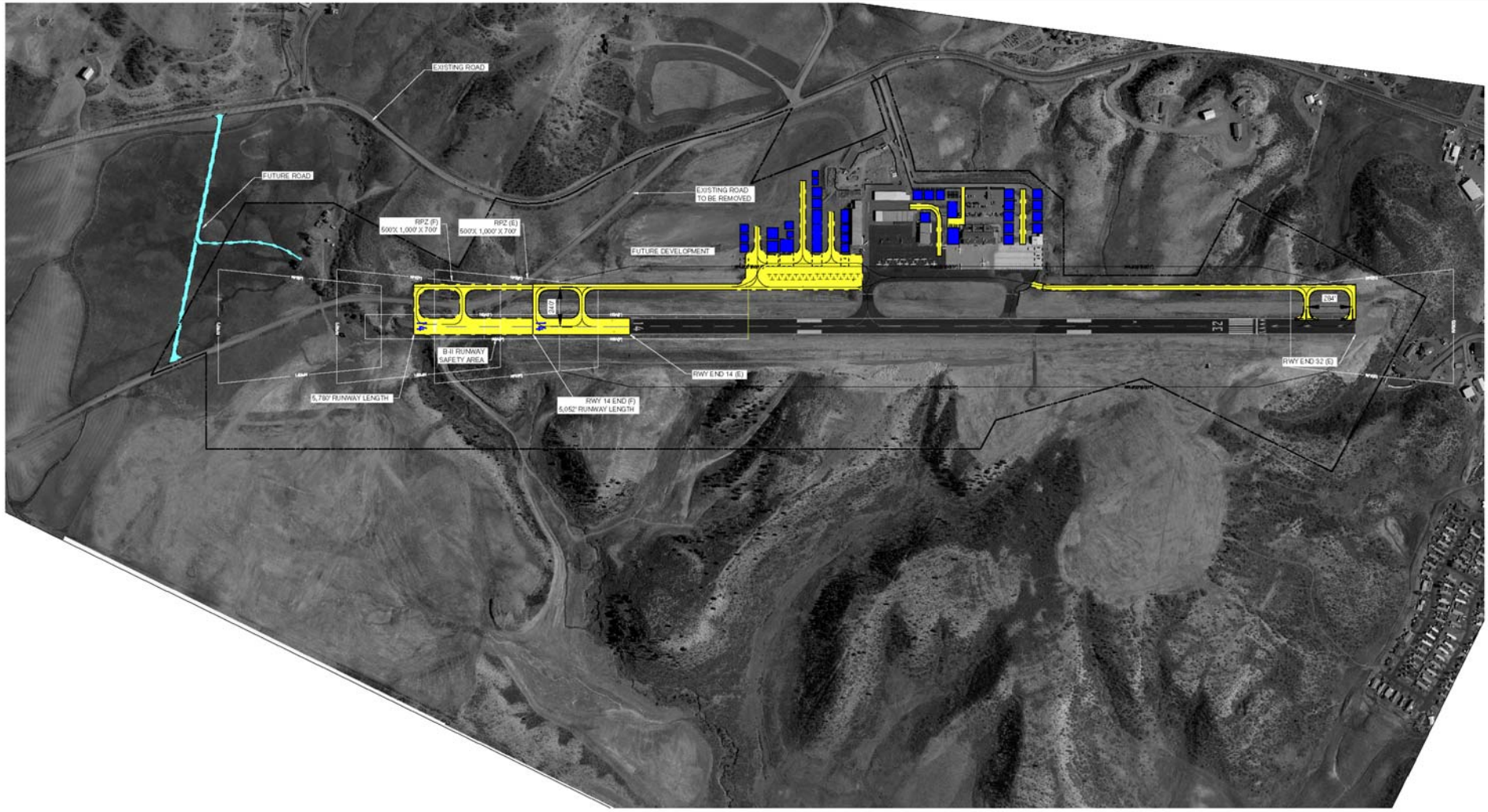
ALTERNATIVE L5
FIGURE 4-17

SCALE:	AS SHOWN	DATE:	04/9/07
DRAWN:	SLST	FILE:	5761500-ALT2
CHK'D:	JZP	JOB NO.:	065761



N E S W

0 300 600
SCALE IN FEET

LEGEND

= AREA OF NEW ASPHALT FOR RUNWAY EXTENSION, TAXIWAY, & BYPASS TAXIWAYS

= EXISTING AIRPORT PROPERTY LINE

= FUTURE ROAD

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RECOMMENDED DEVELOPMENT CONCEPTS
FIGURE 4-18

SCALE:	AS SHOWN	DATE:	05.09.07
DRAWN:	BKR	FILE:	5761B00
CHK'D:	JZP	JOB NO.:	065761

Chapter Five
Airport Development and Financial Plan

Steamboat Springs
Airport Master Plan

Chapter Five
Airport Development And Financial Plan

INTRODUCTION

Future development at the Steamboat Springs Airport, as included in this study, covers a twenty-year period. Development items are grouped into three stages. The stages (as defined in FAA AC 150/5070-6B) include short-term (0-5 years), medium-term (6-10) years) and long-term (11-20 years). The existing future and ultimate development shown on the Airport Layout Plan corresponds to the terms short-term, medium-term and long-term respectively. Estimated development costs based on the airport layout plan are included for each item in the Airport Development Plan. They are based on the recommended facility requirements discussed in Chapter Three and the development projects selected in Chapter Four, including safety and capacity related projects. The phasing of projects assists the airport sponsor in budgetary planning for construction improvements that are needed to provide safe and functional facilities for aviation demands. Phased development schedules also assist the airport sponsor in contingencies and construction. The recommended airport development items are summarized below.

RECOMMENDED AIRPORT DEVELOPMENT PROJECTS

Short-Term

Repair/Replace Perimeter Fencing
Acquire land for Approach Protection (RPZ Avigation Easements)
Construct Taxilanes for Hangar Development (Phase I)
Partial Parallel Taxiway Runway 32
Bypass Taxiway Runway 14
Pavement Preservation

Medium-Term

Environmental Assessment for Runway Extension (Phase I)
Runway Extension (Phase I)
Airport Layout Plan Update
Taxilane Expansion (Phase II)
Update Airport Master Plan
Pavement Preservation

Long-Term

Environmental Assessment for Runway Extension (Phase II)
Runway Extension (Phase II)
Apron Expansion
Pavement Preservation
Replacement Snow Removal Equipment Building

DEVELOPMENT FUNDING

The estimated development costs for the aforementioned items are located in Table 5-1. The cost shares in Table 5-1 assume that the FAA will continue to provide 95 percent grant funding for eligible projects in the State of Colorado and that the Colorado Division of Aeronautics will continue to provide 2.5 percent grant funding for eligible projects. Grant eligible items typically include airfield and aeronautical related facilities such as runways, taxiways, aprons, lighting and visual aids, as well as land acquisition and environmental tasks needed to accomplish the improvements. Safety related projects typically receive a higher priority rating and are more likely to be funded with FAA and State grant funds; however, capacity projects may receive grant funds depending on the scope and cost of the project, economic, or operational benefit and availability of funds. Certain items, such as hangars and fuel facilities, are also eligible for federal funding. Despite eligibility for funding assistance, these development items represent a low priority in competition for funds and are generally funded by the sponsor or by third party sources.

TABLE 5-1 STEAMBOAT SPRINGS RECOMMENDED DEVELOPMENT PLAN

Sequence		Project Description	Total	Federal	State	Local
A1	S	Replace/Repair Perimeter-Wildlife Fence	$250,000	$237,500	$6,250	$6,250
A2	S	Land for Approach Protection	$150,000	$142,500	$3,750	$3,750
A3	C	Taxilane Construction	$570,000	$541,500	$14,250	$14,250
A4	S	Bypass Taxiway Runway 32	$2,000,000	$1,900,000	$50,000	$50,000
A5	C	Partial Parallel Taxiway Runway 32	$5,000,000	$4,750,000	$125,000	$125,000
A6	S	Bypass Taxiway Runway 14	$2,000,000	$1,900,000	$50,000	$50,000
A7	S	Pavement Preservation	$175,000	$166,250	$4,375	$4,375
		Total Short-Term (0-5 years)	*$10,145,000*	*$9,637,750*	*$253,625*	*$253,625*
B1	S	ALP Update	$125,000	$118,750	$3,125	$3,125
B2	C	EA for Runway 14/32 Extension	$150,000	$142,500	$3,750	$3,750
B3	C	Extend Runway 14/32 (Phase I)	$10,050,000	$9,547,500	$251,250	$251,250
B4	C	Apron Expansion (Phase I)	$570,000	$541,500	$14,250	$14,250
B5	S	Pavement Preservation	$175,000	$166,250	$4,375	$4,375
B6	S	Update Airport Master Plan	$250,000	$237,500	$6,250	$6,250
		Total Medium-Term (6-10 years)	*$11,320,000*	*$10,754,000*	*$283,000*	*$283,000*
C1	C	EA for Runway 14/32 Extension	$150,000	$142,500	$3,750	$3,750
C2	C	Extend Runway 14/32 (Phase II)	$10,000,000	$9,500,000	$250,000	$250,000
C3	C	Apron/Hangar Development Area Expansion (Phase II)	$7,840,000	$7,448,000	$196,000	$196,000
C4	S	Pavement Preservation	$175,000	$166,250	$4,375	$4,375
C5	S	Snow Removal Equipment	$250,000	$237,500	$6,250	$6,250
C6	S	Replace Snow Removal Equipment Building	$325,000	$308,750	$8,125	$8,125
		Total Long-Term (11-20 years)	*$18,740,000*	*$17,803,000*	*$468,500*	*$468,500*
		TOTAL	**$40,205,000**	**$38,194,750**	**$1,005,125**	**$1,005,125**

Costs in FY 2007 Dollars
C=Capacity
S=Safety

The Airport and Airways Act of 1982 created and authorized the Airport Improvement Program (AIP) to assist in the development of a nationwide system of public-use airports adequate to meet the projected growth of civil aviation. The Act provides funding for airport planning and development projects at airports included in the National Plan of Integrated Airport Systems (NPIAS).

It is not uncommon for the airport development needs to exceed the level of FAA and State grant funding available. Airports typically submit their unconstrained list of funding needs to the FAA. This list is compiled into the National Plan of Integrated Airports Systems (NPIAS) report that is then submitted to Congress on a biennial basis. The FAA and State then select those projects from the NPIAS list that fall within their priority and funding capacity and enter them (i.e. program them) into the Airports Capital Improvement Program (ACIP). The ACIP includes those projects that are reasonably expected (but not guaranteed by the FAA) to be funded over the next six years.

Table 5-1 represents the recommended NPIAS project list. Since the airport competes for a limited amount of grant funding all of the recommended projects, especially the high cost capacity projects, may not make it into the ACIP. In that case the City could choose to fund the project with local funds, in-kind services or materials or seek third-party funding to complete the projects; or to continue to operate in its existing configuration until grant funds can be obtained. Therefore despite the eligibility for federal and state funding of the development items shown in Table 5-1, the actual availability of funding for the projects is not guaranteed, nor is the City obligated to undertake any of the listed projects. Projects shown in the development plan are based on the needs determined by the existing conditions and forecasted demand. The sequence of projects may change over time depending on actual demand.

STATE GRANT ASSISTANCE

The Colorado Department of Transportation (CDOT) Division of Aeronautics participates in funding airport development and maintenance projects. CDOT normally contributes 80 to 90 percent to projects without Federal participation and contributes 2.5 percent matching funds to the FAA's 95 percent funding of federally eligible capital improvement projects. The resulting local share is generally 2.5 percent for FAA and State funded projects and 10 to 20 percent for State only funded projects.

FUNDING THE LOCAL SHARE

The airport sponsor has several methods available for funding the capital required to meet the local share of airport development costs. The most common methods involve airport revenues, general fund appropriations, debt financing which amortizes the debt over the useful life of the project, force accounts, in-kind service, third-party support and donations.

Airport Revenues: Airport Revenue is generated by airport user fees for services which consist of land leases, tie down fees, fuel flowage fees and landing fees. As part of the acceptance of FAA grant funding the sponsor agrees to grant assurances and included in these assurances is an assurance that the airport takes necessary steps toward becoming self sufficient.

General Fund Appropriations: Depending on their financial position, the airport sponsor may have the resources to directly allocate the funds needed for the local share of capital projects. These allocations are normally included in the annual budgeting process for the various city or county departments. Early planning and identification of the funds needed helps the sponsor prepare for these allocations.

Bank Financing: Some airport sponsors use bank financing as a means of funding airport development. Generally, two conditions are required. First, the sponsor must have the ability to repay the loan plus interest and second, the cost of capital improvements must be less than the value of the present facility or some other collateral must be used to secure the loan. These are standard conditions that are applied to almost all bank loan transactions.

General Obligation Bonds: General Obligation Bonds (GO) are a common form of municipal bonds whose payment is secured by the full faith credit and taxing authority of the issuing agency. GO bonds are instruments of credit and because of the community guarantee, reduce the available debt level of the sponsoring community. This type of bond uses tax revenues to retire debt and the key element becomes the approval by the voters of a tax levy to support airport development. If approved, GO bonds are typically issued at a lower interest rate than other types of bonds.

Self-Liquidating General Obligation Bonds: As with GO Bonds, Self-Liquidating General Obligation Bonds are secured by the issuing government agency. They are retired, however, by cash flow from the operation of the facility. Providing the state court determines that the project is self-sustaining, the debt may be legally excluded from the community's debt limit. Since the credit of the local government bears the ultimate risk of default, the bond issue is still considered, for the purpose of financial analysis, as part of the debt burden of the community. Therefore, this method of financing may mean a higher rate of interest on all bonds sold by the community. The amount of increase in the interest rate depends, in part, upon the degree of risk of the bond. Exposure risk occurs when there is insufficient net airport operating income to cover the level of service plus coverage requirements, thus forcing the community to absorb the residual.

Revenue Bonds: Revenue Bonds are payable solely from the revenues of a particular project or from operating income of the borrowing agency, such as an airport commission which lacks taxing power. These types of bonds are common with passenger terminal developments in which there is a contracted stream of revenue from airlines, rental car agencies and other tenants. Generally, they fall outside of constitutional and statutory limitations and in many cases do not require voter approval. Because of the limitations on the other public bonds, airport sponsors are increasingly turning to revenue bonds whenever possible. However, revenue bonds normally carry a higher rate of interest because they lack the guarantees of municipal bonds.

Combined Revenue/General Obligation Bonds: These bonds, also known as "Double-Barrel Bonds", are secured by a pledge of back-up tax revenues to cover principal and interest payments in cases where airport revenues are insufficient. The combined Revenue/General Obligation Bond interest rates are usually lower than Revenue Bonds, due to their back-up tax provisions.

Force Accounts, In-Kind Service, Donations: Depending on the capabilities of the sponsor, the use of force accounts, in-kind service or donations may be approved by the FAA and the State for the sponsor to provide their share of the eligible project costs. An example of force accounts would be the use of heavy machinery and operators for earthmoving and site preparation of runways or taxiways, the installation of fencing or the construction of improvements to access roads. In-kind service may include surveying, engineering or other services. Donations may include land or materials, such as gravel or water, needed for the project. The value of these items must be verified and approved by the FAA prior to initiation of the project.

Third-Party Support: Several types of funding fall into this category. For example, individuals or interested organizations; may contribute portions of the required development funds. Although not a common means of airport financing, the role of private financial contributions not only increases the financial support of the project, but also stimulates moral support to airport development from local communities. Because of the existing and projected demand for aircraft hangars, private developers may be persuaded to invest in hangar development.

PAVEMENT MAINTENANCE PLAN

Periodic maintenance is necessary to prolong the useful life of the airport pavements. The affects of weather damage, oxidation and usage cause the pavement to deteriorate. The accumulation of moisture in the pavement causes heaving and cracking and is one of the greatest causes of pavement distress. The sun's ultraviolet rays oxidize and break down the asphalt binder in the pavement mix. This accelerates raveling and erosion and can reduce asphalt thickness.

The appropriate pavement maintenance will minimize the affects of weather damage and oxidation. Crack sealing is accomplished to keep moisture from accumulating inside and underneath the pavement and should be accomplished at least every five years and prior to fog sealing or overlaying the pavements. Fog seals, slurry seals and coal tar emulsion (fuel resistant) seals are spread over the entire paved area to replenish the binder lost through oxidation and to seal, rejuvenate and waterproof the pavement. Slurry seals also include an aggregate to increase the friction coefficient of the pavement. Asphalt overlays are accomplished near the end of the useful life of the pavement. A layer of new asphalt is placed over the existing pavement to renew the life of the pavement and to recover lost strength due to deterioration. Unless specially designed, the overlay is not intended to increase the weight bearing capacity of the pavement. Overlays may be supplemented with a porous friction course or grooving to increase friction and minimize hydroplaning. Remarking of the pavement is required following a fog seal or overlay.

The recommended pavement maintenance cycle time frames are listed below. It should be noted that the time frames are recommendations only. Actual pavement deterioration will be affected by use of the airport and weather exposure. Maintenance actions should be programmed as necessary through close monitoring and inspection of the pavements. Table 5-2 shows the recommended pavement maintenance schedule.

TABLE 5-2 PAVEMENT MAINTENANCE SCHEDULE

Pavement Maintenance Cycle	Approximate Time Frames
Crack Seal Pavement	0 – 2 years
Crack Seal, Seal Coat and Remark Pavements	3 – 8 years
Overlay Pavement	15 – 18 years

FINANCIAL PLAN

The ultimate goal of any airport should be the provision of aeronautical services at a self-sustaining level. Facilities that are self-sustaining can provide services with minimal outside funding and reciprocal influence. Unfortunately, few airports are able to accomplish this objective. For example, it is difficult to break even when the fees received from hangar rentals and fuel flowage will not adequately amortize the local share cost of capital projects. This occurs with great frequency in communities that are attempting to balance increased traffic levels with the financial requirements needed to fund these levels. The cost of airport maintenance can, if left unchecked, reach levels where airport needs begin to compete with other local or regional programs. Airport sponsors should, consequently, strive to become a vehicle for economic development and self-sufficiency.

There are intrinsic values that an airport offers to a community that must also be considered in financial planning. In other words, funds spent in the community or in the region by airport users

contribute to the local economy and tax base. Furthermore, Steamboat Springs Airport provides access for valuable services to Steamboat Springs and surrounding communities.

EXPENDITURES

Airport operating expenditures typically include insurance, utilities, maintenance and management costs. Insurance costs include liability insurance for the airport and property insurance for any real property on the airport owned by the City of Steamboat Springs. Utility expenses primarily consist of power costs to operate airfield lighting and visual aids and water for public use areas or irrigation. Pavement maintenance consists of crack sealing on a semi-annual basis and seal coating and remarking the pavements every three to eight years. Facility maintenance consists of mowing, snow removal and repair and replacement of parts and equipment such as light bulbs, light fixtures, fences, et cetera. Management costs may include a full-time or part-time manager and staff or contract services provided by a third party or the FBO. At Steamboat Springs, the City serves as the FBO. This situation may change in the future, necessitating financial consideration.

REVENUES

Airport revenues generally consist of land leases, tie down fees, fuel flowage fees and landing fees. A summary of the current level of rates and charges at Steamboat Springs Airport is listed in Table 5-3.

TABLE 5-3 STEAMBOAT SPRINGS AIRPORT EXISTING RATES AND CHARGES

Source	Rate
Land Leases	$.22/ sq. ft. / year - $.56/sq.ft / year
Hangar Nightly Fee	$300 1st night, $250/night thereafter for large hangars $175 1st night, $150/night thereafter for small hangars
Hangar Monthly Rent	$.39/ sq. ft./month - $.45/ sq.ft./month
Tiedown Fees (Monthly)	$80-$200/month
Transient Overnight Tie Down Fees	$10-$30/night
Fuel Markup Fee	$1.01/gallon
Fuel Flowage Fees	$0.15/gallon
Ramp Facility Fee (Day use)	$5-$25/daily
Ramp Facility Fee (Annual Day use)	$480-$1,200/year
Vehicle Parking Lot Fee	$5/night, $30/month, $300/year
Gate Fee (ramp access fee)	$5

Land Leases: Property on the airport that is not devoted to airfield use, vehicle parking or contained within areas required to be cleared of structures may be leased to individual airport users or aviation related businesses. Typically, the individual is provided a long-term lease on which to construct a hangar, business or other facility. Land lease rates at Steamboat Springs Airport range from $.22 to $.56 per square foot per year.

Tiedown Fee: A fee is typically established for the use of fixed ramp tie-downs on paved apron areas. The fees are usually established on a monthly or annual basis for based aircraft and on an overnight basis for transient aircraft. Currently, Steamboat Springs Airport charges $80 for monthly and $10 for overnight single engine piston tiedowns, $130 for monthly and $15 for nightly helicopter tiedowns, $130 for monthly and $15 for nightly multiengine piston aircraft and $200 for monthly and $30 for nightly turbine cabin class aircraft.

Fuel Markup Fee: This fee is typically charged by the fuel provider on the airport, which is currently the City of Steamboat Springs. The fee is charged per gallon of fuel sold at the airport and covers the costs associated with providing fuel. The fuel markup fee is imposed on both Jet-A and AvGas. The average gross mark up fee for 2006 was $1.01 per gallon.

Fuel Flowage Fee: This fee is typically imposed by the airport sponsor on all aircraft fuels delivered to the airport and would include all fuels used by aircraft including AvGas, Jet-A and MoGas. The fee would apply to fixed base operators, self-fueling users (if authorized) and through-the-fence operators who conduct self-fueling. The fuel flowage fee is for permitted entities that provide/pump their own fuel from fixed dispensers. Typical fuel flowage fees range from $0.10 to $0.15 per gallon.

Hangar Lease Rate: The City of Steamboat Springs leases ten hangars on the field, the lease rates vary from $.39 per square foot per month to $.45 per square foot per month. The City of Steamboat Springs also has hangar space available for nightly rental; the City charges $300 for large hangars for the first night and $250 per night thereafter, $175 for small hangars for the first night and $150 per night thereafter and the hourly rate for heat is $30/hour additional charge.

Ramp Fee: The City of Steamboat Springs charges transient aircraft for the use of the aircraft parking ramp. The charge for day use of the ramp is $5 for single engine piston, $12 for multiengine piston and helicopter and $25 for turbine cabin class aircraft. The charge for annual use of the ramp is $480 for single engine piston, $780 for multiengine piston and helicopter and $1,200 for turbine cabin class aircraft.

Vehicle Parking Lot Fee: The City of Steamboat Springs charges $5 for night use, $30 for monthly use and $300 for annual use of the airport vehicle parking lot.

Gate Fee: The City of Steamboat Springs charges $5/airside pick up for ramp access for taxi service and rental cars.

State Fuel Tax Refund: The fuel taxes collected by CDOT Aeronautics are dispersed on the formula of $.04 per gallon on aviation gasoline and jet fuel and 65 percent of the sales taxes collected on jet fuel used for commercial operations. Moneys are reimbursed monthly and are based on reporting from airports and verification by Colorado Department of Revenue of taxes received into the Aviation Fund.

Sales Tax: While direct airport revenues are required to be used for airport expenses, indirect revenues may be placed in the City's general fund and used for other purposes. During 2006 the local sales taxes collected on Jet-A sales were approximately $7,600. This represents approximately 4% of the revenue for sales of Jet-A. This money generated on the fuel taxes goes directly to the City general fund.

Non-Aeronautical Revenue Generating Leases: Areas on the airport not currently needed for aeronautical use may be leased, with FAA approval, for non-aeronautical uses. The land used for non-aeronautical revenue must be identified on the Airport Layout Plan drawings and must not be needed for aeronautical use. The leases for non-aeronautical use must charge fair market value and all revenue generated by the by the lease must remain on the airport. The revenue generated by non-aeronautical leases can be used to help offset operational, maintenance and development costs of the airport. The existing lease of the terminal building by Smartwool is an existing non-aeronautical revenue generating lease since there is not an existing identified aeronautical use for the terminal building.

Table 5-4 shows the annual revenues and expenses for the Steamboat Springs Airport. The projections assume a private FBO taking over at the airport, therefore, a fuel flowage fee for each gallon of fuel pumped at the airport (i.e. $.15/gallon) was added. The projected revenues

and expenses also assume that the City would keep an airport manager for daily airport operations including, leases, minor maintenance and repair and maintaining the Capital Improvement Plan for the airport. The snow removal would continue to be conducted by the City of Steamboat Springs, thus seasonal part time help is included in the operating expenses. The increased revenue shown for the terminal building assumes that the City would vacate the building and that Smartwool, or another entity, would lease the entire building at the current or higher lease rate for the 20 year planning period. The increased revenue from land leases was calculated by determining the number of hangar spaces available on each landside development phase and projecting the existing land lease rate of $.56/sqft/year would continue. The revenue generated by the fuel flowage fee was calculated by taking the number of gallons sold in 2005 by the number of based aircraft and projecting the ratio using forecasted based aircraft from Chapter 2 and increased fuel sales from increased development such as runway and landside development. The calculations assumed that the City of Steamboat Springs would collect $.15 per gallon of fuel sold at the airport.

Table 5-5 shows the annual revenues and expenses for the Steamboat Springs Airport assuming no capital improvements with the exception of the Phase I taxilane development and routine maintenance to keep the airport operational. Table 5-6 show the annual revenues and expenses for the Steamboat Springs Airport assuming that the City elects not to implement a private FBO at the airport.

CONCLUSIONS AND RECOMMENDATIONS

Increasing aircraft storage hangars at the airport would result in increased direct revenues generated through property leases and increased indirect revenue through increased use of airport services and facilities, such as increased fuel purchases. Locations for additional nested T-hangars and individual box hangars have been identified on the terminal area drawing (TAD), included in Chapter 7. This Chapter has outlined proposed capital improvement projects and provides a guide for implementing future development of the Steamboat Springs Airport. The plan outlines capital improvement projects in sequence and estimated financial costs to be shared by the federal, state government and the airport sponsor. The objective of this financial analysis is to determine the most likely plan for funding capital improvement projects for the next twenty years.

The Airport's goal is to provide a safe and efficient airport to serve Steamboat Springs by providing aircraft storage, maintenance and fueling. Therefore, it is recommended that the airport be able to accommodate existing and forecasted demand by airport users.

In Table 5-4 during the first five years the airport operations shows a decease in the amount of subsidy due to increased fuel tax refund, new hangar development and the development of a new fee structure. The FBO shows increased surplus due to increased fuel sales. At the end of the third year the revenue and expenses of the FBO are shown as zero which anticipates the development of a private FBO. The expense shown on the S-Tax Bonds for the terminal building would be gone at the end of the third year from being paid off. The costs shown in the capital improvements are items such as the partial parallel taxiway, runway extension and hangar development areas along with routine maintenance items.

In Table 5-5 the airport operations are shown as a subsidy over the entire planning period due to a decrease in the amount of revenue generated by the additional runway length and increase landside development area for land leases. The net is a surplus from 2010 on due to no large development projects taking place.

In Table 5-6 the City of Steamboat Springs FBO makes a profit from the increased fuel sales and projected increased aircraft operations at the airport. Table 5-6 shows increased revenue for the airport during the 20 year projected planning period. By showing a City run FBO the subsidy required during large capital improvement projects is also reduced.

COMMUNITY SUPPORT

While it would certainly be advantageous for an airport to support itself, the indirect and intangible benefits of the airport to the community's economy and growth must be considered. People are directly or indirectly employed on the airport by the City and individual businesses. As airport activity increases, it is expected that employment on the airport will also grow throughout the planning period. The local construction industry will also benefit directly from implementation of the development programs. Other community benefits typically involve business growth and development that is enhanced by the availability of air transportation including corporate and private aviation. The airport also provides several other benefits to the local community including access for air ambulance operations, the civil air patrol for search and rescue operations, the U. S. Forest Service for wildfire control, recreation, aerospace education and flight training.

The use of corporate and business aircraft is an increasing trend across the United States. The ability of a community to provide convenient access to corporate aircraft will be reflected not only in benefits to existing businesses and industries but will be a strong factor in attracting new industry to the community.

CONTINUOUS PLANNING PROCESS

Airport planning is a continuous process that does not end with the completion of a major project. The fundamental issues upon which this master plan is based are expected to remain valid for several years; however, several variables, such as based aircraft, annual aircraft operations and socioeconomic conditions are likely to change over time. The continuous planning process necessitates that Steamboat Springs consistently monitor the progress of the airport in terms of growth in based aircraft and annual operations, as this growth is critical to the timing and need for new airport facilities. The information obtained from this monitoring process will provide the data necessary to determine if the development schedule should be accelerated, decelerated or maintained as scheduled.

Periodic updates of the Airport Layout Plan, Capital Improvement Plan and Airport Master Plan are recommended to document physical changes to the airport, review changes in aviation activity and to update development plans for the airport. Figure 5-1 shows the recommended sequence of future airport development as shown in the recommended development table.

TABLE 5-4

TABLE 5-4 ANNUAL NET REVENUES & EXPENSES

YEAR	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
AIRPORT OPERATIONS	-$110,868	-$96,750	-$75,750	-$75,350	-$50,450	-$35,150	-$30,650	-$25,250	-$17,750	-$12,450	-$11,850	-$11,350	-$2,750	$1,950	$8,350	$8,850	$9,650	$10,550	$15,150	$16,150	$20,950
FBO	-$32,054	-$25,500	-$18,400	-$11,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NON-AERONAUTICAL REVENUE GENERATING	$30,317	$30,200	$30,200	$30,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200
CAPITAL IMPROVEMENTS	-$29,479	-$6,250	-$3,750	-$14,250	-$6,250	-$175,000	-$50,000	-$4,375	-$3,750	-$251,250	-$3,125	-$14,250	-$4,375	-$3,750	-$250,000	-$196,000	-$4,375	-$6,250	$0	-$8,125	$0
NET (-Subsidy, +Surplus)	**-$142,084**	**-$98,300**	**-$67,700**	**-$70,800**	**$94,500**	**-$58,950**	**$70,550**	**$121,575**	**$129,700**	**-$112,500**	**$136,225**	**$125,600**	**$144,075**	**$149,400**	**-$90,450**	**-$35,950**	**$156,475**	**$155,500**	**$166,350**	**$159,225**	**$172,150**

2007 Dollars

Assumptions:

Fuel Tax Refund: Based upon 2005 amount and projected using the Aircraft Forecast
Fuel Flowage Fee: $0.15 per gallon
Misc. Ground Rent: $0.56 per square foot per year for new leases plus existing ground leases at existing rates.
Seasonal Part Time: 1.5 persons
Seasonal Part Time Salaries:$36,600
Terminal Building would be leased by Smartwool or another entity at the current or higher rate through the 20 year period
Non-Aeronautical Revenue Generating is categorized as "Terminal Operations" by the City of Steamboat Springs
Terminal Building Cost: Debt Service Retires in 2009
Fuel Sales increase with each runway extension
FBO Privatized in 2010

Projections/Assumptions	Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Runway Length (ft)		4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	5,052	5,052	5,052	5,052	5,052	5,780	5,780	5,780	5,780	5,780	5,780	5,780
New Ground Leases (sf)		0	32,000	10,800	7,000	13,200	7,200	8,400	11,880	0	0	0	14,400	7,200	0	0	0	0	7,200	0	7,200
Fuel Sales (gal)		116,500	123,600	130,700	137,800	145,000	147,300	148,500	150,900	184,900	187,300	189,600	192,000	195,600	236,500	238,900	242,500	247,200	250,800	255,500	259,100

	Historical								Projected												
Airport Operating Revenues	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Aviation Fuel Tax Refund	$3,032	$3,000	$3,200	$3,400	$3,600	$3,800	$4,000	$4,200	$4,400	$4,600	$4,800	$5,000	$5,200	$5,400	$5,600	$5,800	$6,000	$6,200	$6,400	$6,600	$6,800
Misc. Ground Rent	$49,896	$50,000	$70,800	$71,000	$75,000	$89,000	$93,000	$98,000	$105,000	$105,000	$105,000	$105,000	$113,000	$117,000	$117,000	$117,000	$117,000	$117,000	$121,000	$121,000	$125,000
Car Rental/Terminal Rent	$2,708	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700
Concession Income	$5,369	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400
Facility Fees	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Hangar Rent	$68,813	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900
Interest Income Invest	$2,950	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
Miscellaneous Income	$257	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Fuel Flowage Fee	$0	$0	$0	$0	$20,700	$21,800	$22,100	$22,300	$22,600	$27,700	$28,100	$28,400	$28,800	$29,300	$35,500	$35,800	$36,400	$37,100	$37,500	$38,300	$38,900
Facility Charges	$0	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000
Gain Sale of Assets	$3,481	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Revenues	***$137,506***	***$151,300***	***$172,300***	***$172,700***	***$197,600***	***$212,900***	***$217,400***	***$222,800***	***$230,300***	***$235,600***	***$236,200***	***$236,700***	***$245,300***	***$250,000***	***$256,400***	***$256,900***	***$257,700***	***$258,600***	***$263,200***	***$264,200***	***$269,000***
Airport Operating Expenses																					
Salaries	$83,642	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600
Seasonal Part Time	$18,702	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700
Overtime	$1,522	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Premium Time	$16	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20
Vacation, Sick and Comp Accrual	$1,309	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300
FICA Taxes	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500
Medicare Taxes	$1,520	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Employee Retirement	$5,122	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100
Health Insurance	$12,129	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100
Life/LTD/AD&D/Pretax	$802	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800
Auto Allowance	$1,440	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400
Workers Compensation	$3,229	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200
Unemployment Insurance	$315	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Advertising	$377	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
Employee Medical Services	$309	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Other Outside Services	$8,721	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700
Communications	$2,397	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400
Utilities	$40,471	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500
Training, Travel, Meetings	$3,115	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100
Membership Subscriptions	$370	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
Permits and Licenses	$232	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230
Operating Supplies	$1,736	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700
Uniforms	$188	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Chemicals	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Small Tools	$297	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Fuel and Oil	$4,175	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200
Motor Vehicle Parts	$618	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600
Central Service Charges	$22,918	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900
Fleet Service Charges	$1,737	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700
Computer Service Charges	$3,098	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100
GIS Services Charges	$328	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
R&M Buildings and Grounds	$14,482	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500
R&M Vehicles	$3,035	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
R&M Machinery and Equipment	$2,022	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000
Equipment Acquisition	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Expenses	***$248,374***	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**
ANNUAL NET OPERATING REVENUES & EXPENSES (-Subsidy, +Surplus)	**-$110,868**	**-$96,750**	**-$75,750**	**-$75,350**	**-$50,450**	**-$35,150**	**-$30,650**	**-$25,250**	**-$17,750**	**-$12,450**	**-$11,850**	**-$11,350**	**-$2,750**	**$1,950**	**$8,350**	**$8,850**	**$9,650**	**$10,550**	**$15,150**	**$16,150**	**$20,950**

Definitions/Notes

Hangar Rent: The City of Steamboat Springs owns several hangars at the airport which are rented to airport users.

Misc. Ground Rent: The ground rent charged by the City of Steamboat Springs for airport tenants that own hangars and or occupy land owned by the Airport.

Facility Charges: Includes revenue generated from Tiedown and Ramp Fees
Note: 2010 increase in square feet lease space due to FBO privatization

TABLE 5-4A

FBO Revenue	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Aviation Fuel 100LL Sales	$223,610	$237,200	$250,900	$264,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Jet A Fuel Sales	$190,252	$201,900	$213,500	$225,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Flight Supply Sales	$6,908	$7,000	$7,200	$7,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Tie Down Fees	$18,687	$18,700	$18,900	$19,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Charges for Services	$4,335	$4,300	$4,300	$4,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Hangar Rent	$4,910	$4,900	$5,100	$5,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Miscellaneous Income	$155	$200	$200	$200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total FBO Revenue	***$448,857***	***$474,200***	***$500,100***	***$526,100***	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
FBO Expenses					$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salaries	$50,234	$50,200	$50,200	$50,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Seasonal Part-Time	$20,155	$20,200	$20,200	$20,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Overtime	$574	$600	$600	$600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Standby Time	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Vacation, Sick and Comp Accurals	$567	$600	$600	$600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FICA Taxes	$4,305	$4,300	$4,300	$4,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Medicare Taxes	$1,007	$1,000	$1,000	$1,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Employee Retirement	$2,982	$3,000	$3,000	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Health Insurance	$8,233	$8,300	$8,300	$8,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Life/LTD/AD&D/Pretax	$478	$500	$500	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Auto Allowance	$960	$1,000	$1,000	$1,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Workers Compensation	$2,153	$2,200	$2,200	$2,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unemployment Insurance	$210	$200	$200	$200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Leases and Rentals	$1,865	$1,900	$1,900	$1,900	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Advertising	$2,801	$2,800	$2,800	$2,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Printing	$281	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Outside Services	$2,406	$2,400	$2,400	$2,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CCFBO other Outside Services	$12,489	$12,500	$12,500	$12,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Communications	$3,631	$3,600	$3,600	$3,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Utilities	$2,135	$2,100	$2,100	$2,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Training, Travel, Meetings	$632	$600	$600	$600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Memberships, Subscriptions	$192	$200	$200	$200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Operating Supplies	$6,310	$6,300	$6,300	$6,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Uniforms	$464	$500	$500	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Supplies for Resale	$6,182	$6,200	$6,200	$6,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Small Tools	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fuel and Oil	$35	$100	$100	$100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fuel 100LL	$147,330	$156,300	$165,300	$174,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fuel Jet A	$160,844	$170,700	$180,500	$190,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Motor Vehicle Parts	$430	$400	$400	$400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Central Service Charges	$17,277	$17,300	$17,300	$17,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fleet Services Charges	$17,481	$17,500	$17,500	$17,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Computer Services Charges	$3,098	$3,100	$3,100	$3,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
GIS Services Charges	$623	$600	$600	$600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
R&M Building and Grounds	$340	$300	$300	$300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
R&M Vehicles	$2,099	$2,100	$2,100	$2,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
R&M Machinery and Equipment	$108	$100	$100	$100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total FBO Operations Costs	***$480,911***	***$499,700***	***$518,500***	***$537,500***	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
ANNUAL NET FBO REVENUES & EXPENSES (-Subsidy, + Surplus)	**-$32,054**	**-$25,500**	**-$18,400**	**-$11,400**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Facility Charges: Includes Ramp Fees and User Fees.

TABLE 5-4B

Non-Aeronautical Revene Generating	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Terminal Lease/Utilities	$177,405	$177,400	$177,400	$177,400	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000
Terminal Building Revenue	***$177,405***	***$177,400***	***$177,400***	***$177,400***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***
Terminal Building Expenses																					
Tenant Improvement Airport Principal	$35,851	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900
Tenant Improvement Airport Interest	$13,563	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600
Prepaid Hangar Rent Amoritize	$9,252	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300
S-Tax Bonds 2001	$79,375	$79,400	$79,400	$79,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
S-Tax Bonds 2001	$9,047	$9,000	$9,000	$9,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Terminal Building Expenses	***$147,088***	***$147,200***	***$147,200***	***$147,200***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***
ANNUAL NET TERMINAL OPERATING REVENUES & EXPENSES (-SUBSIDY, +SURPLUS)	**$30,317**	**$30,200**	**$30,200**	**$30,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**

Note: 2010 increase in square feet lease space due to FBO privatization
Assumes Terminal Building would be leased by Smartwool or another entity at the current or higher ratae through the 20 year period
Non-Aeronautical Revenue Gernating is categorized as "Terminal Operations" by the City of Steamboat Springs

TABLE 5-4C

Capital Improvements Revenue	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Airport Capital Improvement Revenue (Federal Grants)	$58,168	$237,500	$142,500	$541,500	$237,500	$6,650,000	$1,900,000	$166,250	$142,500	$9,547,500	$118,750	$541,500	$166,250	$142,500	$9,500,000	$7,448,000	$166,250	$237,500	$0	$308,750	$0
Airport Capital Improvement Revenue (State Grants)	$3,289	$6,250	$3,750	$14,250	$6,250	$175,000	$50,000	$4,375	$3,750	$251,250	$3,125	$14,250	$4,375	$3,750	$250,000	$196,000	$4,375	$6,250	$0	$8,125	$0
Cash from Sale of Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Proceeds from debt issuance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Private contributions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Capital Improvement Revenue	***$61,457***	***$243,750***	***$146,250***	***$555,750***	***$243,750***	***$6,825,000***	***$1,950,000***	***$170,625***	***$146,250***	***$9,798,750***	***$121,875***	***$555,750***	***$170,625***	***$146,250***	***$9,750,000***	***$7,644,000***	***$170,625***	***$243,750***	***$0***	***$316,875***	***$0***
Airport Capital Improvement Expenses																					
Airport Capital Improvement Expenses (Local Match)	$65,597	$250,000	$150,000	$570,000	$250,000	$7,000,000	$2,000,000	$175,000	$150,000	$10,050,000	$125,000	$570,000	$175,000	$150,000	$10,000,000	$7,840,000	$175,000	$250,000	$0	$325,000	$0
Airport Capital Improvement Expenses (Local Match)	$12,849	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Airport Capital Improvement Expenses (Local Match)	$9,705																				
Airport Capital Improvement Expenses (Local Match)	$2,785	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Capital Improvement Expenses	***$90,936***	***$250,000***	***$150,000***	***$570,000***	***$250,000***	***$7,000,000***	***$2,000,000***	***$175,000***	***$150,000***	***$10,050,000***	***$125,000***	***$570,000***	***$175,000***	***$150,000***	***$10,000,000***	***$7,840,000***	***$175,000***	***$250,000***	***$0***	***$325,000***	***$0***
ANNUAL NET CAPITAL REVENUE & EXPENSES (-Subsidy, +Surplus)	**-$29,479**	**-$6,250**	**-$3,750**	**-$14,250**	**-$6,250**	**-$175,000**	**-$50,000**	**-$4,375**	**-$3,750**	**-$251,250**	**-$3,125**	**-$14,250**	**-$4,375**	**-$3,750**	**-$250,000**	**-$196,000**	**-$4,375**	**-$6,250**	**$0**	**-$8,125**	**$0**

Note: Fill material provided by the City of Steamboat Springs may offset portion or all of the local development costs for the runway extension.

Assumptions:
Taxilane Expansion in 2009
Partial Parallel TW RW 32 in 2011
Bypass TW RW 14 in 2012
Extend RW 14/32 (Phase I) in 2015
Apron Expansion (Phase I) in 2017
Extend RW 14/32 (Phase II) in 2020
Aprong Expansion (Phase II) in 2021

TABLE 5-4D

TABLE 5-5

TABLE 5-5 MINIMAL DEVELOPMENT SCENARIO																					
	YEAR	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
AIRPORT OPERATIONS		-$96,750	-$75,750	-$75,350	-$50,450	-$35,150	-$30,650	-$25,250	-$24,750	-$24,350	-$23,750	-$23,250	-$22,650	-$21,950	-$21,350	-$20,850	-$20,050	-$19,150	-$18,350	-$17,550	-$16,750
FBO		-$25,700	-$18,600	-$11,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NON-AERONAUTICAL REVENUE GENERATING		$30,200	$30,200	$30,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200
CAPITAL IMPROVEMENTS		-$6,250	-$3,750	-$14,250	$0	-$6,250	$0	-$4,375	$0	$0	-$3,125	$0	-$4,375	$0	$0	$0	-$4,375	-$6,250	$0	-$8,125	$0
NET (-Subsidy, +Surplus)		**-$98,500**	**-$67,900**	**-$71,000**	**$100,750**	**$109,800**	**$120,550**	**$121,575**	**$126,450**	**$126,850**	**$124,325**	**$127,950**	**$124,175**	**$129,250**	**$129,850**	**$130,350**	**$126,775**	**$125,800**	**$132,850**	**$125,525**	**$134,450**
Assumptions:																					
Projections/Assumptions	Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Runway Length (ft)		4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452
New Ground Leases (sf)		0	32,000	10,800	7,000	13,200	7,200	8,400	0	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Sales (gal)		116,500	123,600	130,700	137,800	145,000	147,300	148,500	150,900	152,000	154,700	156,700	159,300	162,700	165,300	167,300	171,300	176,000	180,000	184,000	188,000

Assumes Terminal Building would be leased by Smartwool or another entitity at the current or higher rate through the 20 year period
Non-Aeronautical Revenue Generating is categorized as "Termial Operations" by th City of Steamboat Springs

Assumes development of the following:
Wildlife fencing
Taxilane and hangar development
Pavement Maintenance

Notes:
Terminal Building Cost: Debt Service Retires in 2009

	Historical							Projected													
Airport Operating Revenues	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Aviation Fuel Tax Refund	$3,032	$3,000	$3,200	$3,400	$3,600	$3,800	$4,000	$4,200	$4,400	$4,600	$4,800	$5,000	$5,200	$5,400	$5,600	$5,800	$6,000	$6,200	$6,400	$6,600	$6,800
Misc. Ground Rent	$49,896	$50,000	$70,800	$71,000	$75,000	$89,000	$93,000	$98,000	$98,000	$98,000	$98,000	$98,000	$98,000	$98,000	$98,000	$98,000	$98,000	$98,000	$98,000	$98,000	$98,000
Car Rental/Terminal Rent	$2,708	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700
Concession Income	$5,369	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400
Facility Fees	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Hangar Rent	$68,813	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900
Interest Income Invest	$2,950	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
Miscellaneous Income	$257	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Fuel Flowage Fee	$0	$0	$0	$0	$20,700	$21,800	$22,100	$22,300	$22,600	$22,800	$23,200	$23,500	$23,900	$24,400	$24,800	$25,100	$25,700	$26,400	$27,000	$27,600	$28,200
Facility Charges	$0	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000
Gain Sale of Assets	$3,481	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Revenues	***$137,506***	**$151,300**	**$172,300**	**$172,700**	**$197,600**	**$212,900**	**$217,400**	**$222,800**	**$223,300**	**$223,700**	**$224,300**	**$224,800**	**$225,400**	**$226,100**	**$226,700**	**$227,200**	**$228,000**	**$228,900**	**$229,700**	**$230,500**	**$231,300**
Airport Operating Expenses																					
Salaries	$83,642	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600
Seasonal Part Time	$18,702	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700
Overtime	$1,522	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Premium Time	$16	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20
Vacation, Sick and Comp Accrual	$1,309	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300
FICA Taxes	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500
Medicare Taxes	$1,520	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Employee Retirement	$5,122	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100
Health Insurance	$12,129	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100
Life/LTD/AD&D/Pretax	$802	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800
Auto Allowance	$1,440	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400
Workers Compensation	$3,229	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200
Unemployment Insurance	$315	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Advertising	$377	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
Employee Medical Services	$309	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Other Outside Services	$8,721	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700
Communications	$2,397	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400
Utilities	$40,471	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500
Training, Travel, Meetings	$3,115	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100
Membership Subscriptions	$370	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
Permits and Licenses	$232	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230
Operating Supplies	$1,736	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700
Uniforms	$188	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Chemicals	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Small Tools	$297	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Fuel and Oil	$4,175	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200
Motor Vehicle Parts	$618	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600
Central Service Charges	$22,918	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900
Fleet Service Charges	$1,737	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700
Computer Service Charges	$3,098	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100
GIS Services Charges	$328	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
R&M Buildings and Grounds	$14,482	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500
R&M Vehicles	$3,035	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
R&M Machinery and Equipment	$2,022	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000
Equipment Acquisition	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Expenses	***$248,374***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***	***$248,050***
ANNUAL NET OPERATING REVENUES & EXPENSES (-Subsidy, +Surplus)	**-$110,868**	**-$96,750**	**-$75,750**	**-$75,350**	**-$50,450**	**-$35,150**	**-$30,650**	**-$25,250**	**-$24,750**	**-$24,350**	**-$23,750**	**-$23,250**	**-$22,650**	**-$21,950**	**-$21,350**	**-$20,850**	**-$20,050**	**-$19,150**	**-$18,350**	**-$17,550**	**-$16,750**

Definitions/Notes

Hangar Rent: The City of Steamboat Springs owns several hangars at the airport which are rented to airport users.

Misc. Ground Rent: The ground rent charged by the City of Steamboat Springs for airport tenants that own hangars and or occupy land owned by the Airport.

TABLE 5-5A

FBO Revenue	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Aviation Fuel 100LL Sales	$223,610	$237,200	$250,900	$264,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Jet A Fuel Sales	$190,252	$201,900	$213,500	$225,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Flight Supply Sales	$6,908	$7,000	$7,200	$7,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Tie Down Fees	$18,687	$18,700	$18,900	$19,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Charges for Services	$4,335	$4,300	$4,300	$4,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Hangar Rent	$4,910	$4,900	$5,100	$5,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Miscellaneous Income	$155	$200	$200	$200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total FBO Revenue	***$448,702***	***$474,000***	***$499,900***	***$525,900***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***
FBO Expenses					$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salaries	$50,234	$50,200	$50,200	$50,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Seasonal Part-Time	$20,155	$20,200	$20,200	$20,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Overtime	$574	$600	$600	$600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Standby Time	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Vacation, Sick and Comp Accurals	$567	$600	$600	$600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FICA Taxes	$4,305	$4,300	$4,300	$4,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Medicare Taxes	$1,007	$1,000	$1,000	$1,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Employee Retirement	$2,982	$3,000	$3,000	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Health Insurance	$8,233	$8,300	$8,300	$8,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Life/LTD/AD&D/Pretax	$478	$500	$500	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Auto Allowance	$960	$1,000	$1,000	$1,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Workers Compensation	$2,153	$2,200	$2,200	$2,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unemployment Insurance	$210	$200	$200	$200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Leases and Rentals	$1,865	$1,900	$1,900	$1,900	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Advertising	$2,801	$2,800	$2,800	$2,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Printing	$281	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Outside Services	$2,406	$2,400	$2,400	$2,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CCFBO other Outside Services	$12,489	$12,500	$12,500	$12,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Communications	$3,631	$3,600	$3,600	$3,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Utilities	$2,135	$2,100	$2,100	$2,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Training, Travel, Meetings	$632	$600	$600	$600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Memberships, Subscriptions	$192	$200	$200	$200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Operating Supplies	$6,310	$6,300	$6,300	$6,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Uniforms	$464	$500	$500	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Supplies for Resale	$6,182	$6,200	$6,200	$6,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Small Tools	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fuel and Oil	$35	$100	$100	$100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fuel 100LL	$147,330	$156,300	$165,300	$174,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fuel Jet A	$160,844	$170,700	$180,500	$190,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Motor Vehicle Parts	$430	$400	$400	$400																	
Central Service Charges	$17,277	$17,300	$17,300	$17,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fleet Services Charges	$17,481	$17,500	$17,500	$17,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Computer Services Charges	$3,098	$3,100	$3,100	$3,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
GIS Services Charges	$623	$600	$600	$600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
R&M Building and Grounds	$340	$300	$300	$300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
R&M Vehicles	$2,099	$2,100	$2,100	$2,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
R&M Machinery and Equipment	$108	$100	$100	$100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total FBO Operations Costs	***$480,911***	***$499,700***	***$518,500***	***$537,500***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***
ANNUAL NET FBO REVENUES & EXPENSES (-Subsidy, + Surplus)	**-$32,209**	**-$25,700**	**-$18,600**	**-$11,600**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

TABLE 5-5B

Non-Aeronautical Revenue Generating	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Terminal Lease/Utilities	$177,405	$177,400	$177,400	$177,400	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000
Terminal Building Revenue	***$177,405***	***$177,400***	***$177,400***	***$177,400***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***
Terminal Building Expenses																					
Tenant Improvement Airport Principal	$35,851	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900
Tenant Improvement Airport Interest	$13,563	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600
Prepaid Hangar Rent Amoritize	$9,252	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300
S-Tax Bonds 2001	$79,375	$79,400	$79,400	$79,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
S-Tax Bonds 2001	$9,047	$9,000	$9,000	$9,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Terminal Building Expenses	***$147,088***	***$147,200***	***$147,200***	***$147,200***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***
ANNUAL NET TERMINAL OPERATING REVENUES & EXPENSES (-SUBSIDY, +SURPLUS)	**$30,317**	**$30,200**	**$30,200**	**$30,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**

Note: 2010 increase in square feet lease space due to FBO privatization
Assumes Terminal Building would be leased by Smartwool or another entity at the current or higher ratae through the 20 year period
Non-Aeronautical Revenue Gernating is categorized as "Terminal Operations" by the City of Steamboat Springs

TABLE 5-5C

Capital Improvements Revenue	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Airport Capital Improvement Revenue (Federal Grants)	$58,168	$237,500	$142,500	$541,500	$0	$237,500	$0	$166,250	$0	$0	$118,750	$0	$166,250	$0	$0	$0	$166,250	$237,500		$308,750	$0
Airport Capital Improvement Revenue (State Grants)	$3,289	$6,250	$3,750	$14,250	$0	$6,250	$0	$4,375	$0	$0	$3,125	$0	$4,375	$0	$0	$0	$4,375	$6,250		$8,125	$0
Cash from Sale of Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Proceeds from debt issuance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Private contributions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Capital Improvement Revenue	***$61,457***	***$243,750***	***$146,250***	***$555,750***	***$0***	***$243,750***	***$0***	***$170,625***	***$0***	***$0***	***$121,875***	***$0***	***$170,625***	***$0***	***$0***	***$0***	***$170,625***	***$243,750***	***$0***	***$316,875***	***$0***
Airport Capital Improvement Expenses																					
Airport Capital Improvement Expenses (Local Match)	$65,597	$250,000	$150,000	$570,000	$325,000	$250,000	$0	$175,000	$0	$0	$125,000	$0	$175,000	$0	$0	$0	$175,000	$250,000	$0	$325,000	$0
Airport Capital Improvement Expenses (Local Match)	$12,849	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Airport Capital Improvement Expenses (Local Match)	$9,705	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Airport Capital Improvement Expenses (Local Match)	$2,785																				
Total Capital Improvement Expenses	***$90,936***	***$250,000***	***$150,000***	***$570,000***	***$0***	***$250,000***	***$0***	***$175,000***	***$0***	***$0***	***$125,000***	***$0***	***$175,000***	***$0***	***$0***	***$0***	***$175,000***	***$250,000***	***$0***	***$325,000***	***$0***
ANNUAL NET CAPITAL REVENUE & EXPENSES (-Subsidy, +Surplus)	**-$29,479**	**-$6,250**	**-$3,750**	**-$14,250**	**$0**	**-$6,250**	**$0**	**-$4,375**	**$0**	**$0**	**-$3,125**	**$0**	**-$4,375**	**$0**	**$0**	**$0**	**-$4,375**	**-$6,250**	**$0**	**-$8,125**	**$0**

Assumes:
Widlife Fencing
Taxilane Development
Pavement Maintenace
Acquire Snow Removal Equipment
Acquire Snow Removal Equipment Storage Building

TABLE 5-5D

TABLE 5-6

TABLE 5-6 ANNUAL NET REVENUES & EXPENSES WITH NO PRIVATE FBO AND ALL RECOMMENDED CAPITAL IMPROVEMENTS

YEAR	2007	2008	2009	2010	2111	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
AIRPORT OPERATIONS	-$96,750	-$75,750	-$75,350	-$50,450	-$35,150	-$30,650	-$25,250	-$17,750	-$12,450	-$11,850	-$11,350	-$2,750	$1,950	$8,350	$8,850	$9,650	$10,550	$15,150	$16,150	$20,950
FBO	-$25,600	-$18,500	-$11,500	-$4,400	-$1,700	$0	$2,800	$4,500	$7,200	$10,000	$12,800	$16,600	$28,400	$31,100	$35,000	$39,900	$43,600	$48,600	$52,400	$57,300
NON-AERONAUTICAL REVENUE GENERATING	$30,200	$30,200	$30,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200	$151,200
CAPITAL IMPROVEMENTS	-$6,250	-$3,750	-$14,250	-$6,250	-$175,000	-$50,000	-$4,375	-$3,750	-$251,250	-$3,125	-$14,250	-$4,375	-$3,750	-$250,000	-$196,000	-$4,375	-$6,250	$0	-$6,250	$0
NET (-Subsidy, +Surplus)	**-$98,400**	**-$67,800**	**-$70,900**	**$90,100**	**-$60,650**	**$70,550**	**$124,375**	**$134,200**	**-$105,300**	**$146,225**	**$138,400**	**$160,675**	**$177,800**	**-$59,350**	**-$950**	**$196,375**	**$199,100**	**$214,950**	**$213,500**	**$229,450**

Assumptions:
Fuel Tax Refund: Based upon 2005 amount and projected using the Aircraft Forecast
Fuel Flowage Fee: $0.15 per gallon
Misc. Ground Rent: $0.56 per square foot per year for new leases plus existing ground leases at existing rates.
Seasonal Part Time: 1.5 persons
Seasonal Part Time Salaries:$36,600

Projections/Assumptions Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Runway Length (ft)	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	5,052	5,052	5,052	5,052	5,052	5,780	5,780	5,780	5,780	5,780	5,780	5,780
New Ground Leases (sf)	0	32,000	10,800	7,000	13,200	7,200	8,400	11,880	0	0	0	14,400	7,200	0	0	0	0	7,200	0	7,200
Fuel Sales (gal)	116,500	123,600	130,700	137,800	145,000	147,300	148,500	150,900	184,900	187,300	189,600	192,000	195,600	236,500	238,900	242,500	247,200	250,800	255,500	259,100

Terminal Building would be leased by Smartwool or another entity at the current or higher ratae through the 20 year period
Non-Aeronautical Revenue Generating is categorized as "Terminal Operations" by the City of Steamboat Springs

Notes:
Terminal Building Cost: Debt Service Retires in 2009
Fuel Sales increase with each runway extension
FBO Privatized in 2010

	Historical							Projected													
Airport Operating Revenues	**2066**	**2007**	**2008**	**2009**	**2010**	**2111**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Aviation Fuel Tax Refund	$3,032	$3,000	$3,200	$3,400	$3,600	$3,800	$4,000	$4,200	$4,400	$4,600	$4,800	$5,000	$5,200	$5,400	$5,600	$5,800	$6,000	$6,200	$6,400	$6,600	$6,800
Misc. Ground Rent	$49,896	$50,000	$70,800	$71,000	$75,000	$89,000	$93,000	$98,000	$105,000	$105,000	$105,000	$105,000	$113,000	$117,000	$117,000	$117,000	$117,000	$117,000	$121,000	$121,000	$125,000
Car Rental/Terminal Rent	$2,708	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700
Concession Income	$5,369	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400
Facility Fees	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Hangar Rent	$68,813	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900	$68,900
Interest Income Invest	$2,950	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
Miscellaneous Income	$257	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Fuel Flowage Fee	$0	$0	$0	$0	$20,700	$21,800	$22,100	$22,300	$22,600	$27,700	$28,100	$28,400	$28,800	$29,300	$35,500	$35,800	$36,400	$37,100	$37,500	$38,300	$38,900
Facility Charges	$0	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000	$17,000
Gain Sale of Assets	$3,481	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Revenues	***$137,506***	**$151,300**	**$172,300**	**$172,700**	**$197,600**	**$212,900**	**$217,400**	**$222,800**	**$230,300**	**$235,600**	**$236,200**	**$236,700**	**$245,300**	**$250,000**	**$256,400**	**$256,900**	**$257,700**	**$258,600**	**$263,200**	**$264,200**	**$269,000**
Airport Operating Expenses																					
Salaries	$83,642	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600
Seasonal Part Time	$18,702	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700	$18,700
Overtime	$1,522	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Premium Time	$16	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20
Vacation, Sick and Comp Accrual	$1,309	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300	$1,300
FICA Taxes	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500	$6,500
Medicare Taxes	$1,520	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Employee Retirement	$5,122	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100	$5,100
Health Insurance	$12,129	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100
Life/LTD/AD&D/Pretax	$802	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800
Auto Allowance	$1,440	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400
Workers Compensation	$3,229	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200
Unemployment Insurance	$315	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Advertising	$377	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
Employee Medical Sercices	$309	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Other Outside Services	$8,721	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700	$8,700
Communications	$2,397	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400
Utilities	$40,471	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500	$40,500
Training, Travel, Meetings	$3,115	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100
Membership Subscriptions	$370	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
Permits and Licenses	$232	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230	$230
Operating Supplies	$1,736	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700
Uniforms	$188	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Chemicals	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Small Tools	$297	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
Fuel and Oil	$4,175	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200
Motor Vehicle Parts	$618	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600
Central Service Charges	$22,918	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900	$22,900
Fleet Service Charges	$1,737	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700
Computer Service Charges	$3,098	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100
GIS Services Charges	$328	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
R&M Buildings and Grounds	$14,482	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500
R&M Vehicles	$3,035	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
R&M Machinery and Equipment	$2,022	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000
Equipment Acquisition	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Expenses	***$248,374***	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**	**$248,050**
ANNUAL NET OPERATING REVENUES & EXPENSES (-Subsidy, +Surplus)	**-$110,868**	**-$96,750**	**-$75,750**	**-$75,350**	**-$50,450**	**-$35,150**	**-$30,650**	**-$25,250**	**-$17,750**	**-$12,450**	**-$11,850**	**-$11,350**	**-$2,750**	**$1,950**	**$8,350**	**$8,850**	**$9,650**	**$10,550**	**$15,150**	**$16,150**	**$20,950**

Definitions/Notes

Hangar Rent: The City of Steamboat Springs owns several hangars at the airport which are rented to airport users.

Misc. Ground Rent: The ground rent charged by the City of Steamboat Springs for airport tenants that own hangars and or occupy land owned by the Airport.

Facility Charges: Includes revenue generated from Tiedown and Ramp Fees

TABLE 5-6A

FBO Revenue	2006	2007	2008	2009	2010	2111	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Aviation Fuel 100LL Sales	$223,610	$237,200	$250,900	$264,600	$278,300	$282,800	$285,100	$289,700	$292,000	$296,500	$301,100	$305,700	$312,500	$317,100	$321,600	$328,500	$337,600	$344,400	$353,600	$360,400	$369,500
Jet A Fuel Sales	$190,252	$201,900	$213,500	$225,200	$236,800	$240,700	$242,600	$246,500	$248,500	$252,300	$256,200	$260,100	$265,900	$269,800	$273,700	$279,500	$287,300	$293,100	$300,900	$306,700	$314,400
Flight Supply Sales	$6,908	$7,000	$7,200	$7,400	$7,600	$7,800	$8,000	$8,200	$8,400	$8,600	$8,800	$9,000	$9,200	$9,400	$9,600	$9,800	$10,000	$10,200	$10,400	$10,600	$10,800
Tie Down Fees	$18,687	$18,700	$18,900	$19,100	$19,300	$19,500	$19,700	$19,900	$20,100	$20,300	$20,500	$20,700	$20,900	$30,100	$30,300	$30,500	$30,700	$30,900	$31,100	$31,300	$31,500
Charges for Services	$4,335	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300
Hangar Rent	$4,910	$4,900	$5,100	$5,300	$5,500	$5,700	$5,900	$6,100	$6,300	$6,500	$6,700	$6,900	$7,100	$7,300	$7,500	$7,700	$7,900	$8,100	$8,300	$8,500	$8,700
Miscellaneous Income	$155	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Total FBO Revenue	***$448,702***	***$474,000***	***$499,900***	***$525,900***	**$551,800**	**$560,800**	**$565,600**	**$574,700**	**$579,600**	**$588,500**	**$597,600**	**$606,700**	**$619,900**	**$638,000**	**$647,000**	**$660,300**	**$677,800**	**$691,000**	**$708,600**	**$721,800**	**$739,200**
FBO Expenses																					
Salaries	$50,234	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200	$50,200
Seasonal Part-Time	$20,155	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200	$20,200
Overtime	$574	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600
Standby Time	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Vacation, Sick and Comp Accurals	$567	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600
FICA Taxes	$4,305	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300	$4,300
Medicare Taxes	$1,007	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Employee Retirement	$2,982	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
Health Insurance	$8,233	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200	$8,200
Life/LTD/AD&D/Pretax	$478	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500
Auto Allowance	$960	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Workers Compensation	$2,153	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200
Unemployment Insurance	$210	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Leases and Rentals	$1,865	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900	$1,900
Advertising	$2,801	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800	$2,800
Printing	$281	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Outside Services	$2,406	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400
CCFBO other Outside Services	$12,489	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500
Communications	$3,631	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600
Utilities	$2,135	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100
Training, Travel, Meetings	$632	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600
Memberships, Subscriptions	$192	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Operating Supplies	$6,310	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300
Uniforms	$464	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500
Supplies for Resale	$6,182	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200	$6,200
Small Tools	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fuel and Oil	$35	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100
Fuel 100LL	$147,330	$156,300	$165,300	$174,400	$183,400	$186,400	$187,900	$190,900	$192,400	$195,400	$198,400	$201,400	$205,900	$208,900	$211,900	$216,400	$222,400	$227,000	$233,000	$237,500	$243,500
Fuel Jet A	$160,844	$170,700	$180,500	$190,400	$200,200	$203,500	$205,100	$208,400	$210,100	$213,300	$216,600	$219,900	$224,800	$228,100	$231,400	$236,300	$242,900	$247,800	$254,400	$259,300	$265,800
Motor Vehicle Parts	$430	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
Central Service Charges	$17,277	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300	$17,300
Fleet Services Charges	$17,481	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500
Computer Services Charges	$3,098	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100
GIS Services Charges	$623	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600
R&M Building and Grounds	$340	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
R&M Vehicles	$2,099	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100
R&M Machinery and Equipment	$108	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100
Total FBO Operations Costs	***$480,911***	***$499,600***	***$518,400***	***$537,400***	**$556,200**	**$562,500**	**$565,600**	**$571,900**	**$575,100**	**$581,300**	**$587,600**	**$593,900**	**$603,300**	**$609,600**	**$615,900**	**$625,300**	**$637,900**	**$647,400**	**$660,000**	**$669,400**	**$681,900**
ANNUAL NET FBO REVENUES & EXPENSES (-Subsidy, + Surplus)	**-$32,209**	**-$25,600**	**-$18,500**	**-$11,500**	**-$4,400**	**-$1,700**	**$0**	**$2,800**	**$4,500**	**$7,200**	**$10,000**	**$12,800**	**$16,600**	**$28,400**	**$31,100**	**$35,000**	**$39,900**	**$43,600**	**$48,600**	**$52,400**	**$57,300**

Facility Charges: Includes Ramp Fees and User Fees.

TABLE 5-6B

Non Aeronautical Revenue Generating	2006	2007	2008	2009	2010	2111	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Terminal Lease/Utilities	$177,405	$177,400	$177,400	$177,400	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000
Terminal Building Revenue	***$177,405***	***$177,400***	***$177,400***	***$177,400***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***	***$210,000***
Terminal Building Expenses																					
Tenant Improvement Airport Principal	$35,851	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900	$35,900
Tenant Improvement Airport Interest	$13,563	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600	$13,600
Prepaid Hangar Rent Amoritize	$9,252	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300	$9,300
S-Tax Bonds 2001	$79,375	$79,400	$79,400	$79,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
S-Tax Bonds 2001	$9,047	$9,000	$9,000	$9,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Terminal Building Expenses	***$147,088***	***$147,200***	***$147,200***	***$147,200***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***	***$58,800***
ANNUAL NET TERMINAL OPERATING REVENUES & EXPENSES (-SUBSIDY, +SURPLUS)	**$30,317**	**$30,200**	**$30,200**	**$30,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**	**$151,200**

Note: 2010 increase in square feet lease space due to FBO privatization
Assumes Terminal Building would be leased by Smartwool or another entity at the current or higher ratae through the 20 year period
Non-Aeronautical Revenue Gernating is categorized as "Terminal Operations" by the City of Steamboat Springs

TABLE 5-6C

Capital Improvements Revenue	2005	2007	2008	2009	2010	2111	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Airport Capital Improvement Revenue (Federal Grants)	$58,168	$237,500	$142,500	$541,500	$237,500	$6,650,000	$1,900,000	$166,250	$142,500	$9,547,500	$118,750	$541,500	$166,250	$142,500	$9,500,000	$7,448,000	$166,250	$237,500	$0	$308,750	$0
Airport Capital Improvement Revenue (State Grants)	$3,289	$6,250	$3,750	$14,250	$6,250	$175,000	$50,000	$4,375	$3,750	$251,250	$3,125	$14,250	$4,375	$3,750	$250,000	$196,000	$4,375	$6,250	$0	$8,125	$0
Cash from Sale of Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Proceeds from debt issuance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Private contributions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Capital Improvement Revenue	***$61,457***	***$243,750***	***$146,250***	***$555,750***	**$243,750**	***$6,825,000***	***$1,950,000***	***$170,625***	***$146,250***	***$9,798,750***	***$121,875***	***$555,750***	***$170,625***	***$146,250***	***$9,750,000***	***$7,644,000***	***$170,625***	***$243,750***	***$0***	***$316,875***	***$0***
Airport Capital Improvement Expenses																					
Airport Capital Improvement Expenses (Local Match)	$65,597	$250,000	$150,000	$570,000	$250,000	$7,000,000	$2,000,000	$175,000	$150,000	$10,050,000	$125,000	$570,000	$175,000	$150,000	$10,000,000	$7,840,000	$175,000	$250,000	$0	$325,000	$0
Airport Capital Improvement Expenses (Local Match)	$12,849	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Airport Capital Improvement Expenses (Local Match)	$9,705	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Airport Capital Improvement Expenses (Local Match)	$2,785	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Capital Improvement Expenses	***$90,936***	***$250,000***	***$150,000***	***$570,000***	**$250,000**	***$7,000,000***	***$2,000,000***	***$175,000***	***$150,000***	***$10,050,000***	***$125,000***	***$570,000***	***$175,000***	***$150,000***	***$10,000,000***	***$7,840,000***	***$175,000***	***$250,000***	***$0***	***$325,000***	***$0***
ANNUAL NET CAPITAL REVENUE & EXPENSES (-Subsidy, +Surplus)	**-$29,479**	**-$6,250**	**-$3,750**	**-$14,250**	**-$6,250**	**-$175,000**	**-$50,000**	**-$4,375**	**-$3,750**	**-$251,250**	**-$3,125**	**-$14,250**	**-$4,375**	**-$3,750**	**-$250,000**	**-$196,000**	**-$4,375**	**-$6,250**	**$0**	**-$6,250**	**$0**

Note: Fill material provided by the City of Steamboat Springs may offset portion or all of the local development costs for the runway extension.

Assumptions:
Taxiane Expansion in 2009
Parallel TW RW 32 in 2011
Bypass TW RW 14 in 2012
Extend RW 14/32 (Phase I) in 2015
Apron Expansion (Phase I) in 2017
Extend RW 14/32 (Phase II) in 2020
Aprong Expansion (Phase II) in 2021

TABLE 5-6D

Chapter Six
Airport Layout Plan

Steamboat Springs Airport Master Plan

STEAMBOAT SPRINGS AIRPORT
BOB ADAMS FIELD

STEAMBOAT SPRINGS, COLORADO

AIRPORT LAYOUT PLANS

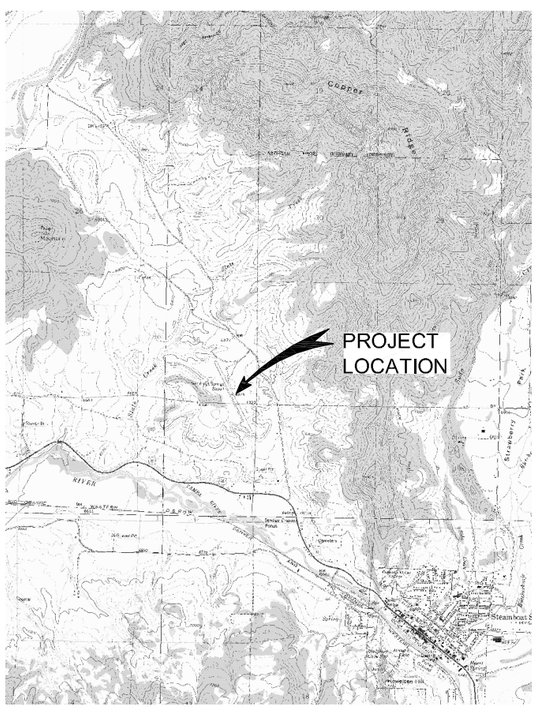
PREPARED BY:

ARMSTRONG CONSULTANTS, INC.

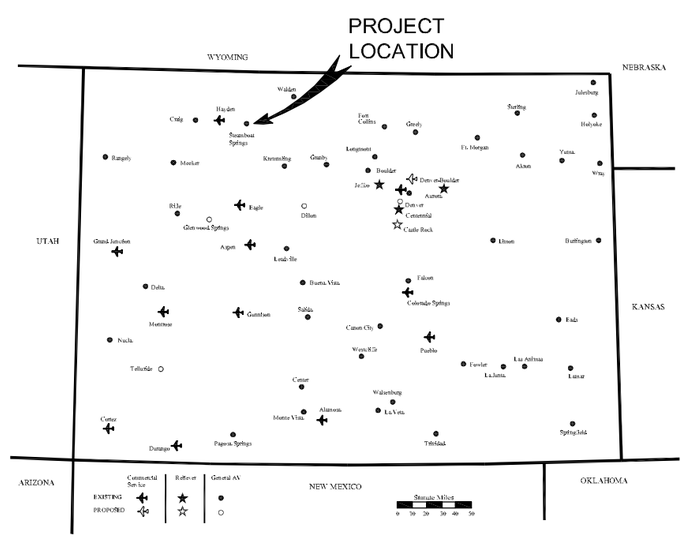
A.I.P. NO. 3-08-0069-15

A.C.I. PROJECT NO. 055761

DATE: APRIL 22, 2008



VICINITY MAP



LOCATION MAP

INDEX TO SHEETS

COVER SHEET	1
AIRPORT LAYOUT PLAN	2
TERMINAL AREA DRAWING	3
PART "77" AIRSPACE DRAWING	4
INNER APPROACH DRAWINGS	5-6
ON AIRPORT LAND USE	7
OFF AIRPORT LAND USE	8
EXHIBIT "A" PROPERTY MAP	9
AERIAL PHOTO	10

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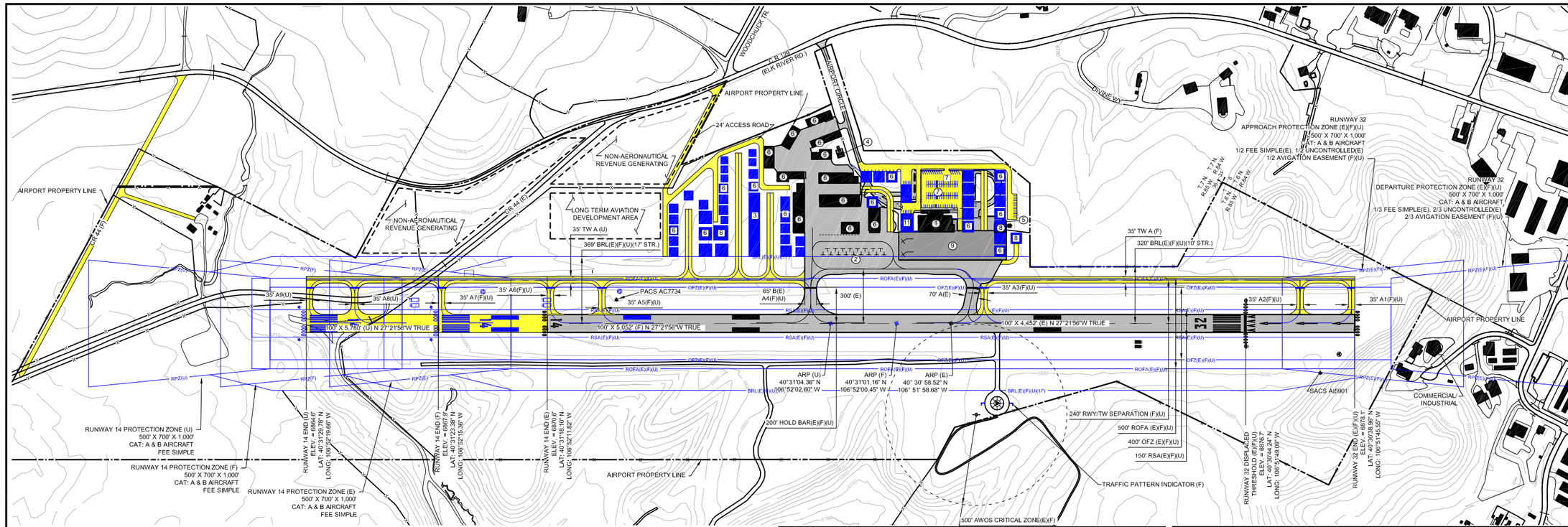
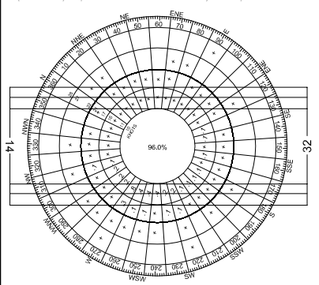
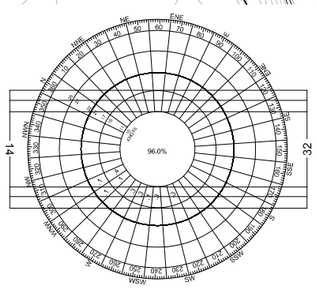




ALL WEATHER WINDROSE

CROSSWIND COMPONENT			
	10.5 KNOTS	13 KNOTS	16 KNOTS
RUNWAY 14/32	96.08%	98.03%	99.01%

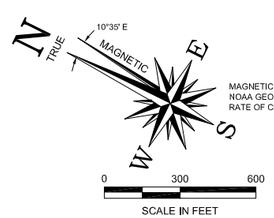
SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL CLIMATIC DATA CENTER STATION 72487-STEAMBOAT SPRINGS, COLORADO. PERIOD OF RECORD 1990-1994.



IFR WINDROSE

CROSSWIND COMPONENT			
	10.5 KNOTS	13 KNOTS	16 KNOTS
RUNWAY 14/32	96.06%	98.03%	99.01%

SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL CLIMATIC DATA CENTER STATION 72487-STEAMBOAT SPRINGS, COLORADO. PERIOD OF RECORD 1990-1994.



MAGNETIC NORTH SOURCE:
NOAA GEOPHYSICAL DATA CENTER 08.01.06
RATE OF CHANGE 0°8' W / YEAR

AIRPORT DATA

ITEM		EXISTING(E)	FUTURE(F)	ULTIMATE(U)
AIRPORT ELEVATION (NGVD 29)*		6878.1	6878.1	6878.1
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	LATITUDE	40° 30' 58.52" N	40°31'01.16" N	40°31'04.36" N
	LONGITUDE	106° 51' 58.68" W	106°52'00.45" W	106°52'02.60" W
MEAN MAX. TEMP: HOTTEST MONTH (JULY)		82.7° F	82.7° F	82.7° F
RUNWAY WIND COVERAGE	12 MPH / 10.5 kts	96.06%	96.06%	96.06%
	15 MPH / 13kts	98.03%	98.03%	98.03%
	18 MPH / 16 kts	99.01%	99.01%	99.01%
AIRPORT REFERENCE CODE		B-II	B-II	B-II
NPIAS ROLE		GENERAL AVIATION	GENERAL AVIATION	GENERAL AVIATION
MAGNETIC VARIATION		10° 35'	10° 35'	10° 35'
TAXIWAY LIGHTING		REFLECTORS	MITL	MITL
TAXIWAY MARKING		C/L	C/L	C/L
AIRPORT & TERMINAL NAVAIDS		DME, GPS, VOR	GPS	GPS

RUNWAY DATA

ITEM		RWY 14/32 EXISTING(E)	RWY 14/32 FUTURE(F)	RWY 14/32 ULTIMATE(U)
AIRPORT REFERENCE CODE		B-II	B-II	B-II
APPROACH MINIMUMS		1-1/4 MILE	1-MILE	1-MILE
APPROACH TYPE	RWY 14	VISUAL	NPI	NPI
	RWY 32	NPI (B)	NPI (B)	NPI (B)
FAR PART 77 APPROACH SLOPE	RWY 14	20:1	34:1	34:1
	RWY 32	34:1	34:1	34:1
RUNWAY LENGTH		4,452'	5,052'	5,780'
RUNWAY WIDTH		100'	100'	100'
RUNWAY & TAXIWAY PAVEMENT		ASPHALT	ASPHALT	ASPHALT
PAVEMENT STRENGTH (LBS)		50,000 DWG	30,000 SWG - 45,000 DWG	30,000 SWG - 45,000 DWG
RUNWAY LIGHTING		HIRL	HIRL	MIRL
RUNWAY MARKING	RWY 14	VISUAL	NPI	NPI
	RWY 32	NPI	NPI	NPI
% EFFECTIVE GRADIENT		0.17%	0.20%	0.23%
% MAXIMUM GRADE		0.32%	0.45%	0.45%
LINE OF SIGHT REQUIREMENTS MET		YES	YES	YES
VISUAL APPROACH AIDS	RWY 14	--	PAPI/REIL	PAPI/REIL
	RWY 32	PAPI/REIL	PAPI/REIL	PAPI/REIL
VISUAL AIDS	DIST. REMAIN SIGNS	YES	YES	YES
INSTRUMENT APPROACH AIDS		VOR/DME/GPS	GPS	GPS
DESIGN AIRCRAFT	CRITICAL AIRCRAFT	KING AIR B-200	CESSNA 550	CESSNA 560
	APPROACH SPEED (KNOTS)	103	108	107
	WINGSPAN (FEET)	54.5	52.2	55.7
	MAX. CERTIFIED TAKEOFF WT. (LBS)	12,500	14,800	20,000
RUNWAY SAFETY AREA (RSA)	WIDTH	300'	300'	300'
	LENGTH BEYOND RWY 14 END	*600'	300'	300'
	LENGTH BEYOND RWY 32 END	*600'	*600'	*600'
RUNWAY OBJECT FREE AREA (ROFA)	WIDTH	500'	500'	500'
	LENGTH BEYOND RWY 14 END	*600'	300'	300'
	LENGTH BEYOND RWY 32 END	*600'	*600'	*600'
OBSTACLE FREE ZONE (OFZ)	WIDTH	400'	400'	400'
	LENGTH BEYOND RWY END	200'	200'	200'
		NO OFZ PENETRATIONS		
RUNWAY ELEVATIONS (NGVD 29)				
RUNWAY END	RWY 14	6870.6'	6867.9'	6864.6'
	RWY 32	6878.1'	6878.1'	6878.1'
DISPLACED THRESHOLD	RWY 14	N/A	N/A	N/A
	RWY 32	6876.7'	6876.7'	6876.7'
TOUCHDOWN ZONE (TDZ)	RWY 14	6875.4'	6874.5'	6873.3'
	RWY 32	6876.7'	6876.7'	6876.7'
HIGH POINT		6878.1'	6878.1'	6878.1'
LOW POINT		6870.6'	6867.9'	6864.6'

RUNWAY 14/32 ELEVATIONS (NGVD 29) OBTAINED FROM TOPOGRAPHIC SURVEY BY D&D, INC., STEAMBOAT SPRINGS, CO., FEBRUARY 2006

AIRPORT FACILITIES LIST

EXISTING	FUTURE	FACILITY DESCRIPTION	TOP ELEVATION (MSL)
1		FBO/TERMINAL BLDG.	6912'
2		TIEDOWNS	-
	3	T-HANGAR	-
4		FUEL STORAGE	-
5		ELECTRICAL VAULT	6896'
6	6	BOX HANGARS	6857' - 6877'
7	7	VEHICLE PARKING	-
8	8	SNOW REMOVAL EQUIP. BLDG.	6896'
9		CONCRETE APRON/TRANSIENT PARKING	6860'
	11	FBO BUILDING	6898'

FAA APPROVAL

CONDITIONALLY APPROVED
Subject to letter dated July 9, 2008

Craig A. Sparks,
FEDERAL AVIATION ADMINISTRATION
DENVER AIRPORTS DISTRICT OFFICE
Date July 9, 2008
CASE NO. 2007-ANM-764-NRA

SPONSOR APPROVAL

City of Steamboat Springs DATE

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE/ULTIMATE	
		AIRFIELD DEVELOPMENT (ASPHALT)			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)			SECTION CORNER
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			AWOS
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (TSA)			DRAINAGE/ CULVERT
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (TOFA)	4125	N/A	CONTOURS
X X	XX XX	FENCING			ROADS
		PACS/SACS MONUMENT			MARKINGS
					LIGHTED WINDCONE
			N/A		TRAFFIC PATTERN

RUNWAY END COORDINATES (NAD 83)

	EXISTING			FUTURE			ULTIMATE		
	RWY 14 END	RWY 32 END	RWY 32 THRESHOLD	RWY 14 END	RWY 32 END	RWY 32 THRESHOLD	RWY 14 END	RWY 32 END	RWY 32 THRESHOLD
LATITUDE	40° 31' 18.10" N	40° 30' 38.96" N	40° 30' 44.24" N	40°31'23.38" N	40° 30' 38.96" N	40° 30' 44.24" N	40°31'29.78" N	40° 30' 38.96" N	40° 30' 44.24" N
LONGITUDE	106° 52' 11.82" W	106° 51' 45.55" W	106° 51' 49.09" W	106°52'15.36" W	106° 51' 45.55" W	106° 51' 49.09" W	106°52'19.66" W	106° 51' 45.55" W	106° 51' 49.09" W

RUNWAY 14/32 EXISTING END COORDINATES OBTAINED FROM FAA - AVN DATA SHEETS IN JULY, 2006.

DECLARED DISTANCES

ITEM	EXISTING		FUTURE		ULTIMATE	
	RWY 14	RWY 32	RWY 14	RWY 32	RWY 14	RWY 32
TAKEOFF RUN AVAILABLE (TORA)	4,452'	4,452'	5,052'	5,052'	5,780'	5,780'
TAKEOFF DISTANCE AVAILABLE (TODA)	4,452'	4,452'	5,052'	5,052'	5,780'	5,780'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	3,852'	4,452'	4,452'	5,052'	5,180'	5,780'
LANDING DISTANCE AVAILABLE (LDA)	3,852'	3,852'	4,452'	4,452'	5,180'	5,180'

NOTES

NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS.	AVIGATION EASEMENTS TO BE AQUIRED FOR RUNWAY 32 PROTECTION ZONE
NO EXISTING MODIFICATIONS TO STANDARDS	*PACS = PRIMARY AIRPORT CONTROL STATION, SACS = SECONDARY AIRPORT CONTROL STATION
NO EXISTING NON-STANDARD CONDITIONS	PACS & SACS MONUMENTS PROTECTED BY PLACEMENT IN EARTH.

*FAA CONDITIONAL APPROVAL OF THE ALP REQUIRES EXISTING RUNWAY SAFETY AREA AND OBJECT FREE AREA DIMENSIONS (300' WIDTH, 600' LENGTH) TO BE MAINTAINED DESPITE CHANGE IN ARC FROM A-III TO B-II

BUILDING RESTRICTION LINE (BRL)= A LINE WHICH IDENTIFIES SUITABLE BUILDING AREA LOCATIONS LOCATED WITHIN THE EXISTING PROPERTY LINE AND IS SET TO PREVENT OBJECTS FROM PENETRATING FAR PART 77 AIRSPACE. THE ACTUAL BUILDING SETBACK VARIES BASED ON THE HEIGHT OF THE STRUCTURE.

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STEAMBOAT SPRINGS AIRPORT
BOB ADAMS FIELD
STEAMBOAT SPRINGS, CO.
AIP No. 03-08-0069-15
AIRPORT LAYOUT PLANS

No.	Revision	Date	By

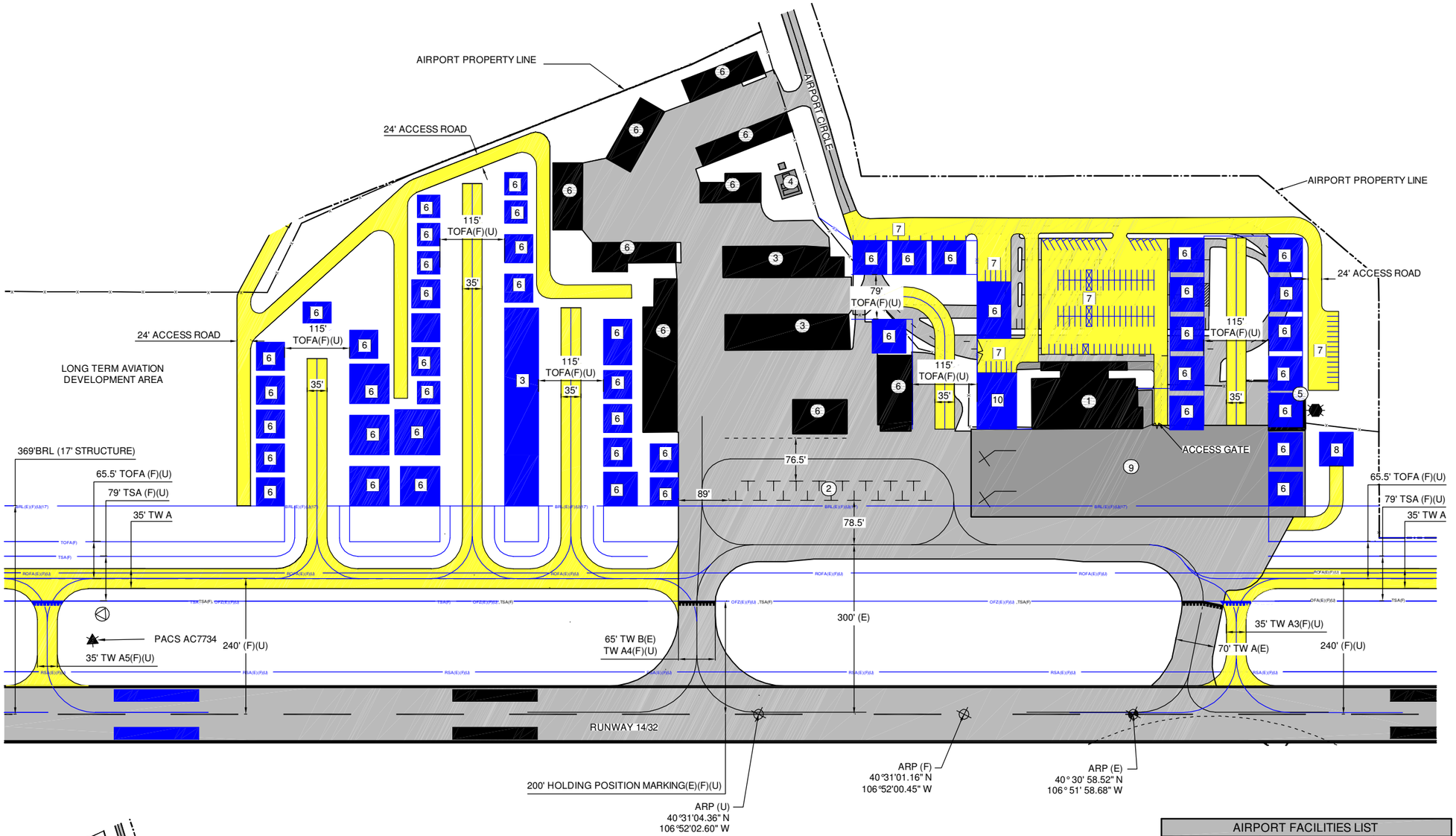
THE PREPARATION OF THIS DOCUMENT WAS FINANCED IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER TITLE 49, U.S.C., SUBCHAPTER I, SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ITSELF INDICATE THAT THE SUBMITTED DOCUMENT CONSTITUTES A COMMITMENT, IMPLIED OR OTHERWISE, BY THE FAA TO EXPEND FEDERAL FUNDS NOT PREVIOUSLY OBLIGATED FOR THE PURPOSE OF THE DOCUMENT, NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE OR WORTHY OF FEDERAL JUSTIFICATION IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

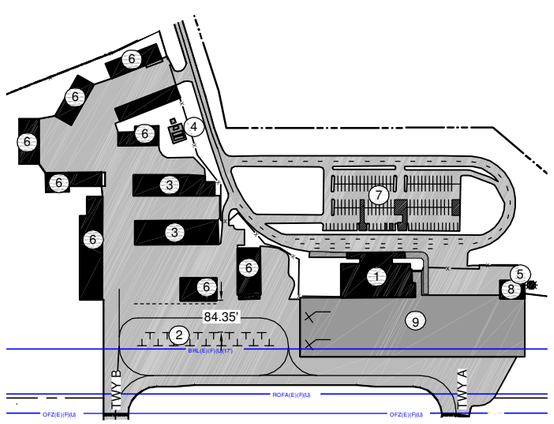
Project No: 055761
Date: 04/22/2008
File Name: 5761502

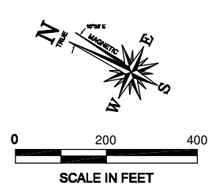
Drawn: BKR/SLST
Checked: JZP
Approved: DAC

AIRPORT LAYOUT PLAN

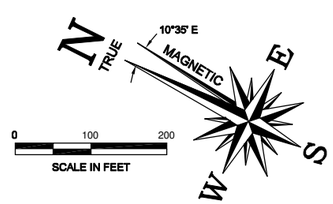
Sheet: 2 of: 10







EXISTING TERMINAL LAYOUT



FUTURE TERMINAL LAYOUT

AIRPORT FACILITIES LIST

EXISTING	FUTURE	FACILITY DESCRIPTION	TOP ELEVATION (MSL)
1		FBO/TERMINAL BLDG.	6912'
2		TIEDOWNS	-
3	3	T-HANGAR	-
4		FUEL STORAGE	-
5		ELECTRICAL VAULT	6896'
6	6	BOX HANGARS	6857' - 6877'
7	7	VEHICLE PARKING	-
8	8	SNOW REMOVAL EQUIP. BLDG.	6896'
9		TRANSIENT APRON	6860'
	10	FBO BUILDING	6898'

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE/ULTIMATE	DESCRIPTION
		AIRFIELD DEVELOPMENT (ASPHALT)			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT BEACON
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			WIND CONE & SEGMENTED CIRCLE
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			AWOS
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)			LIGHTED WINDCONE
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)		N/A	SECTION CORNER
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (TSA)			DRAINAGE/CULVERT
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (TOFA)	4125	N/A	CONTOURS
		AIRPORT REFERENCE POINT			ROADS
		PACS/SACS MONUMENT			MARKINGS
			X	XX	FENCING

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BOB ADAMS FIELD
STEAMBOAT SPRINGS, CO.
AIP 03-08-0069-15
AIRPORT LAYOUT PLANS

No.	Revision	Date	By

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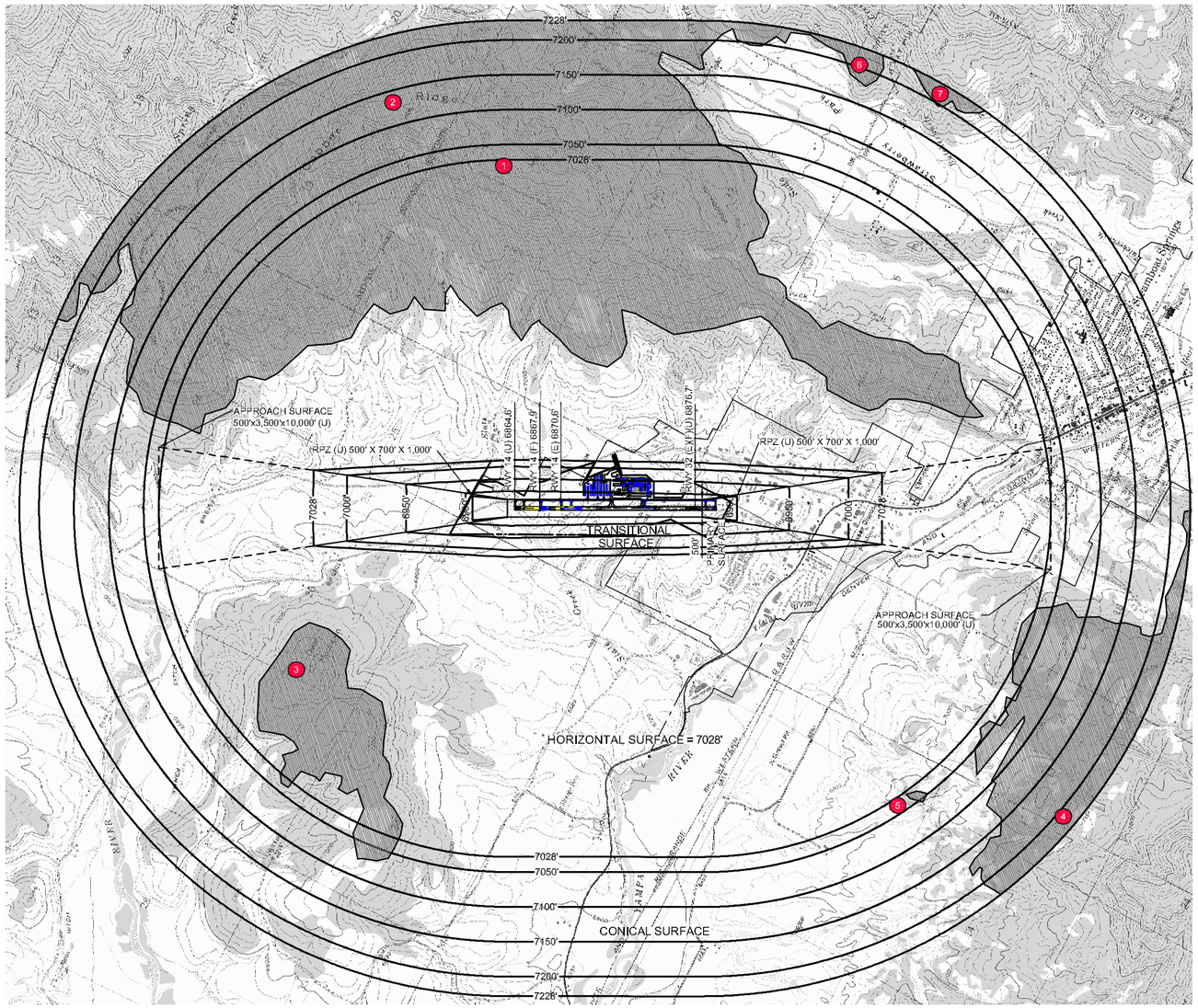
Drawn: BKR
Checked: JZP
Approved: DAC

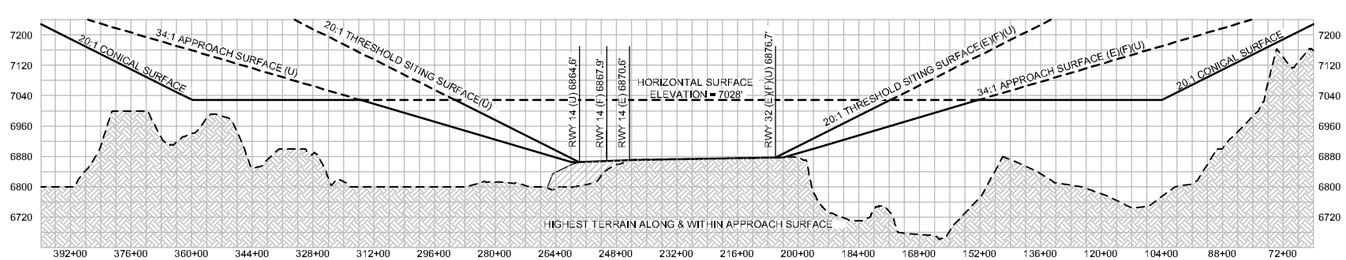
TERMINAL AREA DRAWING

Sheet: 3 of: 10



PLAN - RUNWAY 14/32

BAR SCALE



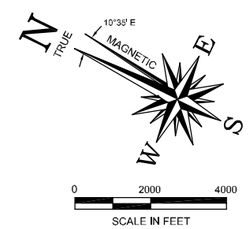
PROFILE - RUNWAY 14/32

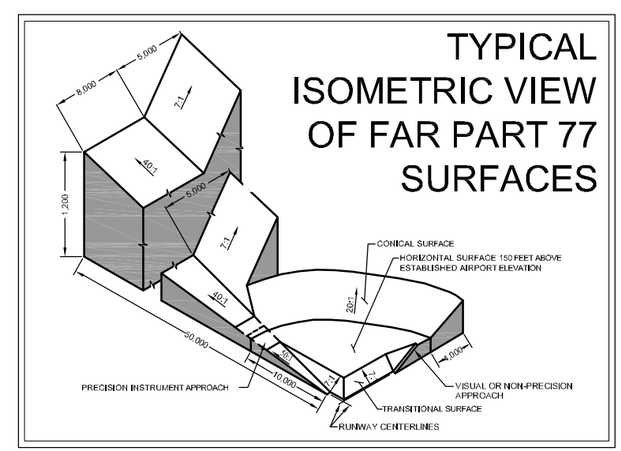
GRID SCALE

SURFACE PENETRATIONS TO PART 77				
SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
HORIZONTAL	1 TERRAIN	8325	1,297'	NONE
CONICAL	2 TERRAIN	8436	1,311'	NONE
HORIZONTAL	3 TERRAIN	7425	397'	NONE
CONICAL	4 TERRAIN	7504	276'	NONE
CONICAL	5 TERRAIN	7120	92'	NONE
CONICAL	6 TERRAIN	7400	172'	NONE
CONICAL	7 TERRAIN	7365	137'	NONE

NOTE:

1. SEE INNER APPROACH DRAWINGS FOR DETAILED INFORMATION ON CLOSE-IN OBSTRUCTIONS.
2. OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NGVD 29).
3. BASE MAP (GROUND TOPO) IS TAKEN FROM 7.5 MINUTE QUADRANGLE MAPS (NGVD 29).
4. THE ULTIMATE AIRPORT ELEVATION IS 6,878' MSL (NGVD 29).
5. STEAMBOAT SPRINGS CITY LANDUSE ZONING LIMITS HEIGHTS OF OBJECTS TO 40' ABOVE GROUND LEVEL WITHOUT A VARIANCE.
6. ROUTT COUNTY LAND USE ZONING LIMITS HEIGHTS OF OBJECTS TO 40' ABOVE GROUND LEVEL WITHOUT A VARIANCE.





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AIP No. 03-08-0069-15
AIRPORT LAYOUT PLANS

No.	Revision	Date	By

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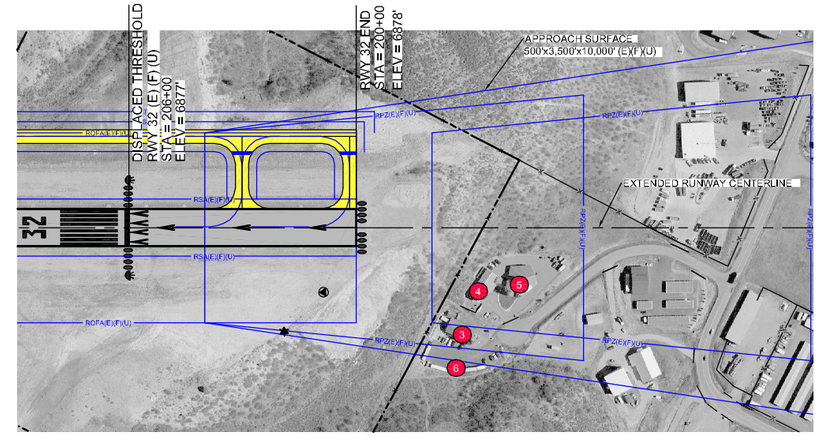
Drawn: BKR
Checked: JZP
Approved: DAC

PART 77
AIRSPACE
DRAWING

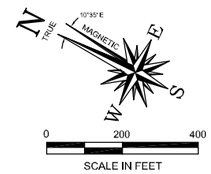
RUNWAY 14 PLAN (E)

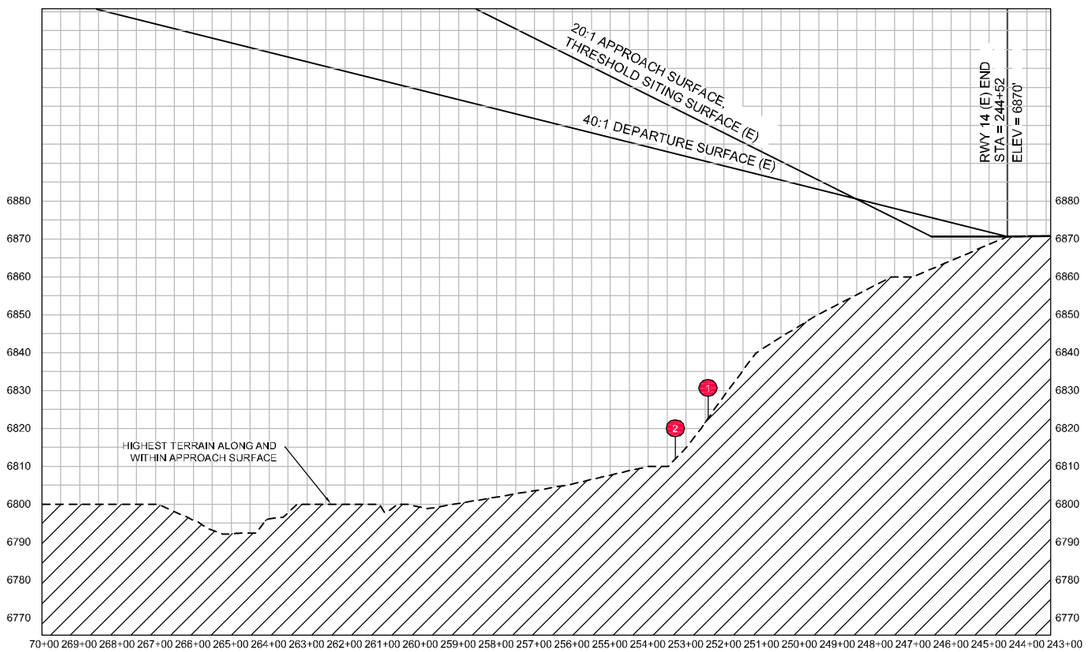
SCALE: PER BAR SCALE



RUNWAY 32 PLAN (E) (F) (U)

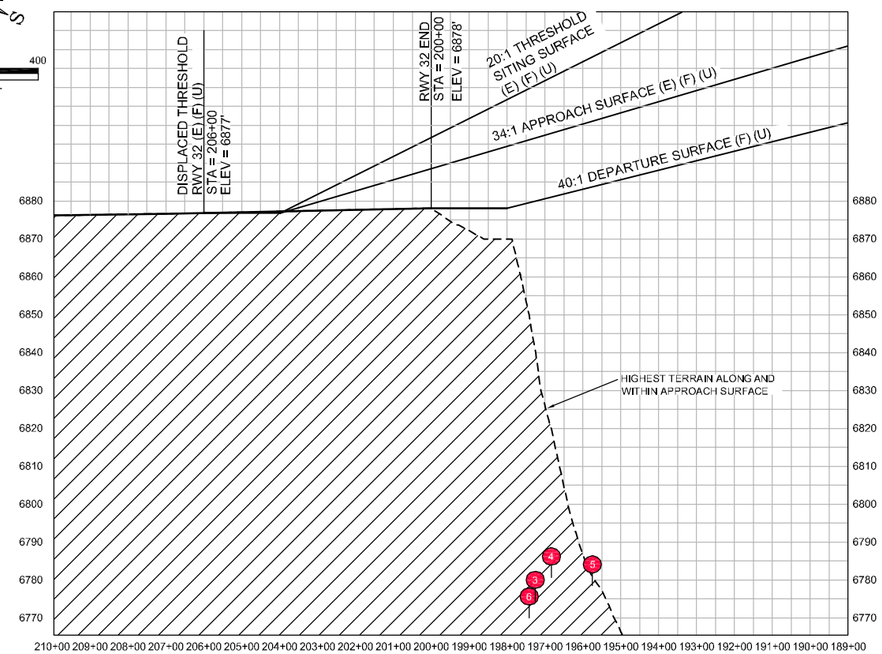
SCALE: PER BAR SCALE





PROFILE RW 14 END (E)

SCALE: PER GRID



PROFILE RW 32 END (E) (F) (U)

SCALE: PER GRID

OBJECTS WITHIN RUNWAY 14 INNER APPROACH (E)

SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
APPROACH	1 FENCE	6822'	NONE	NONE
APPROACH	2 ROAD	6820'	NONE	NONE

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE			AWOS
BRL(E)	(BRL(F)(U)	BUILDING RESTRICTION LINE			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA			ROADS
X X	XX XX	FENCING			MARKINGS
		EMBANKMENT			

OBJECTS WITHIN RUNWAY 32 INNER APPROACH (E)(F)(U)

SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
APPROACH	3 BLACK DIAMOND AUTO	6763'	NONE	NONE
APPROACH	4 BLACK DIAMOND AUTO	6766'	NONE	NONE
APPROACH	5 BLACK DIAMOND AUTO	6764'	NONE	NONE
APPROACH	6 STORAGE SHEDS	6763'	NONE	NONE

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STEAMBOAT SPRINGS
BOB ADAMS FIELD
STEAMBOAT SPRINGS, CO.
AIP No. 03-08-0069-15
AIRPORT LAYOUT PLANS

No.	Revision	Date	By

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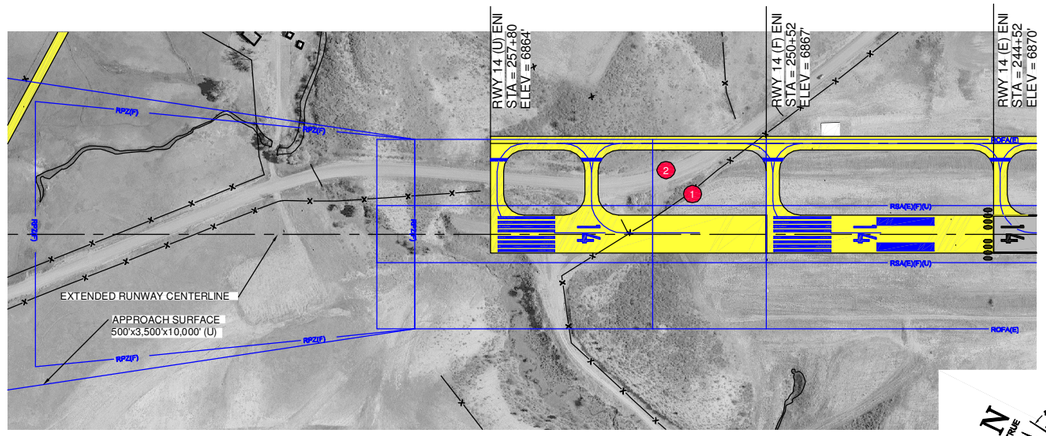
Project No: 055761
Date: 04/22/2008
File Name: 5761505

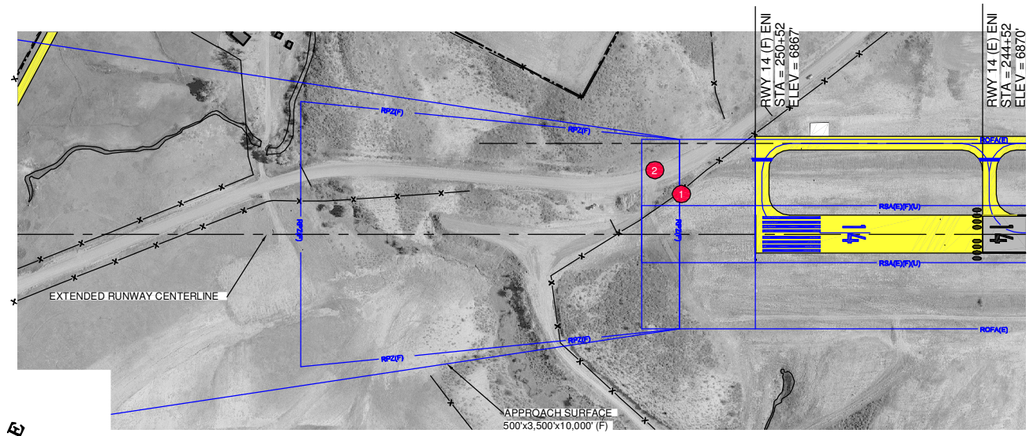
Drawn: BKR
Checked: JZP
Approved: DAC

RUNWAY 14/32
INNER
APPROACH



RUNWAY 14 PLAN (U)

SCALE: PER BAR SCALE

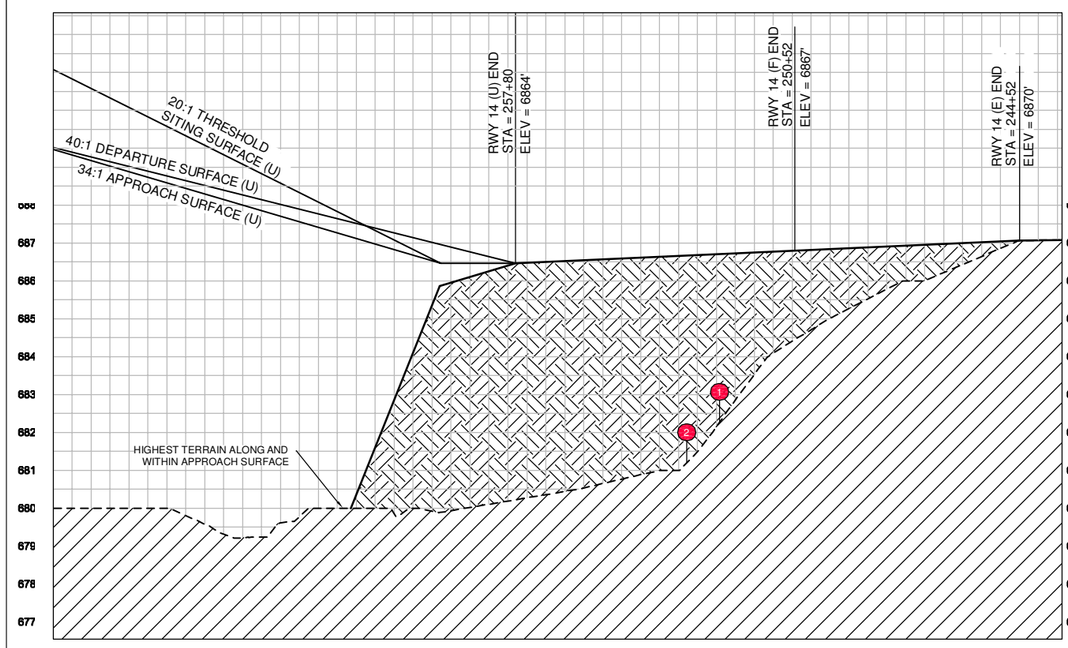


RUNWAY 14 PLAN (F)

SCALE: PER BAR SCALE

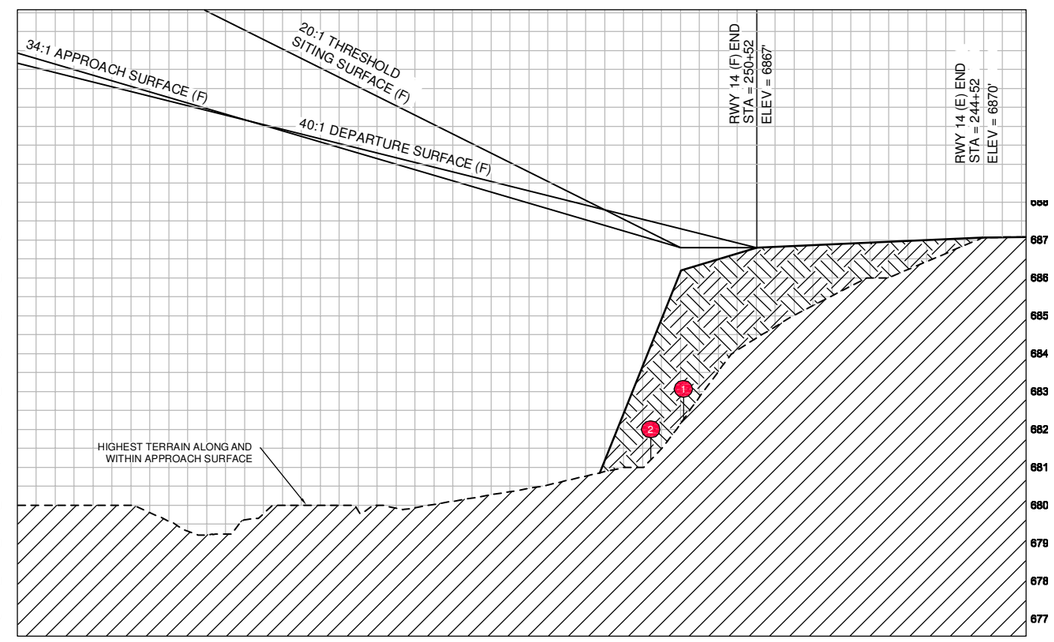
0 200 400

SCALE IN FEET



PROFILE RW 14 END (U)

SCALE: PER GRID



PROFILE RW 14 END (F)

SCALE: PER GRID

OBJECTS WITHIN RUNWAY 14 INNER APPROACH (F)(U)

SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
APPROACH	1 FENCE	6822'	NONE	RELOCATE
APPROACH	2 ROAD	6820'	NONE	RELOCATE

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE			AWOS
BRL(E)	(BRL(F)(U)	BUILDING RESTRICTION LINE			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA			ROADS
X X	XX XX	FENCING			MARKINGS
		EMBANKMENT			

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BOB ADAMS FIELD
STEAMBOAT SPRINGS, CO.
AIP No. 03-08-0069-15
AIRPORT LAYOUT PLANS

No.	Revision	Date	By

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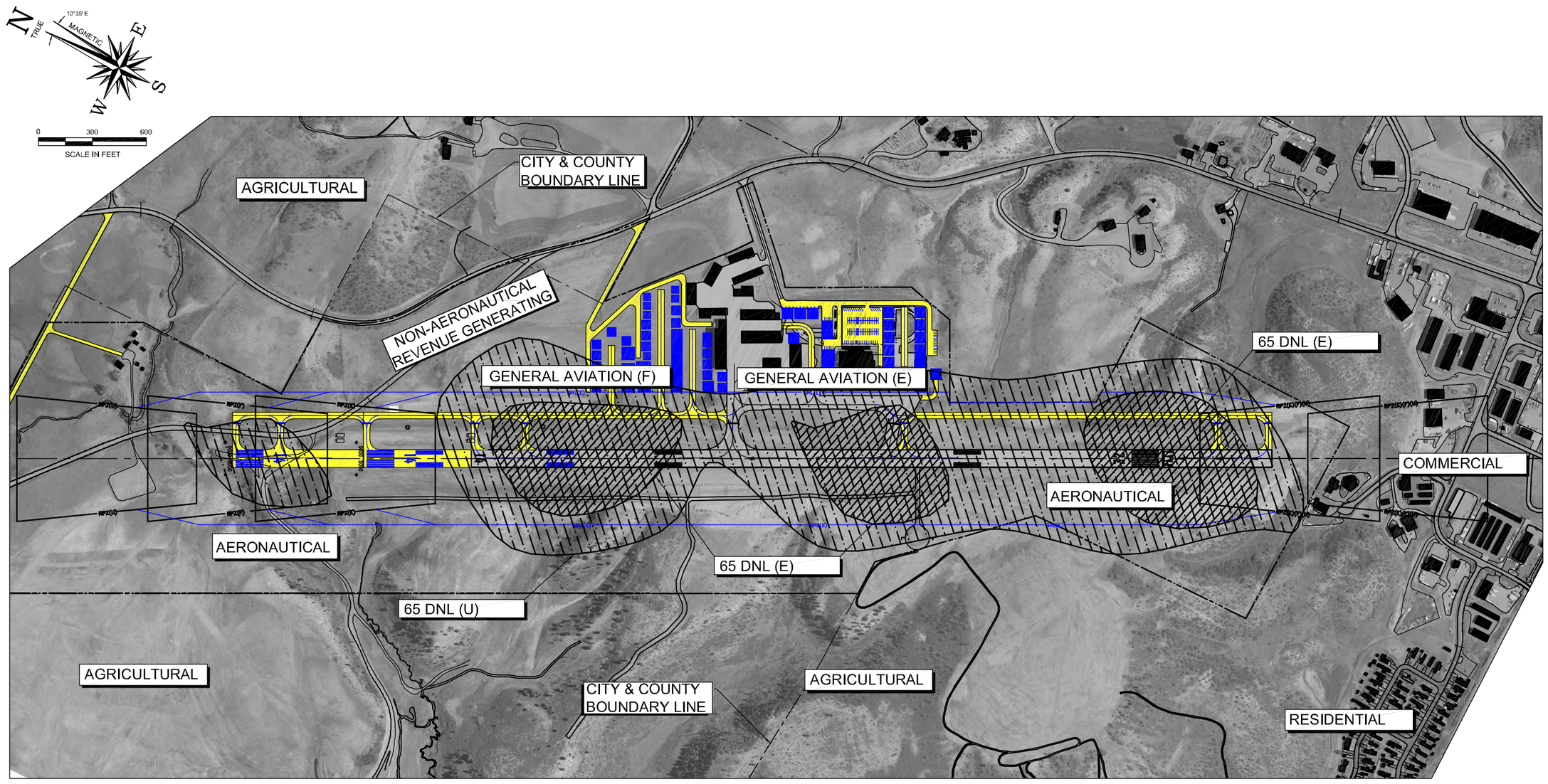
Date: 04/22/2008
File Name: 5761505

Drawn: BKR
Checked: JZP
Approved: DAC

RUNWAY 14/32
INNER
APPROACH



LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE		N/A	SECTION CORNER
		65 DNL NOISE CONTOUR			AWOS
BRL(E)	(BRL(F)(U)	BUILDING RESTRICTION LINE			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA			ROADS
X	XX	FENCING			MARKINGS

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AIP No. 03-08-0069-15
AIRPORT LAYOUT PLANS

No.	Revision	Date	By

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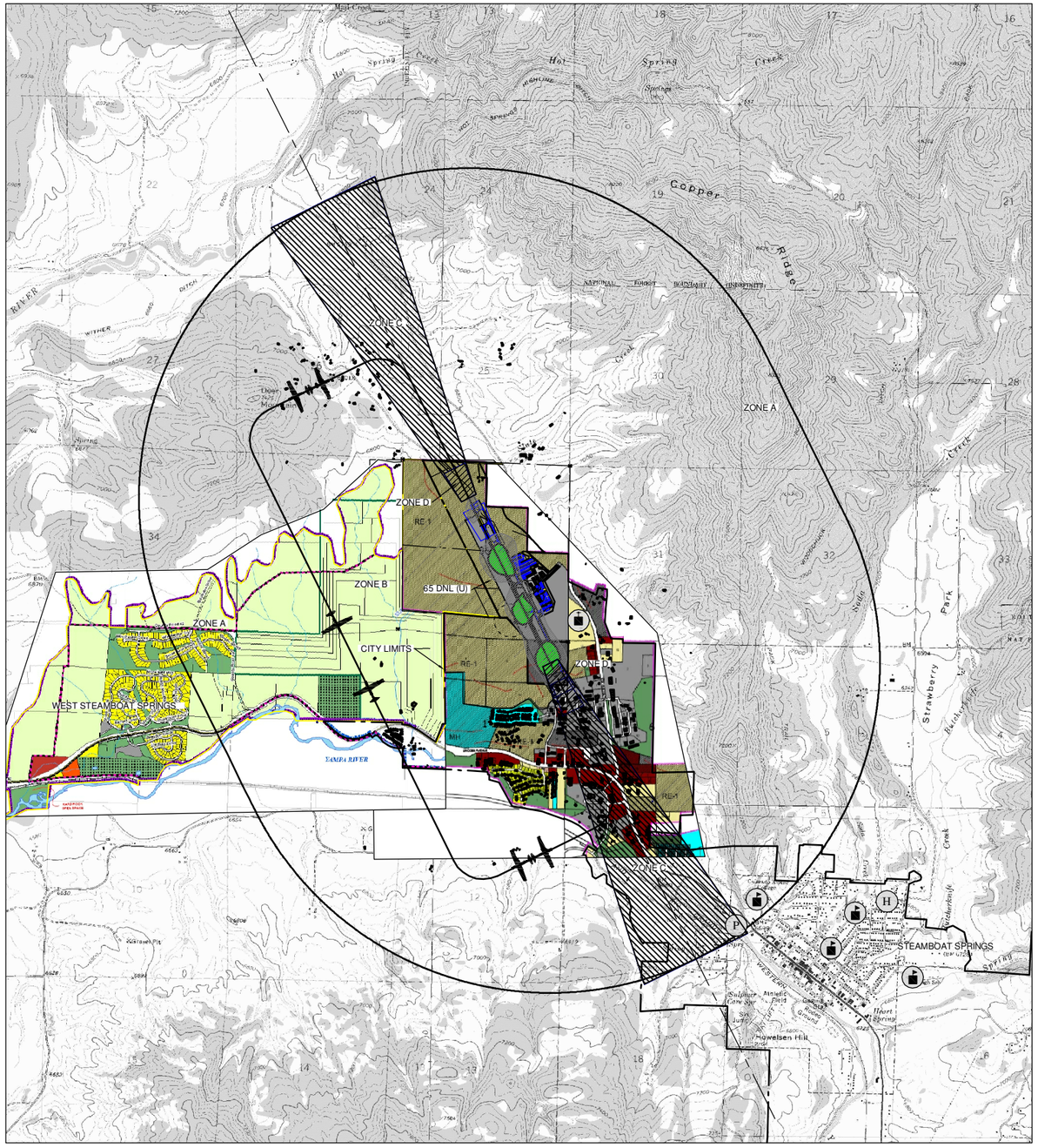
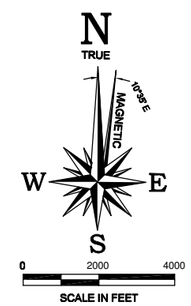
ON AIRPORT LAND USE





LAND USE COMPATIBILITY GUIDELINES

Land Use Category	ZONE A Airport Influence (AIZ)	ZONE B Traffic Pattern (TPZ)	ZONE C Approach (AZ)	ZONE D Runway Protection (RPZ)
Residential				
single-family, nursing homes, mobile homes, multi-family, apartments, condominiums transient lodging, hotel, motel	+	o (1)	- (1,3)	- -
Public				
schools, libraries, hospitals	+	o (1)	- (3)	- -
churches, auditoriums, concert halls	+	o (1)	- (3)	- -
transportation, parking, cemeteries	++	++	++	- -
Commercial and Industrial				
offices, retail trade,	++	+	o (3)	- -
service commercial, wholesale trade, warehousing, light industrial, general manufacturing, utilities,	++	+	o (3)	- -
extractive industry	++	+	o (3)	- -
Agricultural and Recreational				
cropland	++	++	++	++
livestock breeding	++	++	++	- (2)
parks, playgrounds, zoos, golf courses, riding stables, water recreation	++	++	++	- (2)
outdoor spectator sports	++	+	- (3)	- (3)
amphitheaters	o	- (4)	- -	- -
open space	++	++	++	++

CONDITIONS

1. If allowed, avigation easements and disclosure must be required as a condition of development.
2. Any structures associated with uses allowed in the RPZ must be located outside the RPZ.
3. If no reasonable alternative exists, use should be located as far from extended centerline as possible.
4. If no reasonable alternative exists, use should be located as far from extended centerline and traffic patterns as possible.
5. Transportation facilities in the RPZ (i.e. road, railroads, waterways) must be configured to comply with Part 77 requirements.

CRITERIA

Land Use Availability	Interpretation/Comments
++ Clearly Acceptable	The activities associated with the specified land use will experience little or no impact due to airport operations. Disclosure of airport proximity should be required as a condition of development.
+ Normally Acceptable	The specified land use is acceptable in this zone or area. Impact may be perceived by some residents. Disclosure of airport proximity should be required as a condition of development. Dedication of avigation easements may also be advisable.
o Conditionally Acceptable	If appropriate disclosure is made and avigation easements put in place, residential uses and uses involving indoor public assemblies are acceptable.
- Normally Unacceptable	Specified use should be allowed only if no reasonable alternative exists. Disclosure of airport proximity and avigation easements must be required as a condition of development.
- - Clearly Unacceptable	Specified use must not be allowed. Potential safety or overflight nuisance impacts are likely in this area.

NOTICE OF PROPOSED CONSTRUCTION

An FAA Form 7460-1, "Notice of Proposed Construction or Alteration" must be submitted for any construction or alteration (including hangars and other on-airport and off-airport structures, towers, etc.) within 20,000 horizontal feet of the airport greater in height than an imaginary surface extending outward and upward from the runway at a slope of 100 to 1 or greater in height than 200 feet above ground level.

LEGEND

- CHURCH
- SCHOOL
- HOSPITAL
- PARK

RUNWAY PROTECTION ZONE (RPZ) AS DIMENSIONED ON SHEET 2 OF AIRPORT LAYOUT PLAN.

APPROACH SURFACE AS DESCRIBED ON THE FAR PART 77 DRAWING OF THE AIRPORT LAYOUT PLAN.

STANDARD 1-MILE TRAFFIC PATTERNS.

AIRPORT INFLUENCE ZONE EXTENDS 10,000' FROM RUNWAY

TYPICAL TRAFFIC PATTERN DIRECTION AND FLIGHT TRACK AREA.

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STEAMBOAT SRPINGS
BOB ADAMS FIELD
STEAMBOAT SPRINGS, CO.
AIP No. 03-08-0069-15
AIRPORT LAYOUT PLANS

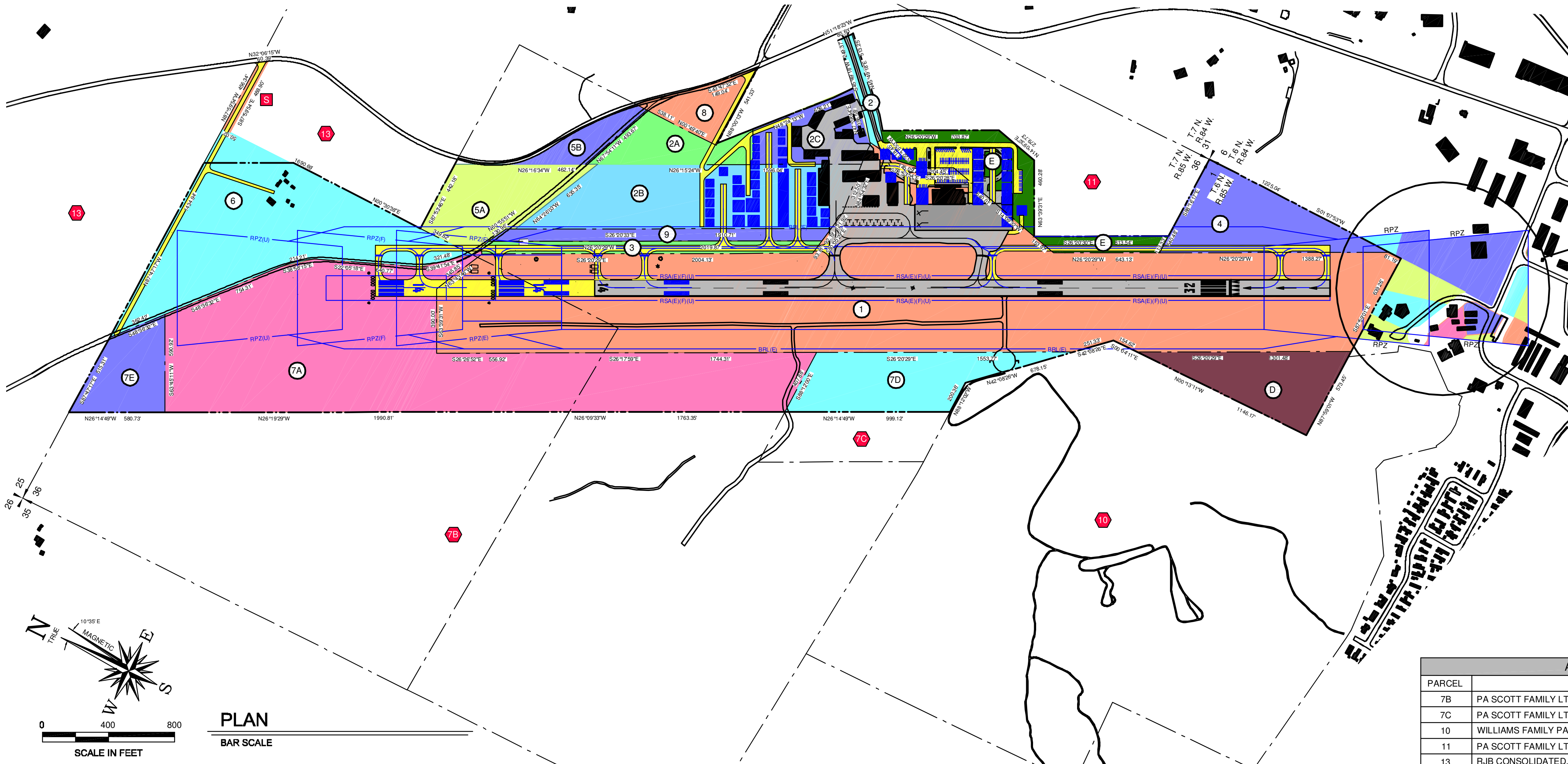
No.	Revision	Date	By

THE PREPARATION OF THIS DOCUMENT WAS FINANCED IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM OF THE FEDERAL AVIATION ADMINISTRATION, UNDER THE PROVISIONS OF TITLE 49, UNITED STATES CODE, SECTION 1726. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE OR WOULD WIN JUSTIFICATION IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

Project No: 055761
Date: 04/22/2008
File Name: 5761507

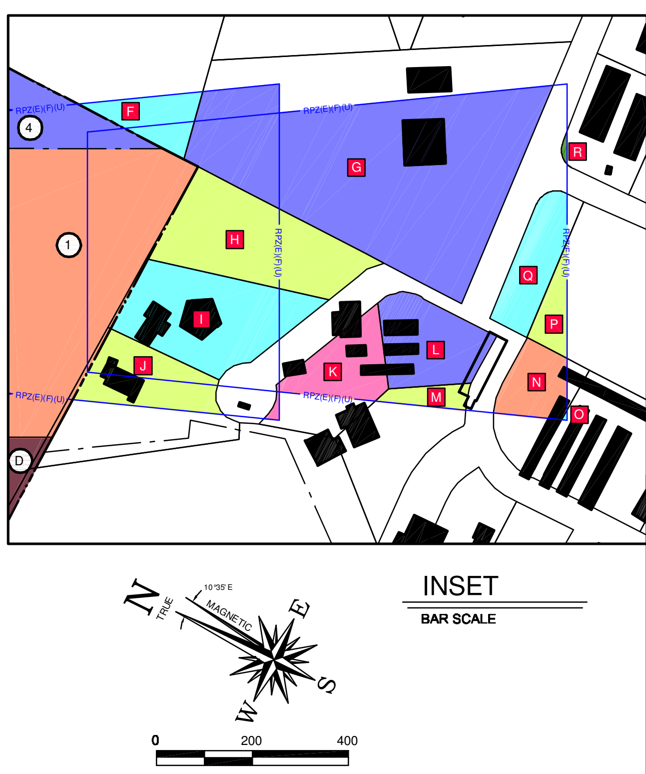
Drawn: BKR
Checked: JZP
Approved: DAC

OFF AIRPORT LAND USE



PLAN

BAR SCALE



INSET

BAR SCALE

ADJACENT PROPERTY OWNERS

PARCEL	CURRENT OWNER	PARCEL NO.	ACREAGE
7B	PA SCOTT FAMILY LTD. PARTNERSHIP	932363002	180.94
7C	PA SCOTT FAMILY LTD. PARTNERSHIP	932363002	6.90
10	WILLIAMS FAMILY PARTNERSHIP, LLLP	937012001	160.53
11	PA SCOTT FAMILY LTD. PARTNERSHIP	932364002	39.04
13	RJB CONSOLIDATED, LTD.	933301001	895.62

EXISTING AIRPORT PROPERTY

PARCEL	CURRENT OWNER	INTEREST	FEDERAL PARTICIPATION	PARCEL NO.	BOOK/PAGE	DATE	ACREAGE	PURPOSE
1	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	---	937011001	487 / 408 & 409		89.83	AERONAUTICAL
2	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	---	937011001	450 / 618		1.25	AERONAUTICAL
2A	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	---	937011001	666 / 1620-1627		4.37	AERONAUTICAL
2B	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-08	937011001	666 / 1620-1627	09.27.91	16.37	AERONAUTICAL
2C	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-08	937011001	666 / 1620-1627	09.27.91	5.38	AERONAUTICAL
3	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-03	937011001	SBS PARCEL B		3.51	AERONAUTICAL
4	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-03	937011001	SBS PARCEL A		9.01	AERONAUTICAL
5A	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-08	937011001	666 / 1620-1627	09.27.91	6.98	AERONAUTICAL
5B	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	---	937011001	666 / 1620-1627		2.42	AERONAUTICAL
6	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-08	937011001	666 / 1620-1627	09.27.91	22.09	AERONAUTICAL
7A	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-08	937011001	666 / 1620-1627	09.27.91	55.21	AERONAUTICAL
7D	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-08	937011001	666 / 1620-1627	09.27.91	9.46	AERONAUTICAL
7E	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	---	937011001	666 / 1620, P7A		5.29	AERONAUTICAL
8	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	---	937011001	666 / 1620-1627	09.27.91	3.25	AERONAUTICAL
9	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-08	937011001	666 / 1620-1627	09.27.91	3.40	AERONAUTICAL
D	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-08	937011001	666 / 1620-1627	09.27.91	7.58	AERONAUTICAL
E	TOWN OF STEAMBOAT SPRINGS	FEE TITLE	3-08-0069-08	937011001	666 / 1620-1627	09.27.91	8.20	AERONAUTICAL

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE/ULTIMATE	
		AIRFIELD DEVELOPMENT (ASPHALT)		0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			AWOS
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (TSA)			DRAINAGE/ CULVERT
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (TOFA)	4125	N/A	CONTOURS
x x	xx xx	FENCING			ROADS
		PACS/SACS MONUMENT			MARKINGS
					LIGHTED WINDCONE
			N/A		TRAFFIC PATTERN

PROPERTY TO BE ACQUIRED

PARCEL	CURRENT OWNER	GRANTEE	INTEREST	PARCEL NO.	ACREAGE	PURPOSE
F	DAWES FAMILY, LLLP	CITY OF STEAMBOAT SPRINGS	EASEMENT	936062003	0.41	APPROACH PROTECTION
G	WASTE MANAGEMENT, INC.	CITY OF STEAMBOAT SPRINGS	EASEMENT	121200005	4.56	APPROACH PROTECTION
H	ROUTT COUNTY, COLORADO	CITY OF STEAMBOAT SPRINGS	EASEMENT	172299003	1.52	APPROACH PROTECTION
I	WEST ACRES THMS AT WEST ACRES PARK	CITY OF STEAMBOAT SPRINGS	EASEMENT	187888001	1.43	APPROACH PROTECTION
J	HOLTHAUSEN, CARL F., III, GAIL BARNES HOLTHAUSEN (JT)	CITY OF STEAMBOAT SPRINGS	EASEMENT	172200008	0.73	APPROACH PROTECTION
K	CLOW, RONAL B. & ROBIN D. PECK	CITY OF STEAMBOAT SPRINGS	EASEMENT	172200007	0.60	APPROACH PROTECTION
L	KCF, LTD.	CITY OF STEAMBOAT SPRINGS	EASEMENT	172200006	0.80	APPROACH PROTECTION
M	RRJLC INVESTMENTS, LLC	CITY OF STEAMBOAT SPRINGS	EASEMENT	172200005	0.17	APPROACH PROTECTION
N	JOHNSON ENTERPRISES	CITY OF STEAMBOAT SPRINGS	EASEMENT	172100001	0.43	APPROACH PROTECTION
O	AMES, ROBERT W.	CITY OF STEAMBOAT SPRINGS	EASEMENT	172100002	0.01	APPROACH PROTECTION
P	INDUSTRIAL COMPANY OF STEAMBOAT SPRINGS	CITY OF STEAMBOAT SPRINGS	EASEMENT	121300022	0.24	APPROACH PROTECTION
Q	ELK RIVER ROAD BUSINESS PARK PARTNERSHIP	CITY OF STEAMBOAT SPRINGS	EASEMENT	121299001	0.56	APPROACH PROTECTION
R	E Z STORAGE OF STEAMBOAT, LLC	CITY OF STEAMBOAT SPRINGS	EASEMENT	121200011	0.01	APPROACH PROTECTION
S	RJB CONSOLIDATED, LTD.	ROUTT COUNTY	FEE	933301001	0.54	FUTURE DEVELOPMENT

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STEAMBOAT SPRINGS
BOB ADAMS FIELD
STEAMBOAT SPRINGS, CO.
03-08-0069-15
AIRPORT LAYOUT PLANS

No.	Revision	Date	By

Project No: 005761
Date: 04/22/2008
File Name: 5761508

Drawn: BKR/SLST
Checked: JZP
Approved: KEK

EXHIBIT "A"
PROPERTY
LAYOUT MAP

Sheet: 9 of: 10

ARMSTRONG CONSULTANTS, Inc.
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STEAMBOAT SPRINGS
BOB ADAMS FIELD
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AIP No. 03-08-0069-15
AIRPORT LAYOUT PLANS

No.	Revision	Date	By

THE PREPARATION OF THIS DOCUMENT WAS FINANCED IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM OF THE UNITED STATES DEPARTMENT OF TRANSPORTATION, AS AMENDED, UNDER THE PROVISIONS OF TITLE 49, UNITED STATES CODE, SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE DEPARTMENT OF TRANSPORTATION. ACCEPTANCE OF THIS DOCUMENT DOES NOT CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ELIGIBLE FOR FEDERAL FUNDS.

Project No: 055761
Date: 04/22/2008
File Name: 5761509

Drawn: BKR
Checked: JZP
Approved: DAC

AERIAL PHOTOGRAPH

Appendix A
Design Standards Inventory

Steamboat Springs
Airport Master Plan

Airside Inventory Checklist

Airport	Steamboat Springs Airport	ARC	A-III
City	Steamboat Springs, CO	Approach Type	GPS
Contact	Mel Baker	Date Inventoried	July 27, 2006
Phone No.		Inspected By	JZP and DAC

Runway 14/32 Inventory	Published	Required	Actual
Distance To:			
Hold lines from centerline		200'	200'
Parallel taxiway from centerline		300'	300'
Aircraft parking from centerline		400'	400'
Runway width	100'	100'	100'
Runway length	4,452	-	4,452'/3,852'
RSA width		300'	300'
ROFA width		800'	800'
Primary/transitional surface penetrations		-	-
Longitudinal grade - site distance problems		-	-
OFZ		-	-
Pavement marking type		NPI	NPI/Visual
Pavement marking condition	Good		Good
Pavement strength	50 SWG 60 SWG		
Pavement condition	Good		Good
Runway 14 End Inventory			
RSA beyond runway end		600'	600'
ROFA beyond runway end		600'	600'
Approach obstructions		-	-
Runway end elevation	6,870.6'	-	-
		-	-
Runway 32 End Inventory			
RSA beyond runway end		600'	600'
ROFA beyond runway end		600'	600'
Approach obstructions		-	-
Runway end elevation	6,878.1'	-	-
		-	-
Runway Lighting Inventory			
Distance from pavement edge		10'	10'
Maximum distance between lights		200'	200'
Type	HIRL	Optional	
Condition		-	
Color		White	
Runway 14 Threshold			
Distance from pavement edge		10'	
Maximum distance between lights		Varies	
Color		Red/Green/6	Red/Green/6
Runway 32 Threshold			
Distance from pavement edge		10'	
Maximum distance between lights		Varies	
Color		Red/Green/8	Red/Green/8

COMMENTS

Airside Inventory Checklist

Airport	Steamboat Springs Airport	ARC	A-III
City	Steamboat Springs, CO	Approach Type	GPS
Contact	Mel Baker	Date Inventoried	July 27, 2006
Phone No.	0	Inspected By	JZP and DAC

Taxiway Inventory	Published	Required	Actual
Taixway width		50'	50'
TSA width		118'	118'
TOFA width		186'	186'
Dist. from centerline to fixed or movable obj		93'	93'
Pavement marking type		Centerline	
Pavement marking condition		-	
Pavement strength		-	
Pavement condition		-	
Taxiway Lighting Inventory			
Distance from pavement edge		10'	
Maximum distance between lights		100'	
Type		-	
Condition		-	
Color		Blue	
Miscellaneous			
Type of beacon		White-Green	White-Green
Size of beacon		Varies	
Visual Aids (i.e. PAPI, VASI, REIL, etc.)		-	
Windcone (condition & compliance)		Yes	Yes
Segmented circle (condition & compliance)		Yes	Yes
Fencing		Yes	Yes
Signs (type, condition, placement)		Yes	Yes

COMMENTS

Appendix B
Airport Revenue and Expenditure Inventory

Steamboat Springs
Airport Master Plan

Steamboat Springs Airport Revenue and Expenditure

Airport Operations and Maintenance Revenue						
Airport Revenues	2001	2002	2003	2004	2005	2006
Aviation Fuel Tax Refund	$5,530	$8,445	$3,074	$3,952	$4,252	$3,032
Airport Special Events	-	-	$250	-	-	
Misc Ground Rent	$17,523	$8,009	$26,665	$36,019	$46,907	$49,896
Commercial Landing Fees	$1,755	-	-	-	-	
Car Rental/Terminal Rent	$4,440	$3,880	$2,466	$2,553	$2,629	$2,708
Concession Income	$2,530	$3,640	$3,426	$5,375	$5,877	$5,369
Facility Fees	-	-	$1,700	-	$1,500	$1,000
Hangar Rent	$62,584	$68,950	$66,773	$63,939	$57,650	$68,813
Gain Sale of Assets	-	-	-	-	$20,500	$2,950
Interest Income Invest	$3,722	$1,433	$888	$1,188	$4,091	$3,481
Miscellaneous Income	$2,887	$13,186	$11,337	$4,862	$2,769	$257
Total Airport Operations Revenue	**$100,971**	**$107,543**	**$116,579**	**$117,888**	**$146,175**	**$137,506**
Airport Operations and Maintenance Expenses						
Salaries	$79,544	$85,239	$89,065	$84,322	$63,478	$83,642
Seasonal Part Time	$11,028	$13,787	$17,508	$9,812	$13,297	$18,702
Overtime	$1,236	$80	$24	$91	$1,621	$1,522
Premium Time	-	-	-	-	$50	$16
Standby Time	-	$159	$188	-	-	
Vacation, Sick and Comp Accrual	$2,339	$2,357	$2,227	($672)	$4,994	$1,309
FICA Taxes	$5,695	$6,137	$6,678	$6,012	$4,885	$6,500
Medicare Taxes	$1,332	$1,435	$1,562	$1,406	$1,143	$1,520
Employee Retirement	$2,105	$5,112	$5,374	$5,151	$3,868	$5,122
Health Insurance	$10,670	$11,845	$12,499	$13,714	$11,090	$12,129
Life/LTD/AD&D/Pretax	$778	$847	$892	$813	$541	$802
Auto Allowance	-	-	$2,400	$2,400	$1,200	$1,440
Workers Compensation	$4,195	$5,044	$3,671	$2,114	$2,384	$3,229
Unemployment Insurance	$276	$297	$214	$191	$236	$315
Property/Casualty Losses	-	-	-	$4,244	-	
Advertising	$269	$1,222	$1,060	$995	$643	$377
Employee Medical Services	-	-	-	-	$48	$309
Other Outside Services	$6,660	$4,955	$6,081	$13,528	$5,604	$8,721
Legal Services	$2,326	-	-	-	-	
Communications	$3,151	$3,556	$4,079	$1,374	$1,796	$2,397
Utilities	$22,895	$25,969	$30,175	$32,439	$37,553	$40,471
Training, Travel, Meetings	$2,307	$3,220	$1,939	$331	$1,574	$3,115
Memberships, Subscriptions	$365	$299	$225	$448	$270	$370
Permits and Licenses	$159	-	$386	$456	-	$232
Operating Supplies	$4,001	$2,501	$2,631	$2,452	$3,779	$1,736
Uniforms	$251	$245	$372	$118	-	$188
Chemicals	-	-	-	-	$108	$1,500
Small Tools	$234	$135	$7	$243	$224	$297
Fuel and Oil	$170	$25	$299	$411	$5,670	$4,175
Motor Vehicle Parts	-	-	-	-	$49	$618
Boards and Commissions	-		-	-	-	
Central Service Charges	$4,059	$3,811	$3,785	$18,108	$18,019	$22,918
Fleet Service Charges	$66,021	$70,633	$66,420	$72,120	$3,417	$1,737
Computer Services Charges	$3,774	$2,606	$2,248	$3,032	$3,012	$3,098
GIS Services Charges	$474	$553	$455	$579	$230	$328
R&M Buildings and Grounds	$14,438	$20,598	$16,355	$84,951	$30,219	$14,482
R&M Vehicles	$1,250	$1,242	$367	$3,642	$74	$3,035
R&M Machinery and Equipment	-	$353	$180	$746	$444	$2,022
Equipment Acquisition	$7,408	-	-	-	$124,698	
Total Airport Operating Costs	**$259,410**	**$274,262**	**$279,366**	**$365,571**	**$346,218**	**$248,374**
Net Airport Operations Revenue and Expenditure	**-$158,439**	**-$166,719**	**-$162,787**	**-$247,683**	**-$200,043**	**-$110,868**

Source: City of Steamboat Springs, 2006

Steamboat Springs Airport Revenue and Expenditure

FBO Revenue	2001	2002	2003	2004	2005	2006
Aviation Fuel 100LL Sales	$163,242	$143,230	$123,019	$137,843	$195,981	$223,610
Jet A Fuel Sales	$136,834	$200,211	$160,219	$180,210	$186,716	$190,252
Flight Supply Sales	$3,197	$3,336	$3,054	$4,173	$5,853	$6,908
Concession Supply Sales	$1,358	$550	$199	$585	-	
Tie Down Fees	$19,812	$22,263	$17,819	$12,015	$13,857	$18,687
Charges For Services	$9,538	$9,168	$3,786	$5,176	$2,194	$4,335
Hangar Rent	-	-	-	-	$7,158	$4,910
Miscellaneous Income	$1,072	-	-	-	-	$155
Total FBO Revenue	**$335,053**	**$378,758**	**$308,096**	**$340,002**	**$411,759**	**$448,857**
FBO Expenses						
Salaries	$30,492	$33,766	$36,021	$50,020	$45,045	$50,234
Seasonal Part-Time	$16,123	$17,607	$16,045	$26,365	$34,480	$20,155
Overtime	$496	$287	$219	$994	$952	$574
Standby Time	-	$214	$147	-	-	
Vacation, Sick and Comp Accruals	-	$2,034	$2,334	($470)	$161	$567
FICA Taxes	$2,930	$3,218	$3,214	$4,803	$5,127	$4,305
Medicare Taxes	$685	$753	$752	$1,123	$1,199	$1,007
Employee Retirement	$1,865	$2,058	$2,148	$3,065	$2,684	$2,982
Health Insurance	$3,055	$3,301	$3,613	$5,772	$8,302	$8,233
Life/LTD/AD&D/Pretax	$296	$318	$340	$444	$393	$478
Auto Allowance	-	-	-	-	$1,200	$960
Workers Compensation	$2,125	$2,645	$1,516	$1,778	$2,480	$2,153
Unemployment Insurance	$142	$156	$104	$155	$247	$210
Leases and Rentals	$613	-	-	-	$5,416	$1,865
Advertising	$1,795	$1,799	$1,140	$1,999	$608	$2,801
Printing	-	-	$121	-	-	$281
Other Outside Services	$10,302	$14,772	$12,980	$2,019	$4,931	$2,406
CCFBO other Outside Services	-	-	-	$9,543	$11,168	$12,489
Communications	$3,338	$5,115	$4,792	$3,706	$5,070	$3,631
Utilities	$1,122	$1,202	$894	$2,583	$2,318	$2,135
Training, Travel, Meetings	-	-	-	$228	$102	$632
Memberships, Subscriptions	$22	$225	$45	$641	$145	$192
Operating Supplies	$4,740	$5,716	$4,219	$6,055	$4,143	$6,310
Uniforms	$302	-	$194	-	-	$464
Supplies for Resale	$3,983	$3,897	$3,241	$7,337	$4,459	$6,182
Small Tools	-	-	-	$4	-	
Fuel and Oil	$70	$10	-	$28	$952	$35
Fuel 100LL	$87,147	$107,504	$79,401	$91,784	$139,440	$147,330
Fuel Jet A	$96,479	$95,955	$91,632	$123,711	$121,318	$160,844
Motor Vehicle Parts						$430
Central Services Charges	$3,032	$3,082	$3,557	$11,710	$13,062	$17,277
Fleet Services Charges	-	-	-	-	$15,581	$17,481
Computer Services Charges	$2,696	$2,606	$2,248	$3,032	$3,012	$3,098
GIS Services Charges	$406	$524	$529	$397	$336	$623
R&M Building and Grounds	$942	$9,866	$973	$1,396	$927	$340
R&M Vehicles	$1,928	$1,351	$338	$2,566	$889	$2,099
R&M Machinery and Equipment	-	-	-	-	$1,483	$108
Total FBO Operations Costs	**$277,126**	**$319,981**	**$272,757**	**$362,788**	**$437,630**	**$480,911**
Net FBO Revenue and Expenditure	**$57,927**	**$58,777**	**$35,339**	**-$22,786**	**-$25,871**	**-$32,054**

Terminal Building Revenue and Expenditure						
Terminal Lease/Utilities	-	$15,442	$157,021	$162,728	$170,591	177405
Total Terminal Building Revenue	**-**	**$15,442**	**$157,021**	**$162,728**	**$170,591**	**$177,405**
Tenant Improvement Airport Principal	-	$2,359	$29,756	$32,330	$34,055	35851
Tenant Improvement Airport Interest	-	$3,215	$17,295	$14,345	$13,908	13563
Prepaid Hangar Rent Amortize	-	-	$9,870	$9,880	$9,876	9252
S-Tax Bonds 2001	-	-	$361,950	$206,375	$222,250	79375
S-Tax Bonds 2001	-	-	$43,696	$24,004	$17,762	9047
Total Terminal Building Expenditure	**-**	**$5,574**	**$462,567**	**$286,934**	**$297,850**	**$147,088**
Net Terminal Building Revenue and Expenditure	**-**	**$9,868**	**-$305,546**	**-$124,206**	**-$127,260**	**$30,317**

Source: City of Steamboat Springs, 2006

Steamboat Springs Airport Revenue and Expenditure

Airport Capital Improvements Revenue and Expenditure	2001	2002	2003	2004	2005	2006
Airport Capital Improvement Revenue	$42,147	$5,025	$39,630	$5,408	$88,409	$3,289
Airport Capital Improvement Revenue	$21,209	-	$462,716	$0	$852,477	58168
Cash from Sale of Assests	-	772	$170,266	-	-	
Proceeds from debt issuance		$250,000				
Private Contributions	$17,800	-	-	-	-	
Total Capital Improvement Revenue	**$81,156**	**$255,797**	**$672,612**	**$5,408**	**$940,886**	**$61,457**
Airport Capital Improvement Expenditures	$94,954	$281,775	$514,130	$54,898	$60,303	
Airport Capital Improvement Expenditures						65597
Airport Capital Improvement Expenditures	-	11130	$49,538		$779,225	12849
Airport Capital Improvement Expenditures						9705
Airport Capital Improvement Expenditures						2785
Airport Capital Improvement Expenditures	-	6695	-		$32,742	
Total Airport Capital Improvement Expenditures	**$94,954**	**$299,600**	**$563,668**	**$54,898**	**$872,270**	**$90,936**
Net Capital Improvement Revenue and Expenses	**-$13,798**	**-$43,803**	**$108,944**	**-$49,490**	**$68,616**	**-$29,479**
Summary Revenue and Expenses						
Net Airport Operations	***-$158,439***	***-$166,719***	***-$162,787***	***-$247,683***	***-$200,043***	***-$110,868***
Net FBO	***$57,927***	***$58,777***	***$35,339***	***-$22,786***	***-$25,871***	***-$32,054***
Net Terminal Building	***-***	***$9,868***	***-$305,546***	***-$124,206***	***-$127,260***	***$30,317***
Net Capital Improvement	***-$13,798***	***-$43,803***	***$108,944***	***-$49,490***	***$68,616***	***-$29,479***
Total Airport	-$114,310	-$141,877	-$324,050	-$444,165	-$284,558	-$142,084
City Subsidy	**$70,899**	**$62,232**	**$319,490**	**$445,313**	**$279,402**	**$140,863**
Balance	**($43,411)**	**($79,645)**	**($4,560)**	**$1,148**	**($5,156)**	**($1,221)**

Source: City of Steamboat Springs, 2006

Appendix C
Existing Based Aircraft and Flight Training Activity Information

Steamboat Springs Airport Master Plan

BASED AIRCRAFT

Type	Model	Tail Number
Helicopter Piston	Enstrom	N51723
Helicopter Piston	Helicopter	N269MS
Helicopter Piston	Enstrom	N5697M
Helicopter Turbine	Bell 206	N206LR
Helicopter Turbine	Bell 206	N122BT
Multi Engine Piston	Beech Baron	N228PL
Multi Engine Piston	Cessna 310	N310VG
Multi Engine Piston	Cheyenne II	N82TW
Multi Engine Piston	Cessna 340	N5061Q
Multi Engine Piston	Cessna 340	N1246G
Multi Engine Piston	Cessna 421	N1206K
Multi Engine Piston	Cessna 310	N310EW
Multi Engine Piston	Baron	N112GM
Multi Engine Piston	Baron	N17LC
Multi Engine Piston	Baron	N3760B
Multi Engine Piston	Aerostar	N3AG
Multi Engine Piston	Cessna 414	N37543
Multi Engine Piston	Seneca	N723DC
Multi Engine Piston	Baron	N91YP
Multi Engine Turbine	King Air 200	N60383
Multi Engine Turbine	T-Commander	N900LL
Multi Engine Turbine	King Air 300	N577BA
Multi Engine Turbine	T-Commander	N5878K
Multi-Engine Turbine	Beech King Air 90	N69301
Single Engine Piston	Piper Saratoga	N535U
Single Engine Piston	Cessna 172	N50864
Single Engine Piston	Cessna 185	N1353Q
Single Engine Piston	Cessna 172	N998M
Single Engine Piston	Bonanza	N35RE
Single Engine Piston	Cessna 206	N8274Q
Single Engine Piston	Cessna 182	N3471F
Single Engine Piston	Grumman	N5437L
Single Engine Piston	Cessna 206	N4817X
Single Engine Piston	Cessna 210	N30631
Single Engine Piston	Cessna 182	N3739D
Single Engine Piston	Cessna 206	N733NA
Single Engine Piston	Cessna 182	N3132C
Single Engine Piston	Cessna 172	N50864
Single Engine Piston	Maul	N40319
Single Engine Piston	Cessna 182	N8711T
Single Engine Piston	Cessna 206	N72638
Single Engine Piston	Cessna 182	N1728M
Single Engine Piston	Cessna 182	N940W
Single Engine Piston	Maul	N9813M
Single Engine Piston	Cessna 182	N6341A
Single Engine Piston	T-34	N154MM
Single Engine Piston	Bonanza	N9461S
Single Engine Piston	Decathlon	N451SA
Single Engine Piston	Bellanca	N321AM
Single Engine Piston	Cessna 210	N732XV
Single Engine Piston	Cessna 185	N24187
Single Engine Piston	Cessna 182	N5513N
Single Engine Piston	Cessna 182	N148JB
Single Engine Piston	Cessna 182	N9016T

BASED AIRCRAFT

Single Engine Piston	Mooney	N79842
Single Engine Piston	Cessna 170	N2536D
Single Engine Piston	PA-28	N193MB
Single Engine Piston	Cessna 182	N246PA
Single Engine Piston	Cessna 182	N92836
Single Engine Piston	Bonanza	N1095
Single Engine Piston	Piper Saratoga	N5353U
Single Engine Piston	Cessna 172	N998M
Single Engine Piston	Scout	N1166E
Single Engine Piston	Cessna 182	N20743
Single Engine Piston	T-28 North American	N7160C
Single Engine Piston	Cessna 206	N590K
Single Engine Piston	Cessna 182	N3471F
Single Engine Piston	Cessna 210	N4617W
Single Engine Piston	Piper 180	CFDII
Single Engine Piston	Cessna 172	N4276Q
Single Engine Piston	Mooney	N213JF
Single Engine Piston	Cessna 172	N5089J
Single Engine Piston	Cessna 210	N761QK
Single Engine Piston	Piper Saratoga	N30144
Single Engine Piston	Piper Super Cub	N230T
Single Engine Piston	Cessna 206	N33189
Single Engine Piston	Piper Malibu	N9099D
Single Engine Piston	Cessna 210	N49AJ
Single Engine Piston	Bonanza	N29EA
Single Engine Piston	Piper Cub	N43732
Single Engine Piston	Cessna 182	N7199E
Single Engine Piston	Cherokee	N8280W
Single Engine Piston	Stemme	N387JW
Single Engine Piston	Grob 115C	N115AJ
Single Engine Piston	Glasair (Experimental)	N61DG
Single Engine Turbine	TBM 700	N709MC
Single Engine Turbine	TBM 700	N88U
Single Engine Turbine	Piper Meridian	N333MM
Single Engine Turbine	Piper Meridian	N804JH
Single Engine Turbine	PC-12	N325MW
Single Engine Turbine	PC-12	N420DW
Single Engine Turbine	Meridian	N225DW

Managers Report KSBS Airport

YVAC Meeting December 13, 2007

- **PILOT TRAINING ACTIVITIES AT BOB ADAMS FIELD**

  Pilot training activities at Bob Adams Field increased dramatically during calendar years 2006-2007. Formation of the Steamboat Flying Club along with three fractional partnerships brought four new training aircraft onto the field. One helicopter Certified Flight Instructor (CFI), four fixed-wing Certified Flight Instructors with Instrument Instructor certifications (CFII) and one fixed-wing Certified Flight Instructor (CFI) are currently teaching at the airport. This level of training activity is promoted by the close proximity of Bob Adams Field to Steamboat Springs. Following is a listing of student/instructor activity during 2006-2007.

Commercial Pilot rating obtained:
Jeff Wright (John Witte, Helicopter CFI)

Current Certified Flight Instructor Student Pilots
Jeff Wright (John Witte, Helicopter CFI)

Private Pilot rating obtained:

Karl Bunker (Don Heineman, CFII)
John Centner (Don Heineman, CFII)
Dave Dorsey (Don Heineman, CFII)
Roger Karolewski (Joe Birkinbine, CFII)
Rusty McIntosh (Joe Birkinbine, CFII)
Everett Quamme (John Witte, Helicopter CFI)
Dr. Andreas Sauerbrey (Don Heineman, CFII)
Stan Schmidt (Joe Birkinbine, CFII)
Tom Wood (Don Heineman, CFII)
Jeff Wright (John Witte, Helicopter CFI)

Current Instrument Student Pilots

Karl Bunker (Don Heineman, CFII)
Dave Dorsey (Don Heineman, CFII)
Keith Heiner (Joe Birkinbine, CFII)
Ed Pierce (Dick Klumker, CFII)

Current Solo Student Pilots

Steve Dunn (John Witte, Helicopter CFI)
Rob Harvey (Don Heineman, CFII)
Nathan Hewes (Dick Klumker, CFII)
Don McLaughlin (Don Heineman, CFII)
Keri Rusthoi (Don Heineman, CFII)
Mike Miller (Dick Klumker, CFII)

Current Student Pilots

George Barlow (Dick Klumker, CFII)
Aila Bereznek (Don Heineman, CFII)
Liz Brimmer (Dick Klumker, CFII)
Doug Labor (Mike Martino, CFII)
Wayne Lemley (Scott Middleton, CFI)
Katherine Leitess (John Witte, Heli CFI)
Allen Storie (John Witte, Helicopter CFI)
Mike Symalla (Don Heineman, CFII)
Doug Weers (Don Heineman, CFII)
Ben Wilcox (Dick Klumker, CFII)
Zach Zerbst (Don Heineman, CFII)

Appendix D
FAA Large Aircraft Fleet Mix

Steamboat Springs
Airport Master Plan

Airplanes that Make Up 75 Percent of the General Aviation Airplane Fleet

Manufacturer	Model
Aerospatiale	Sn-601 Corvette
Bae	125-700
Beech Jet	400A
Beech Jet	Premier I
Beech Jet	2000 Starship
Bombardier	Challenger 300
Cessna	500 Citation/501Citation Sp
Cessna	Citation I/II/III
Cessna	525A Citation II (CJ-2)
Cessna	550 Citation Bravo
Cessna	550 Citation II
Cessna	551 Citation II/Special
Cessna	552 Citation
Cessna	560 Citation Encore
Cessna	560/560 XL Citation Excel
Cessna	560 Citation V Ultra
Cessna	650 Citation VII
Cessna	680 Citation Sovereign

Manufacturer	Model
Dassault	Falcon 10
Dassault	Falcon 20
Dassault	Falcon 50/50 EX
Dassault	Falcon 900/900B
Israel Aircraft Industries (IAI)	Jet Commander 1121
IAI	Westwind 1123/1124
Learjet	20 Series
Learjet	31/31A/31A ER
Learjet	35/35A/36/36A
Learjet	40/45
Mitsubishi	Mu-300 Diamond
Raytheon	390 Premier
Raytheon Hawker	400/400 XP
Raytheon Hawker	600
Sabreliner	40/60
Sabreliner	75A
Sabreliner	80
Sabreliner	T-39

Airplanes that Make Up the remaining 25 Percent of the General Aviation Airplane Fleet

Manufacturer	Model
Bae	Corporate 800/1000
Bombardier	600 Challenger
Bombardier	601/601-3A/3ER Challenger
Bombardier	604 Challenger
Bombardier	BD-100 Continental
Cessna	S550 Citation S/II
Cessna	650 Citation III/IV
Cessna	750 Citation X
Dassault	Falcon 900C/900EX
Dassault	Falcon 2000/2000EX
Israel Aircraft Industries (IAI)	Astra 1125
IAI	Galaxy 1126
Learjet	45 XR
Learjet	55/55B/55C
Learjet	60
Raytheon/Hawker	Horizon
Raytheon/Hawker	800/800 XP
Raytheon/Hawker	1000
Sabreliner	65/75

Note: Airplanes in tables 3-1 and 3-2 combine to comprise 100% of the fleet.

Appendix E
Agency Coordination Letters

Steamboat Springs
Airport Master Plan

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

August 8, 2007 ACI# 055761

Mr. Phillips Sedgwick
U.S. Army Corps of Engineers
400 Rood Avenue Room 142
Grand Junction, CO 81501-2563

RE: Steamboat Springs Airport Master Plan

Dear Mr. Sedgwick:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Steamboat Springs Airport in Steamboat Springs, CO. To assist us in preparing this Airport Master Plan and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning the possibility of proposed development actions impacting any wetlands or waters of the U.S.

Enclosed for your reference are a location map, a vicinity map and a drawing of the proposed improvements to the Steamboat Springs Airport. Please forward any comments at your earliest convenience. Please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

ARMSTRONG CONSULTANTS, INC.

Justin Pietz

Justin Pietz
Airport Planner

Enclosures

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

August 8, 2007 ACI# 055761

Ms. Georgianna Contiguglia
Colorado Historical Society
1300 Broadway
Denver, Colorado 80203-2137

RE: Steamboat Springs Airport Master Plan

Dear Ms. Contiguglia:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Steamboat Springs Airport in Steamboat Springs, CO. To assist us in preparing this Airport Master Plan and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning the possibility of proposed development actions impacting any historical, cultural and archeological resources.

Enclosed for your reference are a location map, a vicinity map and a drawing of the proposed improvements to the Steamboat Springs Airport. Please forward any comments at your earliest convenience. Please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

ARMSTRONG CONSULTANTS, INC.

Justin Pietz

Justin Pietz
Airport Planner

Enclosures

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

August 8, 2007 ACI# 055761

Mr. Al Pfister
U.S. Fish and Wildlife Service
746 Horizon Drive Building B
Grand Junction, CO 81506-3946

RE: Steamboat Springs Airport Master Plan

Dear Mr. Pfister:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Steamboat Springs Airport in Steamboat Springs, CO. To assist us in preparing this Airport Master Plan and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning the possibility of proposed development actions impacting any area threatened or endangred species.

Enclosed for your reference are a location map, a vicinity map and a drawing of the proposed improvements to the Steamboat Springs Airport. Please forward any comments at your earliest convenience. Please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

ARMSTRONG CONSULTANTS, INC.

Justin Pietz

Justin Pietz
Airport Planner

Enclosures

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

August 8, 2007 ACI# 055761

Mr. Steve Gunderson
Colorado Department of Public Health and Environment
Water Quality Control Division
4300 Cherry Creek Drive S.
Denver, Colorado 82046-1530

RE: Steamboat Springs Airport Master Plan

Dear Mr. Gunderson:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Steamboat Springs Airport in Steamboat Springs, CO. To assist us in preparing this Airport Master Plan and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning the possibility of proposed development actions impacting water quality.

Enclosed for your reference are a location map, a vicinity map and drawing of the proposed improvements to the Steamboat Springs Airport. Please forward any comments at your earliest convenience. Please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

ARMSTRONG CONSULTANTS, INC.

Justin Pietz

Justin Pietz
Airport Planner

Enclosures

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

August 8, 2007 ACI# 055761

Mr. Paul Tourangeau
Colorado Department of Public Health and Environment
Air Pollution Control Division/APCD-SS-B1
4300 Cherry Creek Drive S.
Denver, Colorado 80246-1530

RE: Steamboat Springs Airport Master Plan

Dear Mr. Tourangeau:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Steamboat Springs Airport in Steamboat Springs, CO. To assist us in preparing this Master Plan and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning potential impacts to air quality and any permitting requirements.

Enclosed for your reference are a location map, a vicinity map and a drawing of the proposed improvements to the Steamboat Springs Airport. Please forward any comments at your earliest convenience. Please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

ARMSTRONG CONSULTANTS, INC.

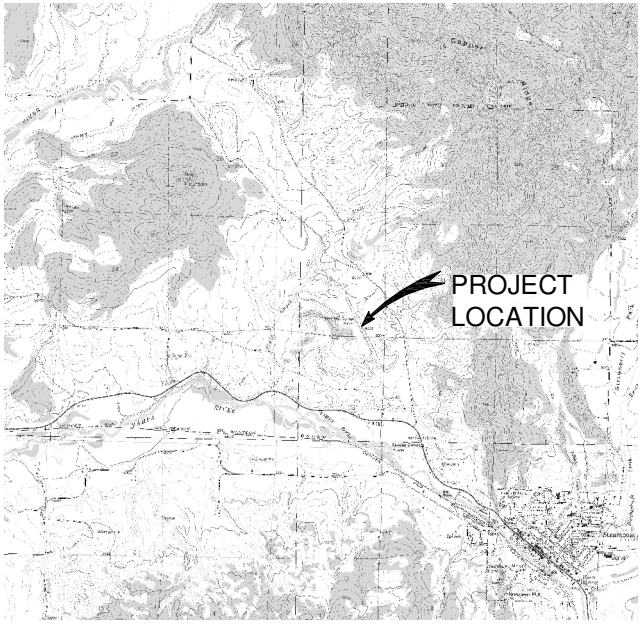
Justin Pietz

Justin Pietz
Airport Planner

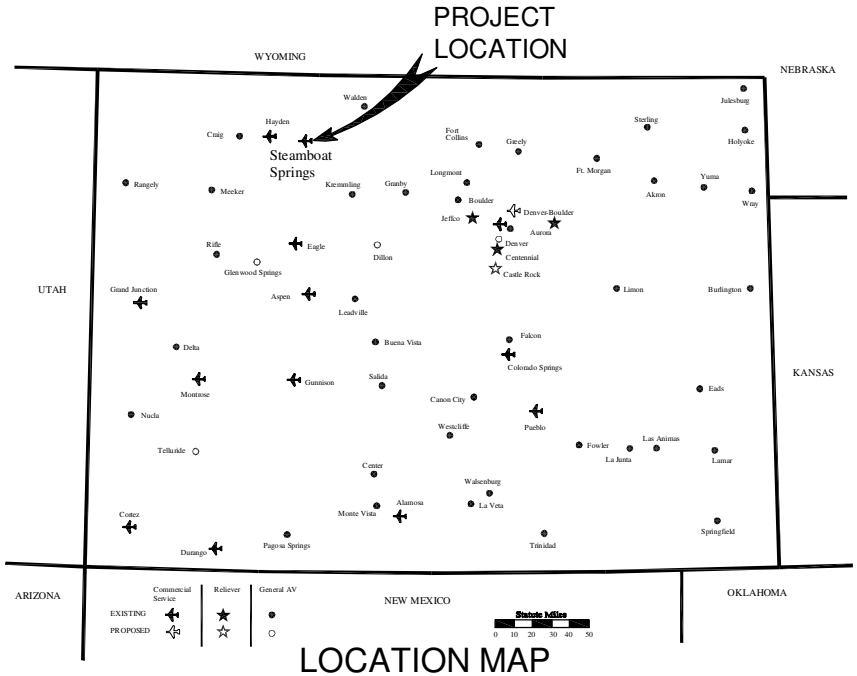
Enclosures

STEAMBOAT SPRINGS AIRPORT
BOB ADAMS FIELD

STEAMBOAT SPRINGS, COLORADO



VICINITY MAP

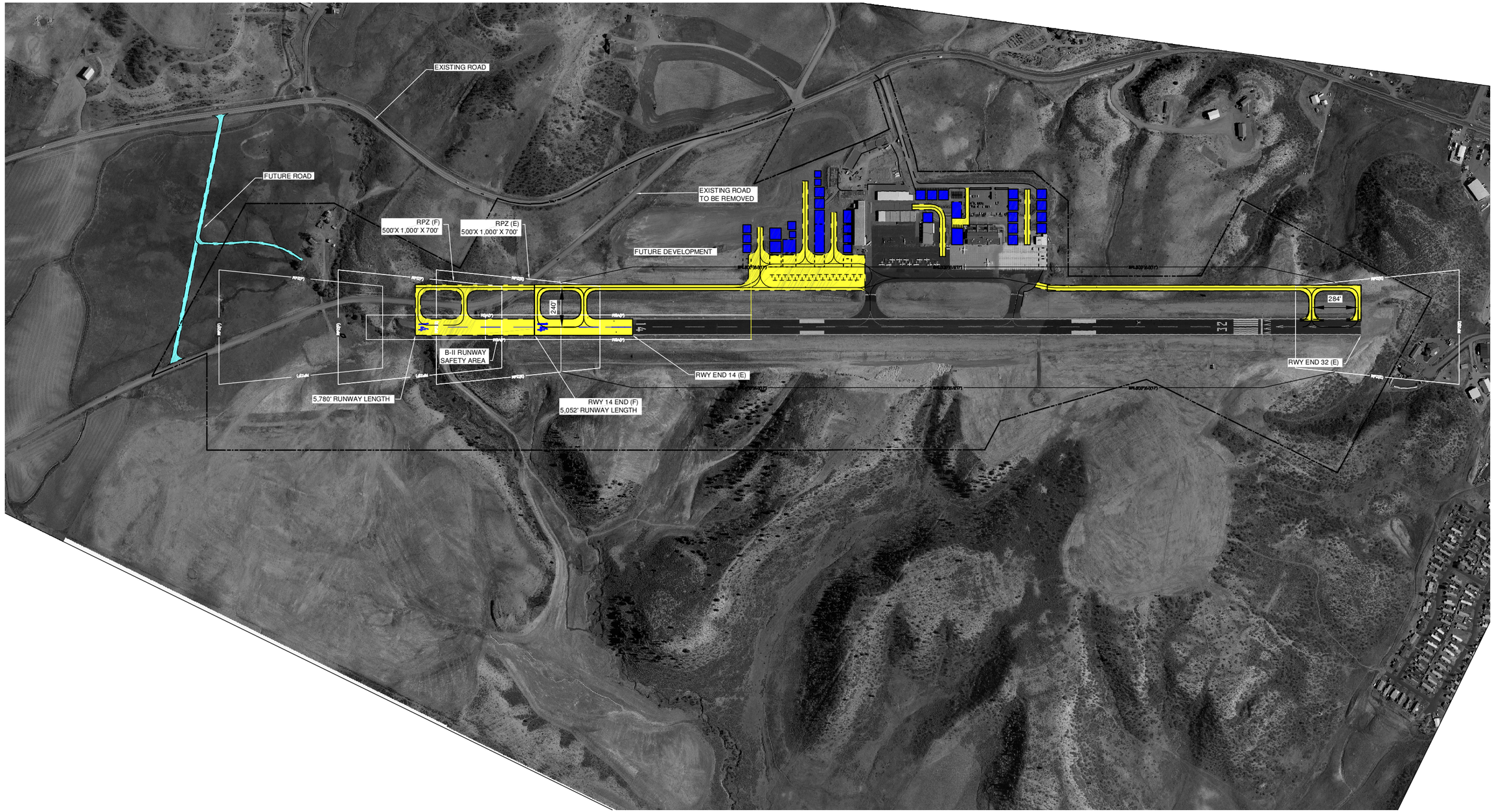


LOCATION MAP

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

861 Rood Avenue
Grand Junction, CO 81501
ph: 970.242.0101 fax: 970.241.1769
www.armstrongconsultants.com

5761501



0 300 600

SCALE IN FEET

LEGEND

= AREA OF NEW ASPHALT FOR RUNWAY EXTENSION, TAXIWAY, & BYPASS TAXIWAYS

= EXISTING AIRPORT PROPERTY LINE

= FUTURE ROAD

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

861 Rood Avenue
Grand Junction, CO 81501
ph: 970.242.0101 fax: 970.241.1769

www.armstrongconsultants.com

STEAMBOAT SPRINGS AIRPORT
STEAMBOAT SPRINGS, CO.

RECOMMENDED DEVELOPMENT CONCEPTS
FIGURE 4-18

SCALE:	AS SHOWN	DATE:	05.09.07
DRAWN:	BKR	FILE:	5761800
CHK'D:	JZP	JOB NO.:	065761

Appendix F
Agency Response Letters

Steamboat Springs
Airport Master Plan

orig: Justin
cc: Dennis
1 with

RECEIVED SEP 04 2007

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/CO:FAA
TAILS 65413-2007-SL-0224

August 31, 2007

Justin Pietz
Armstrong Consultants, Inc.
861 Rood Avenue
Grand Junction, Colorado 81501

Dear Mr.Pietz:

The U.S. Fish and Wildlife Service (Service) reviewed your letter received August 9, 2007, regarding information on federally listed threatened or endangered species in the vicinity of the Steamboat Springs Airport, Routt County, Colorado.

The Service provides the following list of federally listed threatened or endangered species, and candidates for potential future listing, that occur in or could be affected by activities in Routt County.

Bonytail*	Gila elegans	E
Canada lynx	Lynx canadensis	T
Colorado pikeminnow*	Ptychocheilus lucius	E
Humpback chub*	Gila cypha	E
Razorback sucker*	Xyrauchen texanus	E
Yellow-billed cuckoo	Coccyzus americanus	C

(T = federally-listed threatened; E = federally-listed endangered; C = a Federal candidate species)

The list above was compiled from an inventory for Routt County, and therefore some or all of the species may not presently occupy or use the proposed project area. If you determine that a species listed above is not present, and/or that no habitats for the species exist in the project area, then you may arrive at a "no effect" finding for that species.

The four federally-listed fishes are included on the list in the event that project actions cause any measurable water depletions to the Upper Colorado River Basin (including the Yampa River), and therefore affect endangered fishes or their critical habitat that occur downstream in the Yampa River.

Please note that the bald eagle was removed from the list of federally listed threatened species, effective August 8, 2007, but the species will continue to be protected by the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act. Under the Migratory Bird Treaty Act, it is illegal to pursue, hunt, take, capture, kill, possess, sell, barter, purchase, export, or import

migratory birds, their parts, nests or eggs, except as permitted by regulation. "Take" is defined under the Migratory Bird Treaty Act as "pursue, hunt, shoot, wound, kill, trap, capture, possess, or collect." The Bald and Golden Eagle Protection Act prohibits the take, possession, sale, purchase, barter, offer to sell, purchase, or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16U.S.C 668(a); 50 CFR 22). "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" a bald or golden eagle. The term "disturb" under the Bald and Golden Eagle Protection Act was recently defined via a final rule published in the Federal Register on June 5, 2007 (72 Fed. Reg. 31332). "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Regarding Federal candidates for official listing as threatened or endangered, these species presently have no legal protection under the Endangered Species Act of 1973, as amended, but it is within the spirit of the Act to consider project impacts to these potentially sensitive species. We also wish to make you aware of their potential presence because of the possibility that a candidate species could be proposed or listed prior to the time that all actions related to the project are completed.

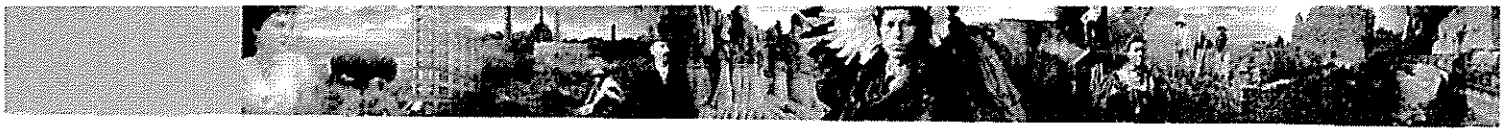
If the Service can be of further assistance, please contact Patty Gelatt at the letterhead address or (970) 243-2778, extension 26.

Sincerely,

Allan R. Pfister

Allan R. Pfister
Western Colorado Supervisor

PGelatt:FAASteamboatSpringsAirportSpcLst.doc:083107



OFFICE *of* ARCHAEOLOGY *and* HISTORIC PRESERVATION

orig - incoming
scans - Justin
- Dennis

September 6, 2007

RECEIVED SEP 10 2007

Justin Pietz
Airport Planner
Armstrong Consultants, Inc.
861 Rood Avenue
Grand Junction, CO 81501

Re: Steamboat Springs Airport Updated Master Plan (CHS #50795)

Dear Mr. Pietz,

Thank you for your correspondence dated August 8, 2007 (received by our office on August 14) regarding the project identified above which will require the Federal Aviation Administration's (FAA) compliance with National Environmental Policy Act (NEPA).

In order to determine the effect of the proposed project on cultural resources, we recommend that you coordinate your NEPA studies with the cultural resource studies required under Section 106 of the National Historic Preservation Act (NHPA). Per 36 CFR 800.8, "Federal agencies are encouraged to coordinate compliance with Section 106 and the procedures in this part with any steps taken to meet the requirements of the National Environmental Policy Act." Also, Section 110 of the National Historic Preservation Act states that Federal agencies should "coordinate with the earliest phases of any environmental review carried out under the National Environmental Policy Act."

The findings from the Section 106 studies can inform the NEPA studies, such as including mitigation measures identified under Section 106 into the NEPA decision document. Once we receive the Section 106 studies, we will be able to fully complete our reviews under both NHPA and NEPA. Additional information regarding the Section 106 process is available on our website at http://www.coloradohistory-oahp.org/FAQ/106.htm.

A search of the Colorado Cultural Resource Inventory indicated that no surveys for cultural resources have been conducted within the areas proposed for future construction and no cultural resources have been recorded therein. However, our files contain incomplete information for this area, as most of Colorado has not yet been inventoried for cultural resources. As a result, there is the possibility that as yet unidentified cultural resources exist within this area. Consequently, we recommend a cultural resources survey in locations of proposed construction that have not been disturbed by previous airport construction to determine if cultural resources which may be eligible for the National Register of Historic Places (NRHP) are present. A list of consultants qualified to perform such a survey is available on our website at http://coloradohistory-oahp.org/publications/pubs/1502.pdf. Upon its completion, please provide our office with the consultant's cultural resources inventory report and appropriate documentation so we may review them for adequacy and provide comments regarding determinations of NRHP eligibility and project effect.

COLORADO HISTORICAL SOCIETY
1300 BROADWAY DENVER COLORADO 80203 TEL 303/866-3395 FAX 303/866-2711 www.coloradohistory-oahp.org

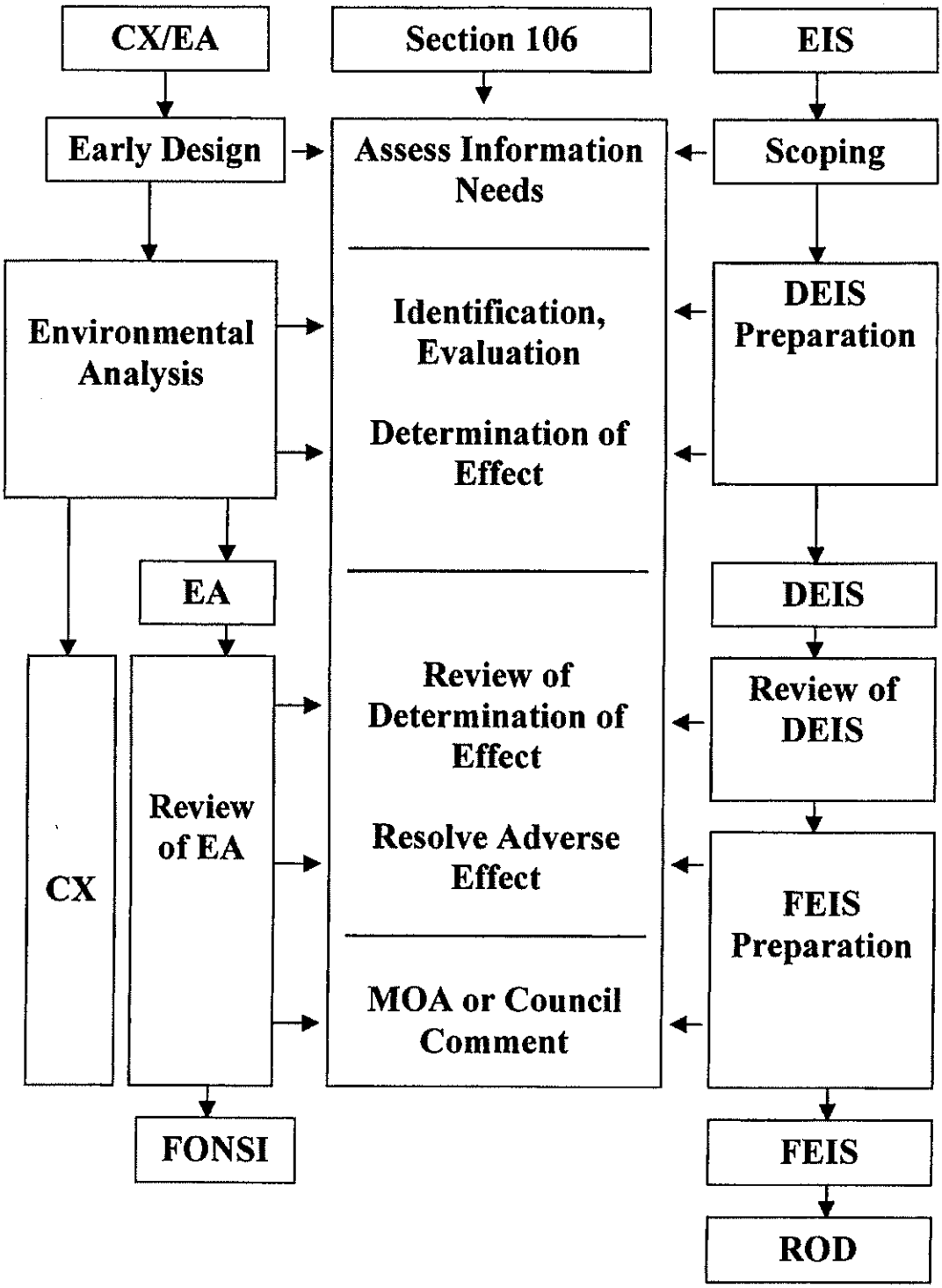
Please note that under the process established for the protection of historic properties from adverse effects as a result of federal undertakings the lead agency official remains legally responsible for all required findings and determinations if the services of a consultant have been utilized for the purpose of obtaining recommendations regarding NRHP eligibility and project effect (36 CFR 800.2(a)(3)) or if an applicant for federal assistance has been authorized by the lead agency to initiate consultation with the State Historic Preservation Officer (36 CFR 800.2(c)(4)). In future correspondence, please identify the FAA point of contact for the proposed project.

We have enclosed a flow chart that explains the coordination between Section 106 and NEPA. If we may be of further assistance, please contact Greg Wolff, Section 106 Compliance Coordinator, at (303) 866-4674.

Sincerely,

Georgianna Contiguglia
State Historic Preservation Officer
GC/GAW

COORDINATION BETWEEN NEPA AND SECTION 106



The Public and Consulting Parties must be notified and given the opportunity to comment during each step of the Section 106 review process.

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

861 Rood Avenue
Grand Junction, CO 81501
www.armstrongconsultants.com

Phone: 970-242-0101
Fax: 970-241-1769

Memo

To: Justin Pietz

From: Nathan Green U.S. Army Corps of Engineers

Date: 8/21/07

Subject: Steamboat Springs Wetland Impacts

The United States Army Corps of Engineers (USACE) called regarding the proposed development shown for the airport determined during the Airport Master Plan. The USACE stated that any development taking place over any drainage would require a wetlands delineation to determine if any impacts would occur. The USACE also stated the a permit would be required for crossing any drainages in the vicinity of the airport.

From: "Peacock, Charles - Craig, CO" <charles.peacock@co.usda.gov>
To: <justin@armstrongconsultants.com>
Date: 7/9/2007 2:01:17 PM
Subject: FW: Steamboat Springs Colorado

Mr. Pietz
Most of the soils in Routt County, including those around the Steamboat Airport, are considered to be in a "cryic" soil temperature regime (very cold). This precludes them from being designated as Prime Farmland. There is an area along the Yampa River east of Craig that is in a slightly warmer temperature regime. That area includes the Yampa Valley Regional Airport near Hayden. Those soils would have to be scrutinized more closely as possible Prime Farmland.
Please let me know if you have any more questions.

Chuck Peacock
Soil Scientist/Project Leader
Craig Soil Survey Office
USDA-NRCS
970-824-3476 x-108

-----Original Message-----
From: Justin Pietz
To: Park, Steve - Lakewood, CO
Sent: Tue Jul 03 15:15:27 2007
Subject: Steamboat Springs Colorado

Steven,

I am looking for information on prime and unique farmlands surrounding the Steamboat Springs Airport, located in Steamboat Springs Colorado. Any information would be great.

Sincerely,

Justin Z. Pietz
Airport Planner

ARMSTRONG CONSULTANTS, INC.
861 Rood Ave.
Grand Junction, CO 81501
Phone: 970 242-0101
Fax: 970 241-1769

From: "Andrew Poirot" <Apoirot@smtpgate.dphe.state.co.us>
To: <justin@armstrongconsultants.com>
Date: 10/23/2007 2:17:06 PM
Subject: Airport Master Plan Update for City of Steamboat Springs

I have reviewed the information provided for the Airport Master Plan Update for the proposed improvements to the City of Steamboat Springs Airport and have the following comments:

1) Any disturbed ground surface from construction activity that exceeds one acre will require a construction stormwater permit. Details on obtaining such a permit can be found on the Division's website at:
http://www.cdphe.state.co.us/wq/PermitsUnit/stormwater/index.html
or you may call the department directly at 303-692-3500 and ask for the Permit Section.

2) As we discussed the Airport currently has a de-icing plan that will not change drastically with the airport expansion. The airport currently has the capability to use de-icing fluids, but chooses not to. If this policy changes in the future and the facility collects de-icing fluid for disposal, it should be properly disposed of and coordinated with the appropriate facility.

If you have further questions, please feel free to contact me at 970-879-7479.

Andy Poirot
District Engineer
Steamboat Springs Office
(970)879-7479

CC: "Thomas Schaffer" <trschaff@smtpgate.dphe.state.co.us>

Appendix G
Overlay Zoning Ordinance

Steamboat Springs
Airport Master Plan

Steamboat Springs Airport Draft Overlay Zoning Ordinance Disclaimer

The following Draft Airport Overlay Zone has been provided in conjunction with the Steamboat Springs Airport Master Plan. The Overlay Zone Ordinance is a sample ordinance to provide guidance to the City of Steamboat Springs. It is recommended that the City of Steamboat Springs take the sample ordinance and revise it to match the City's format. The adoption of any Airport Overlay Zone shall be accomplished in accordance with the standard City zoning adoption process.

DRAFT

STEAMBOAT SPRINGS, COLORADO
STEAMBOAT SPRINGS AIRPORT
OVERLAY ZONING ORDINANCE

An ordinance regulating and restricting the height of structures and objects of natural growth, and otherwise regulating the use of property, in the vicinity of Steamboat Springs Airport by creating the appropriate zones and establishing the boundaries thereof; providing for changes in the restrictions and boundaries of such zones; defining certain terms used herein, referring to Steamboat Springs Airport FAR Part 77 Airspace Drawing and Off Airport Land Use Drawing which are incorporated in and made a part of this ordinance; providing for enforcement; establishing a board of adjustment; and imposing penalties.

It is hereby found that an obstruction has the potential for endangering the lives and property of users of the Steamboat Springs Airport and property or occupants of land in its vicinity; that an obstruction may affect existing and future instrument approach minimums at the Steamboat Springs Airport; and that an obstruction may reduce the size of areas available for the landing, takeoff and maneuvering of aircraft, thus tending to destroy or impair the utility of the Steamboat Springs Airport and the public investment therein. Accordingly, it is declared:

1. That the creation or establishment of an obstruction has the potential of being a public nuisance and may injure the region served by the Steamboat Springs Airport.

2. That the encroachment of noise sensitive or otherwise incompatible land uses within certain areas as set forth herein below may endanger the health, safety and welfare of the owners, occupants or users of the land; and

3. That it is necessary in the interest of the public health, public safety and general welfare that the creation or establishment of obstructions that are a hazard to air navigation be prevented; and

4. That the prevention of these obstructions should be accomplished, to the extent legally possible, by the exercise of the police power without compensation; and

5. That the Steamboat Springs Airport fulfills an essential community purpose.

It is further declared that the prevention of the creation of establishment of hazards to air navigation, the elimination, removal, alteration or mitigation of hazards to air navigation, or the marking and lighting of construction are public purposes for which a political subdivision may raise and expend public funds and acquire land or interests in land.

It is hereby ordained by the City of Steamboat Springs as follows:

SECTION I
SHORT TITLE

This Ordinance shall be known and may be cited as the Steamboat Springs Airport Overlay Zoning Ordinance.

SECTION II
DEFINITIONS

As used in this Ordinance, unless the context otherwise requires:

1. AIRPORT – Steamboat Springs Airport.

2. AIRPORT ELEVATION - The highest point of an airport's usable landing area measured in feet above mean sea level.

3. APPROACH SURFACE - A surface longitudinally centered on the extended runway centerline, extending outward and upward from the end of the primary surface and at the same slope as the approach zone height limitation slope set forth in Section IV of this Ordinance. In plan the perimeter of the approach surface coincides with the perimeter of the approach zone.

4. APPROACH, TRANSITIONAL, HORIZONTAL AND CONICAL ZONES - These zones are set forth in Section III of this Ordinance.

5. BOARD OF ADJUSTMENT - A Board consisting of _____#_____ members appointed by the Steamboat Springs City Council.

6. CONICAL SURFACE - A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

7. HAZARD TO AIR NAVIGATION - An obstruction determined to have a substantial adverse effect on the safe and efficient utilization of the navigable airspace.

8. HEIGHT - For the purpose of determining the height limits in all zones set forth in this Ordinance and shown on the zoning map, the datum shall be mean sea level elevation unless otherwise specified.

9. HELIPORT PRIMARY SURFACE - The primary surface coincides in size and shape with the designated takeoff and landing area of a heliport. This surface is a horizontal plane at the elevation of the established heliport elevation.

10. HORIZONTAL SURFACE - A horizontal plane 150 feet above the established airport elevation, the perimeter of which in plan coincides with the perimeter of the horizontal zone.

11. LARGER THAN UTILITY RUNWAY - A runway that is constructed for and intended to be used by propeller driven aircraft of greater than 12,500 pounds maximum gross weight and jet powered aircraft.

12. NAVD 88 - North American Vertical Datum 1988. All elevations in this ordinance are referenced to the 1988 North American Vertical Datum.

13. NONCONFORMING USE - Any pre-existing structure, object of natural growth, or use of and which is inconsistent with the provisions of this Ordinance or an amendment thereto.

14. NONPRECISION INSTRUMENT RUNWAY - A runway having an existing instrument approach procedure utilizing air navigation facilities with only

horizontal guidance, or area type navigation equipment, for which a straight-in nonprecision instrument approach procedure has been approved or planned. It also means a runway for which a nonprecision approach system is planned and is so indicated on an approved Airport Layout Plan or any other planning document.

15. OBSTRUCTION - Any structure, growth or other object, including a mobile object, which exceeds a limiting height set forth in Section IV of this Ordinance.

16. PERSON - An individual, firm, partnership, corporation, company, association, joint stock association or governmental entity; includes a trustee, a receiver, an assignee or a similar representative of any of them.

17. PRECISION INSTRUMENT RUNWAY - A runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS), a Precision Approach Radar (PAR) or a Global Positioning System (GPS). It also means a runway for which a precision approach system is planned and is so indicated on an approved airport layout plan or any other planning document.

18. PRIMARY SURFACE - A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; for military runways or when the runway has no specially prepared hard surface or planned hard surface, the primary surface ends at each end of that runway. The width of the primary surface is set forth in Section III of this Ordinance. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

19. RUNWAY - A defined area on an airport prepared for landing and takeoff of aircraft along its length.

20. STRUCTURE - An object, including mobile object, constructed or installed by man, including but without limitation, buildings, towers, cranes, smokestacks, earth formation and overhead transmission lines.

21. TRANSITIONAL SURFACES - These surfaces extend outward at 90 degree angles to the runway centerline and the runway centerline extended at a slope of seven (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces to where they intersect the horizontal and conical surfaces. Transitional surfaces for those portions of the precision approach surfaces, which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at 90 degree angles to the extended runway centerline.

22. TREE - Any object of natural growth.

23. UTILITY RUNWAY - A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

24. VISUAL RUNWAY - A runway intended solely for the operation of aircraft using visual approach procedures.

SECTION III
AIRPORT HEIGHT RESTRICTION ZONES

In order to carry out the provisions of this ordinance, there are hereby created and established certain zones which include all of the land lying beneath the approach surfaces, transitional surfaces, horizontal surfaces and conical surfaces as they apply to the Steamboat Springs Airport. Such zones are shown on the Steamboat Springs Airport Federal Aviation Regulation (FAR) Part 77 Airspace Drawing. Three (3) original, official, and identical copies of the FAR Part 77 Airspace Drawing reflecting the boundaries of the airport height restriction overlay zoning districts of the City of Steamboat Springs, Colorado are hereby adopted, and Steamboat Springs City Clerk is hereby authorized to sign and attest each map as the official Steamboat Springs Airport FAR Part 77 Airspace Drawing of the City of Steamboat Springs, Colorado, and such maps shall be filed and maintained as follows:

1. One (1) copy shall be filed for permanent record in the office of the Steamboat Springs City Clerk and shall be designated as Exhibit 1. This copy shall not be changed in any manner.

2. One (1) copy shall be filed in the office of the Director of Planning and shall be designated as Exhibit 2. This copy shall be maintained by the Planning Department by posting thereon all subsequent changes and amendments.

3. One (1) copy shall be filed in the office of the Airport Manager and shall be designated as Exhibit 3. This copy shall be maintained by the Planning Department by posting thereon all subsequent changes and amendments.

Each portion of an area located in more than one (1) of the following zones shall be evaluated independently according to the zone in which it is located. The various zones are hereby established and defined as follows:

1. PRECISION INSTRUMENT RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY) – The inner edge of this approach zone coincides with the width of the primary surface and is 1,000 feet wide. The approach zone expands outward uniformly to a width of 16,000 feet at a horizontal distance of 50,000 feet. Its centerline is the continuation of the centerline of the runway.

2. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY) - The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 3,500 feet at a horizontal distance 10,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

3. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (UTILITY AIRCRAFT) – The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 2,000 feet at a horizontal distance 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

4. VISUAL RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY) – The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach surface expands uniformly to a width of 1,500 feet at a horizontal distance 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

5. VISUAL RUNWAY APPROACH ZONE (UTILITY AIRCRAFT) - The inner edge of this approach zone coincides with the width of the primary surface and is 250 feet wide. The approach surface expands uniformly to a width of 1,250 feet at a horizontal distance of 5,000 feet from the primary surface. The centerline of the approach zone is a continuation of the centerline of the runway.

6. TRANSITIONAL ZONE - The transitional zones are the areas beneath the transitional surfaces.

7. HORIZONTAL ZONE - The horizontal zone is established by swinging arcs of 5,000 or 10,000 feet radii from the center of each end of the primary surface of the primary runway and connecting the adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones. The horizontal zone was constructed with 10,000 feet radii.

8. CONICAL ZONE - The conical zone is established as the area that commences at the periphery of the horizontal zone and extends outward there from a horizontal distance of 4,000 feet.

SECTION IV
AIRPORT ZONE HEIGHT LIMITATIONS

Except as otherwise provided in this ordinance, no structure shall be erected, altered, or maintained, and no tree shall be allowed to grow in any zone created by this ordinance to a height in excess of the applicable height limit herein established for such zone. Such applicable height limitations are hereby established for each of the zones in question as follows:

1. PRECISION INSTRUMENT RUNWAY APPROACH ZONE – Slopes fifty (50) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline. Then slopes forty (40) feet outward for each foot upward beginning at the end of and at the same elevation as the first 10,000 feet and extending to a horizontal distance of 40,000 feet along the extended runway centerline.

2. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY) - Slopes thirty-four (34) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline.

3. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (UTILITY AIRCRAFT) – Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

4. VISUAL RUNWAY APPROACH ZONE - Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

5. TRANSITIONAL ZONE - Slopes seven (7) feet outward for each foot upward

beginning at the sides of and at the same elevation as the primary surface and the approach surface, and extending to a height of 150 feet above the airport elevation. In addition to the foregoing, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending to where they intersect the conical surface. Where the precision instrument runway approach zone projects beyond the conical zone, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending a horizontal distance of 5,000 feet measured at 90 degree angles to the extended runway centerline.

6. HORIZONTAL ZONE - Established at 150 feet above the airport elevation.

7. CONICAL ZONE - Slopes twenty (20) feet outward for each foot upward beginning at the periphery of the horizontal zone and at 150 feet above the airport elevation and extending to a height of 350 feet above the airport elevation.

SECTION V
COMPATIBLE LAND USE REGULATIONS

1. AIRPORT COMPATIBLE LAND USE OVERLAY ZONING DISTRICTS - For the purpose of regulating the development of noise sensitive land uses to promote compatibility between the Airport and the surrounding land uses, to protect the Airport from incompatible development and to promote the health, safety and general welfare of property users, the controlled area of Steamboat Springs Airport is divided into Airport Compatible Land Use Overlay Zoning districts. The Airport Compatible Land Use Overlay Zoning districts established herein shall be known as:

Off Airport Land Use Zone Number	Zoning District Name
A	Airport Influence Zone (AIZ)
B	Traffic Pattern Zone (TPZ)
C	Approach Zone (AZ)
D	Runway Protection Zone (RPZ)

2. OFF AIRPORT LAND USE DRAWING

A. The boundaries of the Airport Compatible Land Use Overlay Zoning Districts set out herein are delineated upon the Steamboat Springs Airport Off Airport Land Use Drawing of the City of Steamboat Springs, Colorado, said Off Airport Land Use Drawing being adopted by reference and made a part of this chapter as fully as if the same were set forth herein in detail.

B. Three (3) original, official, and identical copies of the Off Airport Land Use Drawing reflecting the boundaries of the Airport Compatible Land Use Overlay Zoning districts of the City of Steamboat Springs, Colorado are hereby adopted, and the Steamboat Springs City Clerk is hereby authorized to sign and attest each map as the official Off Airport Land Use Drawing of the City of Steamboat Springs, Colorado, and such maps shall be filed and maintained as follows:

1) One (1) copy shall be filed for permanent record in the office of the Steamboat Springs City Clerk and shall be designated as Exhibit 1. This copy shall not be

changed in any manner.

2) One (1) copy shall be filed in the office of the Director of Planning and shall be designated as Exhibit 2. This copy shall be maintained by the Planning Department by posting thereon all subsequent changes and amendments.

3) One (1) copy shall be filed in the office of the Airport Manager and shall be designated as Exhibit 3. This copy shall be maintained by the Planning Department by posting thereon all subsequent changes and amendments.

3. AIRPORT COMPATIBLE LAND USE OVERLAY ZONING DISTRICT BOUNDARIES

A. The Airport Compatible Land Use Overlay Zoning District boundary lines shown on the official Off Airport Land Use Drawing shall be located and delineated along contour lines established for the Steamboat Springs Airport. Where uncertainty exists as to the boundaries of the Airport Compatible Land Use Overlay Zoning Districts as shown on the official Map, the following rules shall apply:

1) Boundaries shall be scaled from the nearest runway end shown on the map.

2) Boundaries shall be scaled from the nearest physical feature shown on the map.

3) Boundaries may be scaled from the nearest platted lot line as shown on the map.

4) Distances not specifically indicated on the original Off Airport Land Use Drawing shall be determined by a scaled measurement on the map.

B. Where physical features on the ground differ from the information shown on the official Off Airport Land Use Drawing or when there arises a question as to how or where a parcel of property is zoned and such questions cannot be resolved by the application of Section V-3A, the property shall be considered to be classified as the most restrictive Airport Compatible Land Use Overlay Zoning District.

C. Where a parcel of land lies within more than one (1) Airport Compatible Land Use Overlay Zoning District, the zone within which each portion of the property is located shall apply individually to each portion of the development.

4. USE OF LAND AND BUILDINGS

A. Within the Airport Compatible Land Use Overlay Zoning Districts as defined herein, no land shall hereafter be used and no structure or other object shall hereafter be erected, altered, converted or modified other than for those compatible land uses permitted by underlying comprehensive zoning districts, as specified in the City of Steamboat Springs Land Use Code. Additional land uses are prohibited in the Airport Compatible Land Use Overlay Zoning Districts, regardless of underlying zoning, as set forth in the Land Use Compatibility Table included in Attachment A.

B. Where any use of prohibited land and buildings set forth in Section V-4A conflicts with any use of land and buildings set forth in the City of Steamboat Springs Land Use Code, as an allowed use on the Zoning District Map, this chapter shall apply.

C. Section V-4 does not apply to property within the official boundaries of the airport.

D. Where specified on the Airport Compatible Land Use Table, the property owner shall dedicate, in advance of receiving a building permit, an aviation clear zone easement to the City of Steamboat Springs, Colorado. The purpose of this easement shall be to establish a maximum height restriction on the use of property and to hold the public harmless for any damages caused by noise, vibration, fumes, dust, fuel, fuel particles, or other effects that may be caused by the operation of aircraft landing at, taking off from, or operating on, or at, public airport facilities.

5. ADDITIONAL LAND USE REGULATIONS

A. Within the City of Steamboat Springs, Colorado the more restrictive of the City of Steamboat Springs Land Use Code or Section V-4A, shall apply to the development of all property covered by the Off Airport Land Use Drawing.

B. On property within the Off Airport Land Use Drawing jurisdiction, but outside the jurisdictional limits of the City of Steamboat Springs, Colorado, Section V-4A shall apply to formulate land use recommendations or responses to land use comment requests from other jurisdictions.

C. When a provision of this section conflicts with any airport height hazard restrictions, the most restrictive provision shall apply.

D. Notwithstanding any other provisions of this chapter or other chapter of the City of Steamboat Springs Land Use Code, no use may be made of land, water, or structures within any zone established by this chapter in such a manner as to create electrical interference with navigational signals or radio communication between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, or result in glare in the eyes of pilots using the airport; impair visibility in the vicinity of the airport; create bird strike hazards, or otherwise in any way endanger or interfere with the landing, taking off or flight operations of aircraft utilizing the airport.

E. When a subdivision plat is required for any property within an Airport Compatible Land Use Overlay Zoning District or within an area shown on the FAR Part 77 Airspace Drawing for the Steamboat Springs Airport, the property owner shall dedicate an aviation hazard easement to the City of Steamboat Springs over and across that property. This easement shall establish a height restriction on the use of the property and hold the public harmless from any damages caused by noise, vibration, fumes, dust, fuel, fuel particles, or other effects that may be caused by the operation of aircraft taking off, landing, or operating on or near the Steamboat Springs Airport.

SECTION VI
NONCONFORMING USES

1. REGULATIONS NOT RETROACTIVE - The regulations prescribed by this ordinance shall not be construed to require the removal, lowering, or other change or alteration of any structure or tree not conforming to the regulations as of the effective date of this ordinance, or otherwise interfere with the continuance of nonconforming use. Nothing contained herein shall require any change in the construction, alteration, or intended use of any

structure, the construction or alteration of which was begun prior to the effective date of this ordinance, and is diligently prosecuted. Nonconforming land uses existing as of the effective date of this ordinance may be modified such that 1) only existing structures may be enlarged or expanded; 2) that they do not result in any greater violation of height restrictions; and 3) a variance in accordance with Section VII-4 is obtained.

2. MARKING AND LIGHTING - Notwithstanding the preceding provision of this section, the owner of any existing nonconforming structure or tree is hereby required to permit the installation, operation, and maintenance thereon of such markers and lights as shall be deemed necessary by the City of Steamboat Springs to indicate to the operators of aircraft in the vicinity of the airport the presence of such airport obstruction. Such markers and lights shall be installed, operated and maintained at the expense of the Steamboat Springs Airport.

SECTION VII
PERMITS

1. FUTURE USES - Except as specifically provided in A and B hereunder, no material change shall be made in the use of land, no structure shall be erected or otherwise established, and no tree shall be planted in any zone hereby created unless a permit therefore shall have been applied for and granted. Each application for a permit shall indicate the purpose for which the permit is desired, with sufficient particularity to permit it to be determined whether the regulating use, structure, or tree would conform to the regulations herein prescribed. An FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, shall accompany each application. If such determination is in the affirmative, the permit shall be granted. No permit for a use inconsistent with the provisions of this ordinance shall be granted unless a variance has been approved in accordance with Section VII, 4.

   A. In the area lying within the limits of the approach zone, transition zone, horizontal zone, and conical zone, no permit shall be required by this ordinance for any tree or structure less than 200 feet above ground level which is also lower than an imaginary surface extending outward and upward at a slope of 100 feet horizontal for each 1 foot vertical beginning at the closest point of the closest runway.

   B. Nothing contained in any of the foregoing exceptions shall be construed as permitting or intending to permit any construction or alteration of any structure, or growth of any tree in excess of any of the height limits established by this ordinance.

2. EXISTING USES - No permit shall be granted that would allow the establishment or creation of any obstruction or permit a nonconforming use, structure, or tree to become a greater hazard to air navigation than it was on the effective date of this ordinance or any amendments thereto or than it is when the application for a permit is made. Except as indicated, all applications for such a permit shall be granted.

3. NONCONFORMING USES ABANDONED OR DESTROYED - Whenever the City of Steamboat Springs determines that a nonconforming tree or structure has been abandoned or more than 80 percent torn down, physically deteriorated or decayed, no permit shall be granted that would allow such structure or tree to exceed the applicable height limit or otherwise deviate from the zoning regulations.

4. VARIANCES - Any person desiring to erect or increase the height of any structure, or permit the growth of any tree, or use property, not in accordance with the regulations

prescribed in this ordinance, may apply to the Board of Adjustment for a variance from such regulations. The application for variance shall be accompanied by a determination from the Federal Aviation Administration as to the effect of a proposal on the operation of air navigation facilities and the safe, efficient use of navigable airspace. Such variances shall be allowed where it is duly found that a literal application or enforcement of the regulations will result in unnecessary hardship and relief granted, will not be contrary to the public interest, will not create a hazard to air navigation, will do substantial justice, and will be in accordance with the spirit of this ordinance.

Additionally, no application for variance to the requirements of this ordinance may be considered by the Board of Adjustment unless a copy of the application has been furnished to the City of Steamboat Springs for advice as to the aeronautical effects of the variance. If the City of Steamboat Springs does not respond to the application within fifteen (15) days after receipt, the Board of Adjustment may act on its own to grant or deny said application.

5. OBSTRUCTION MARKING AND LIGHTING - Any permit or variance granted may, if such action is deemed advisable to effectuate the purpose of this ordinance and be reasonable in the circumstances, be so conditioned as to require the owner of the structure or tree in question to install, operate, and maintain, at the owner's expense, such markings and lights as condition may require in accordance with FAA provisions.

SECTION VIII
ENFORCEMENT

It shall be the duty of the City of Steamboat Springs to administer and enforce the regulations prescribed herein. Applications for permits and variances shall be made to the City of Steamboat Springs upon a form published for that purpose. Applications required by this ordinance to be submitted to the City of Steamboat Springs shall be promptly considered and granted or denied. Application for action by the Board of Adjustment shall be forthwith transmitted by the City of Steamboat Springs.

SECTION IX
BOARD OF ADJUSTMENT

1. There is hereby created a Board of Adjustment to have and exercise the following powers: (1) to hear and decide appeals from any order, requirements, decision, or determination made by the City of Steamboat Springs in the enforcement of this ordinance; (2) to hear and decide special exceptions to the terms of this ordinance upon which such Board of Adjustment under such regulations may be required to pass; and (3) to hear and decide specific variances.

2. The Board of Adjustment shall consist of members appointed by the City of Steamboat Springs and each shall serve for a term of _#__ years until a successor is duly appointed and qualified. Of the members first appointed one shall be appointed for a term of __#__ years. Members shall be removable by the appointing authority for cause, upon written charges, after a public hearing.

3. The Board of Adjustment shall adopt rules for its governance and in harmony with the provisions of this ordinance. Meetings of the Board of adjustment shall be held at the call of the chairperson and at such other times as the Board of Adjustment may determine. The chairperson or, in the absence of the chairperson, the acting chairperson may administer oaths and compel the attendance of witnesses. All hearings of the Board of Adjustment shall be public. The Board of Adjustment shall keep minutes of its proceedings showing the vote of each member upon each questions; or if absent or failing to vote,

indicating such fact, and shall keep records of its examinations and other official actions all of which shall immediately be filed in the office of the City of Steamboat Springs Planning and Zoning Department and on due cause shown.

4. The Board of Adjustment shall make written findings of facts and conclusions of law giving the facts upon which it acted and its legal conclusions from such facts in reversing, affirming, or modifying any order requirement, decision or determination which comes before it under the provisions of this ordinance.

5. The concurring vote of a majority of the members of the Board of Adjustment shall be sufficient to reverse any order, requirement, decision or determination of the City of Steamboat Springs or decide in favor of the application on any matter upon which it is required to pass under this ordinance, or to effect variation to this ordinance.

SECTION X
APPEALS

1. Any person aggrieved, or any taxpayer affected, by any decision of the City of Steamboat Springs made in the administration of the ordinance, may appeal to the Board of Adjustment.

2. All appeals hereunder must be taken within a reasonable time as provided by the rules of the Board of Adjustment, by filing with the City of Steamboat Springs a notice of appeal specifying the grounds thereof. The City of Steamboat Springs shall forthwith transmit to the Board of Adjustment all the papers constituting the record upon which the action appealed from was taken.

3. An appeal shall stay all proceedings in furtherance of the action appealed from unless the City of Steamboat Springs certifies to the Board of Adjustment, after the notice of appeal has been filed with it, that by reason of the facts stated in the certificate a stay would in the opinion of the City of Steamboat Springs cause imminent peril to life or property. In such case, proceedings shall not be stayed except by the order of the Board of Adjustment on notice to the City of Steamboat Springs and on due cause shown.

4. The Board of Adjustment shall fix a reasonable time for hearing appeals, give public notice and due notice to the parties in interest, and decide the same within a reasonable time. Upon the hearing, any party may appear in person or by agent or by attorney.

5. The Board of Adjustment may, in conformity with the provisions of this ordinance, reverse or affirm, in whole or in part, or modify the order, requirement, decision or determination appealed form and may make such order, requirement, decision or determination as may be appropriate under the circumstances.

SECTION XI
JUDICIAL REVIEW

Any person aggrieved, or any taxpayer affected, by any decision of the Board of Adjustment, may appeal to the Court of _____ a provided in Section _____ of Chapter _____ of the Public Laws of _____.

SECTION XII
PENALTIES

Each violation of this ordinance or of any regulations, order, or ruling promulgated hereunder shall constitute a misdemeanor and shall be punishable by a fine of not more than

_____ dollars or imprisonment for not more than _____ days or both; and each day a violation continues to exist shall constitute a separate offense.

SECTION XIII
CONFLICTING REGULATIONS

Where there exists a conflict between any of the regulations or limitations prescribed in this ordinance and any other regulations applicable to the same area, whether the conflict be with respect to the height of structures or trees, and the use of land, or any other matter, the more stringent limitation or requirements shall govern and prevail.

SECTION XIV
SEVERABILITY

If any of the provisions of this ordinance or the application thereof to any person or circumstances are held invalid, such invalidity shall not affect other provisions or applications of the ordinance which can be given effect without the invalid provision or application, and to this end, the provisions of this ordinance are declared to be severable.

SECTION XV
EFFECTIVE DATE

WHEREAS, the immediate operation of the provisions of this ordinance is necessary for the preservation of the public health, public safety, and general welfare, and emergency is hereby declared to exist, and this ordinance shall be in full force and effect from and after its passage by the City of Steamboat Springs and publication and posting as required by law. Adopted by this _____ day of _____, 20____.

ATTACHMENT A
LAND USE COMPATIBILITY TABLE

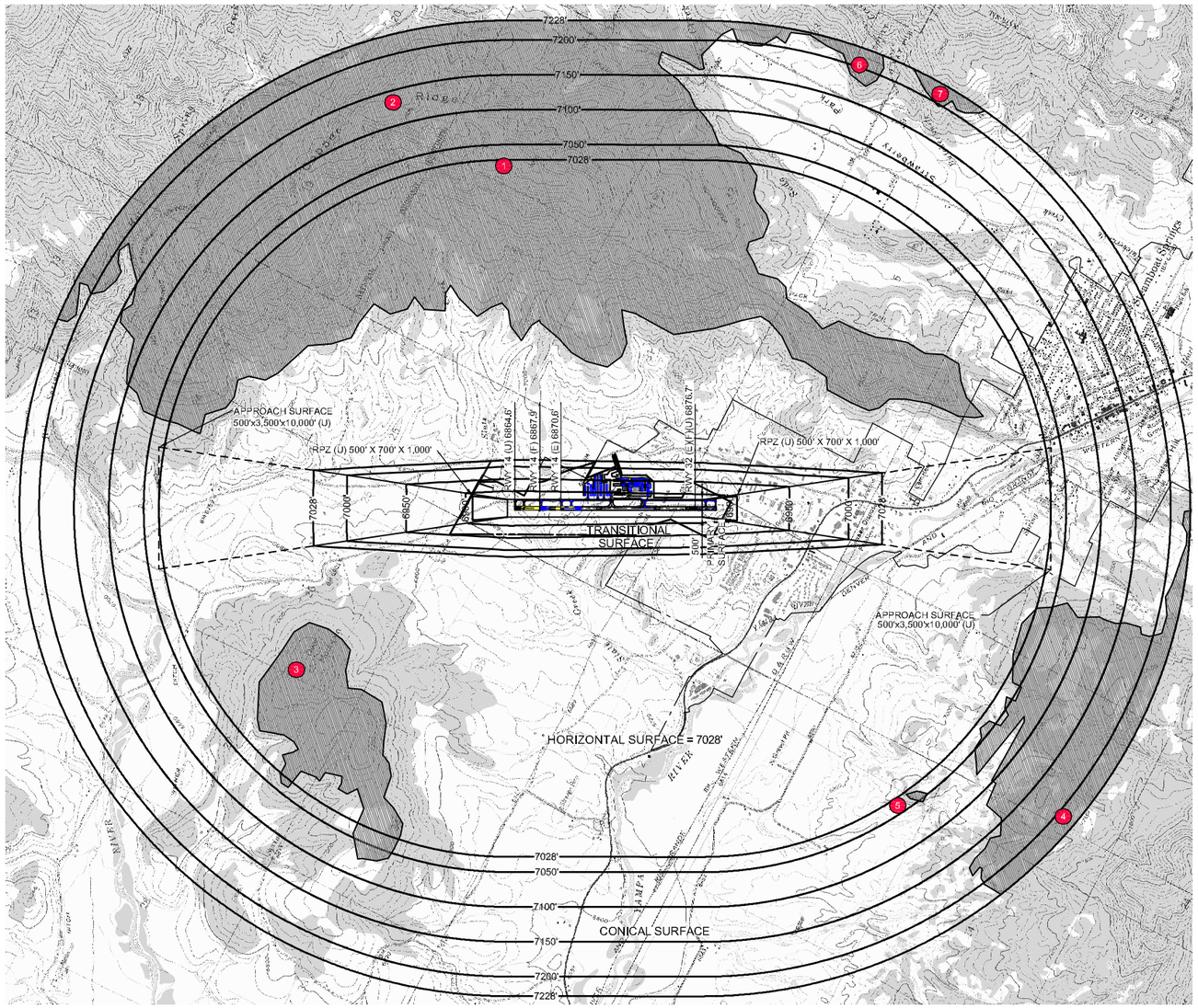
LAND USE CATEGORY	AIRPORT INFLUENCE ZONE (AIZ)	TRAFFIC PATTERN ZONE (TPZ)	APPROACH ZONE (AZ)	RUNWAY PROTECTION ZONE (RPZ)
RESIDENTIAL				
Single-Family, Nursing Homes, Mobile Homes, Multi-Family, Apartments, condominiums	+	o(1)	-(1,3)	--
PUBLIC				
Schools, Libraries, Hospitals	+	o(1)	-(3)	--
Churches, Auditoriums, Concert Halls	+	o(1)	-(3)	--
Transportation, Parking, Cemeteries	++	++	++	--
COMMERCIAL & INDUSTRIAL				
Offices, Retail Trade	++	+	o(3)	--
Service Commercial, Wholesale Trade, Warehousing, Light Industrial	++	+	o(3)	--
General Manufacturing, Utilities, Extractive industry	++	++	o(3)	--
AGRICULTURAL & RECREATIONAL				
Cropland	++	++	++	++
Livestock Breeding	++	++	++	-(2)
Parks, Playgrounds, Zoos, Golf Courses, Riding Stables, Water Recreation	++	++	++	-(2)
Outdoor Spectator Sports,	++	+	-(3)	-(3)
Amphitheaters	o	-(4)	--	--
Open Space	++	++	++	++

++ Clearly Acceptable + Normally Acceptable o Conditionally Acceptable - Normally Unacceptable - - Clearly Unacceptable

Note: Development projects which are wildlife attractant, including sewerage ponds and landfills, within 10,000 feet of the airport are unacceptable. (Ref.: FAA AC 150/5200-33)

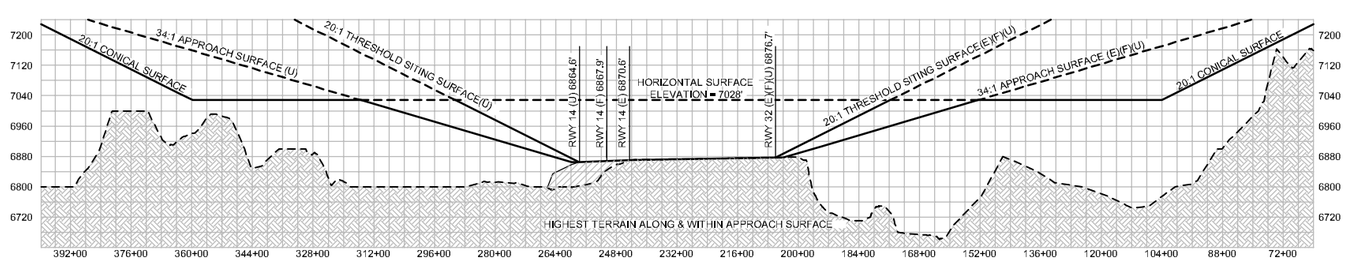
Conditions:

(1) If allowed, avigation easements and disclosure must be required as a condition of development.
(2) Any structures associated with uses allowed in the RPZ must be located outside the RPZ.
(3) If no reasonable alternative exists, use should be located as far from extended centerline as possible.
(4) If no reasonable alternative exists, use should be located as far form extended runway centerline and traffic patterns as possible.
(5) Transportation facilities in the RPZ (i.e. roads, railroads, waterways) must be configured to comply with Part 77 requirements.



PLAN - RUNWAY 14/32

BAR SCALE



PROFILE - RUNWAY 14/32

GRID SCALE

SURFACE PENETRATIONS TO PART 77				
SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
HORIZONTAL	1 TERRAIN	8325	1,297'	NONE
CONICAL	2 TERRAIN	8436	1,311'	NONE
HORIZONTAL	3 TERRAIN	7425	397'	NONE
CONICAL	4 TERRAIN	7504	276'	NONE
CONICAL	5 TERRAIN	7120	92'	NONE
CONICAL	6 TERRAIN	7400	172'	NONE
CONICAL	7 TERRAIN	7365	137'	NONE

NOTE:

1. SEE INNER APPROACH DRAWINGS FOR DETAILED INFORMATION ON CLOSE-IN OBSTRUCTIONS.

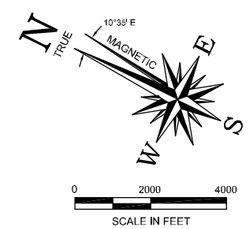
2. OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NGVD 29).

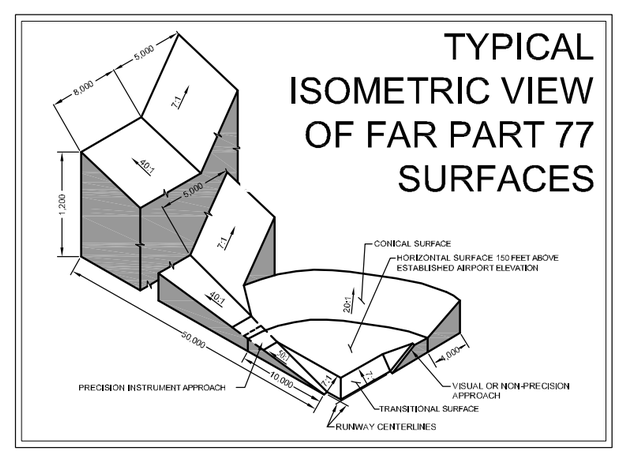
3. BASE MAP (GROUND TOPO) IS TAKEN FROM 7.5 MINUTE QUADRANGLE MAPS (NGVD 29).

4. THE ULTIMATE AIRPORT ELEVATION IS 6,878' MSL (NGVD 29).

5. STEAMBOAT SPRINGS CITY LANDUSE ZONING LIMITS HEIGHTS OF OBJECTS TO 40' ABOVE GROUND LEVEL WITHOUT A VARIANCE.

6. ROUTT COUNTY LAND USE ZONING LIMITS HEIGHTS OF OBJECTS TO 40' ABOVE GROUND LEVEL WITHOUT A VARIANCE.





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STEAMBOAT SPRINGS
BOB ADAMS FIELD
STEAMBOAT SPRINGS, CO.
AIP No. 03-08-0069-15
AIRPORT LAYOUT PLANS

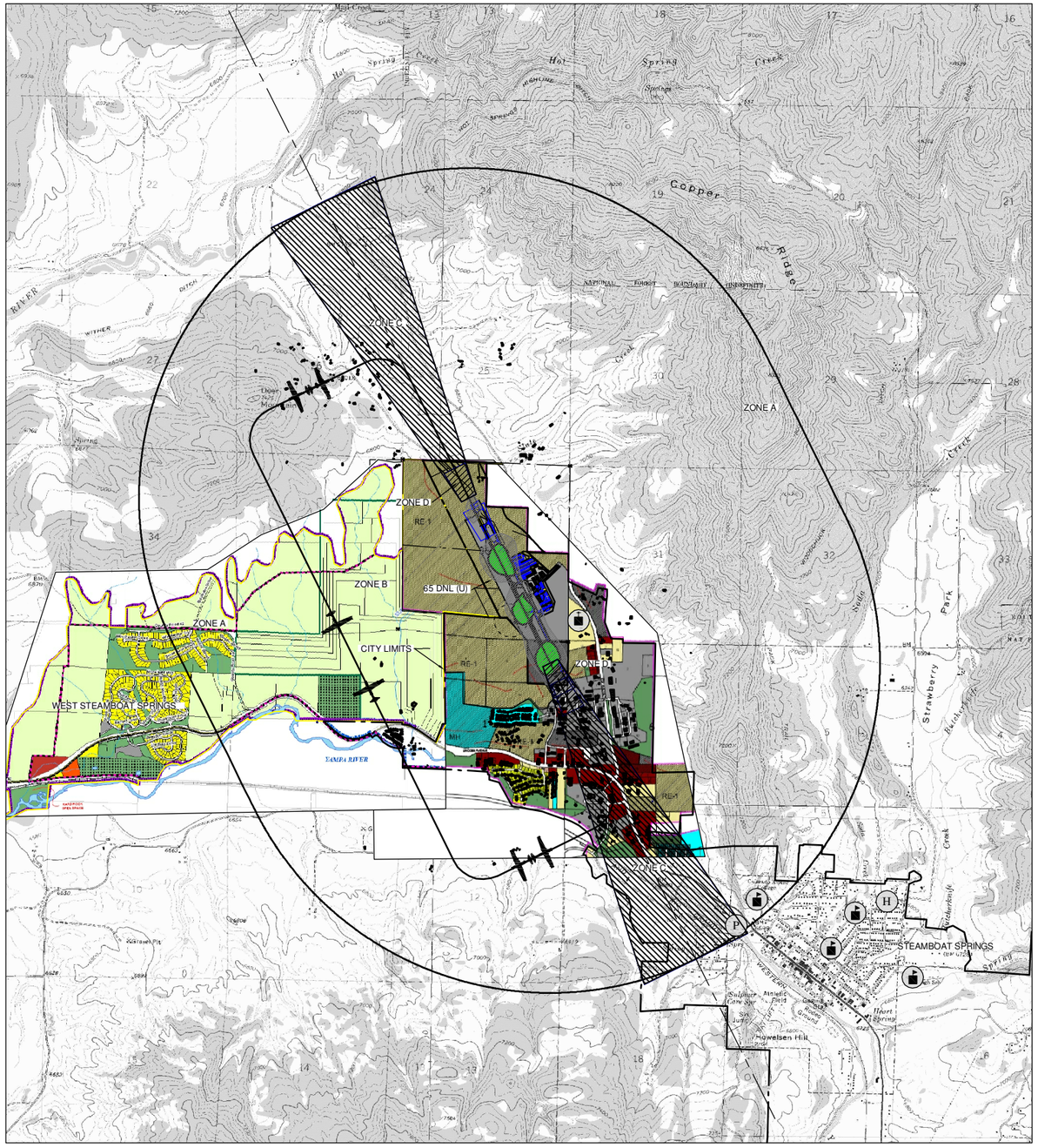
No.	Revision	Date	By

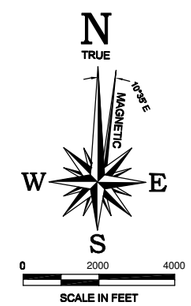
THE PREPARATION OF THIS DOCUMENT WAS FINANCED IN PART THROUGH THE AIRPORT IMPROVEMENT PROGRAM (AIP) OF THE UNITED STATES DEPARTMENT OF TRANSPORTATION, FEDERAL AVIATION ADMINISTRATION, UNDER THE PROVISIONS OF TITLE 49, UNITED STATES CODE, SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE DEPARTMENT OF TRANSPORTATION. ACCEPTANCE OF THIS DOCUMENT BY THE FAA CONSTITUTES A COMMITMENT TO FUND A PART OF THE UNITED STATES DEPARTMENTS SHARE OF ALLOWABLE COSTS ACCEPTABLE TO THE FAA. IT IS ALSO ACKNOWLEDGED THAT UNDER THE PROVISIONS OF THE FEDERAL AIRPORT ACT, THE FAA HAS A RIGHT TO PROCEED WITH ITS OWN PROJECT IF THE SPONSOR'S PROJECT FAILS TO MEET FAA STANDARDS. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IMPLY THAT THE FAA WILL PARTICIPATE IN THE PROJECT. THE FAA WILL PARTICIPATE ONLY WITH PROJECTS DEEMED ELIGIBLE, ADVISABLE, AND ACCEPTABLE UNDER APPLICABLE EMBARGOES.

Project No: 055761
Date: 04/22/2008
File Name: 5761504

Drawn: BKR
Checked: JZP
Approved: DAC

PART 77
AIRSPACE
DRAWING





LAND USE COMPATIBILITY GUIDELINES

Land Use Category	ZONE A Airport Influence (AIZ)	ZONE B Traffic Pattern (TPZ)	ZONE C Approach (AZ)	ZONE D Runway Protection (RPZ)
Residential				
single-family, nursing homes, mobile homes, multi-family, apartments, condominiums transient lodging, hotel, motel	+	o (1)	- (1,3)	- -
Public				
schools, libraries, hospitals	+	o (1)	- (3)	- -
churches, auditoriums, concert halls	+	o (1)	- (3)	- -
transportation, parking, cemeteries	++	++	++	- -
Commercial and Industrial				
offices, retail trade,	++	+	o (3)	- -
service commercial, wholesale trade, warehousing, light industrial, general manufacturing, utilities,	++	+	o (3)	- -
extractive industry	++	+	o (3)	- -
Agricultural and Recreational				
cropland	++	++	++	++
livestock breeding	++	++	++	- (2)
parks, playgrounds, zoos, golf courses, riding stables, water recreation	++	++	++	- (2)
outdoor spectator sports	++	+	- (3)	- (3)
amphitheaters	o	- (4)	- -	- -
open space	++	++	++	++

CONDITIONS

1. If allowed, avigation easements and disclosure must be required as a condition of development.
2. Any structures associated with uses allowed in the RPZ must be located outside the RPZ.
3. If no reasonable alternative exists, use should be located as far from extended centerline as possible.
4. If no reasonable alternative exists, use should be located as far from extended centerline and traffic patterns as possible.
5. Transportation facilities in the RPZ (i.e. road, railroads, waterways) must be configured to comply with Part 77 requirements.

NOTICE OF PROPOSED CONSTRUCTION

An FAA Form 7460-1, "Notice of Proposed Construction or Alteration" must be submitted for any construction or alteration (including hangars and other on-airport and off-airport structures, towers, etc.) within 20,000 horizontal feet of the airport greater in height than an imaginary surface extending outward and upward from the runway at a slope of 100 to 1 or greater in height than 200 feet above ground level.

LEGEND

- CHURCH
- SCHOOL
- HOSPITAL
- PARK

CRITERIA

Land Use Availability	Interpretation/Comments
++ Clearly Acceptable	The activities associated with the specified land use will experience little or no impact due to airport operations. Disclosure of airport proximity should be required as a condition of development.
+ Normally Acceptable	The specified land use is acceptable in this zone or area. Impact may be perceived by some residents. Disclosure of airport proximity should be required as a condition of development. Dedication of avigation easements may also be advisable.
o Conditionally Acceptable	If appropriate disclosure is made and avigation easements put in place, residential uses and uses involving indoor public assemblies are acceptable.
- Normally Unacceptable	Specified use should be allowed only if no reasonable alternative exists. Disclosure of airport proximity and avigation easements must be required as a condition of development.
- - Clearly Unacceptable	Specified use must not be allowed. Potential safety or overflight nuisance impacts are likely in this area.

RUNWAY PROTECTION ZONE (RPZ) AS DIMENSIONED ON SHEET 2 OF AIRPORT LAYOUT PLAN.

APPROACH SURFACE AS DESCRIBED ON THE FAR PART 77 DRAWING OF THE AIRPORT LAYOUT PLAN.

STANDARD 1-MILE TRAFFIC PATTERNS.

AIRPORT INFLUENCE ZONE EXTENDS 10,000' FROM RUNWAY

TYPICAL TRAFFIC PATTERN DIRECTION AND FLIGHT TRACK AREA.

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STEAMBOAT SRPINGS
BOB ADAMS FIELD
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Project No: 055761
Date: 04/22/2008
File Name: 5761507

Drawn: BKR
Checked: JZP
Approved: DAC

OFF AIRPORT LAND USE

Appendix H
Public Involvement

Steamboat Springs
Airport Master Plan

Steamboat Springs Steering Committee Introduction Meeting Summary
July 27, 2006 3:00 PM Centennial Hall

A Steering Committee Meeting was held at Centennial Hall in Steamboat Springs to give an introduction of the planning study and to go over the goals and responsibilities of the Steering Committee. Attendance at the meeting comprised of 11 individuals, including the Steering Committee, the Director of Transportation for Steamboat Springs, a principal from the Professional Success Group and adjacent property owners and local citizens.

Introductions were made, giving everyone an opportunity to state who they are and their interest in the airport. An overview of the Airport Master Plan was presented including the goals and objectives, scope of work and schedule.

The roles and responsibilities of the Steering Committee were presented which includes meaningful project input, document review for accuracy and clarity, provide feedback and comments on the proposed actions, disseminate information to and from users and stakeholders.

Chad James with Professional Success Group presented information on the Alternatives Study which will be conducted separately from the Airport Master Plan. The Alternatives Study will evaluate closing the airport and using the land for other uses. Chad indicated that he will be working on the scope of work and that another consultant will be selected to conduct the study.

Airport reference code was briefly discussed, showing an example of the different types of aircraft and their airport reference code. The existing airport reference code was determined during the previous plan when the airport received commercial service aircraft. The Airport Master Plan will show who the current users are and develop a plan to provide adequate facilities and services to the users.

Key factors during the Airport Master Plan were also discussed which will include the physical layout of the airport, the financial plan, avoiding mitigating and minimizing the environmental impacts and communicating to resolve issues and address the concerns of everyone involved.

The scope of work was covered including the number of meetings that will be held during the master planning process and the number of deliverables. It was agreed that the deliverables should be available to the public as well. The hard copies of the working papers, draft report and final report will be mailed to George Krawzoff. The deliverables will also be available electronically from the Armstrong Consultants website.

Public involvement will be an important part of the Airport Master Plan which will include two way communication using public information meetings, summaries and brochures. All input shall be considered however consensus between everyone is not expected.

It was recommended that the Steering Committee Meetings be conducted from 4-6 on Thursdays to meet the schedules of the committee members. It was also felt that if three or more members were unable to attend a meeting that it should be rescheduled.

Steamboat Springs Public Information Introduction Meeting Summary
September 14, 2006 7:00 PM Community Center

A Public Information Meeting was held at the Community Center in Steamboat Springs to give an overview of the Airport Master Plan process. Attendance at the meeting comprised of 14 individuals, including the Steering Committee, the Director of Transportation for Steamboat Springs, and interested citizens and airport users.

The meeting agenda was discussed which includes the purpose of the master plan, the goals and objectives, the process, scope of work, schedule, public involvement program and an opportunity for questions and answers.

The purpose of the airport master plan was presented and why the airport master plan needs to be updated from the previous master plan in 1998. The previous Airport Master Plan was completed when the airport was receiving regular scheduled commercial service aircraft, however since those aircraft no longer operate at the Steamboat Springs Airport the Airport Layout Plan need to be updated to reflect the current users. The current conditions were covered including the number of existing based aircraft and the future trends in general aviation.

The goals of the airport master plan were defined, which are to provide the framework needed to guide future airport development that will cost effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts.

A brief description of airport reference codes and the types of the aircraft that fall into each category were discussed. The existing B-II airport reference code was also shown.

A background of the trends in general aviation was covered. This also included the discussion on the potential use of the airport by aircraft such as the very light jet which is projected to make a significant impact on the general aviation industry. These aircraft are equipped with state of the art avionics and generally fall within the B-I airport reference code.

The Airport Master planning process and flow chart was also displayed to illustrate the process of the master plan including: the gathering of data in the inventory, the forecasting of future operations, the facility requirements for the future and the proposed alternatives to meet the demand and the financial and environmental chapters to show how the plan can be implemented.

The existing airport layout was presented to show what the existing design standards are, specifically the B-II design standards. The graphic also shows where the existing airport property line is located in relation to the existing facilities.

The scope of work table allowed the audience to see what the deliverables will be and how many meetings, both steering committee and public information will be held during the planning process. A schedule showing the approximate number of months to complete the master plan was also presented to the group.

The importance of having two way communication with the public was recognized as a very important step in the completion of a successful master plan study. Several of the

tools to communicate to the public where discussed such as the steering committee, public information meetings, open houses, brochure/newsletter and information distribution such as mailing list and website.

The meeting was then turned over to the public for comments and questions. A question was asked if the financial information such as revenue and expenditures of the airport would be included in the master plan. It was stated that the financial information would be included in the plan. Determining what the future rates and charges of the airport was recommended to be included in the study. A representative from Routt County Search and Rescue indicated that the Steamboat Springs Airport is used regularly by search and rescue operations.

The safety of the airport was also a concern. The length of the runway and the location in proximity to terrain and the City is a concern. Armstrong Consultants stated that the existing airport meets the design standards from the FAA for the existing users. It is the sole discretion of the operator of the aircraft whether or not they feel comfortable operating at the Steamboat Springs Airport. Efforts will be made in the study to ensure continued compatible land uses in the vicinity of the airport.

Steamboat Springs Steering Committee Inventory Meeting Summary
September 14, 2006 4:00 PM Centennial Hall

A Steering Committee Meeting was held at Centennial Hall in Steamboat Springs to give an overview of the Inventory section of the Airport Master Plan and an update on the process. Attendance at the meeting comprised of 11 individuals, including the Steering Committee, the Director of Transportation for Steamboat Springs, and local citizens.

The meeting agenda was discussed which included AIP grant funding, airport reference codes, existing airport reference code, existing users, airport role, existing layout, financial information, grant history and the next steps in the airport master plan process.

Grant funding including where airport funding comes from and the different pots of money which include federal, state and local funds were explained allowing the steering committee a chance to ask questions about the different types of federal funding including non primary entitlement and state apportionment. AIP authorization versus appropriations was also described including the previous funding programs and what the future may hold for AIP.

The airport reference codes (ARC) were then explained. Examples of the different types of planes and their respective ARC were shown graphically. Armstrong Consultants explained that the existing ARC is B-II since the airport is regularly used by an assortment of single engine piston, multi engine piston, multiengine turboprop and some light jet aircraft.

The number of based aircraft and frequent users along with the type of aircraft were shared with the steering committee. The number of estimated existing aircraft operations was presented and how that number was generated. A question about the accuracy of the operations was brought up. Armstrong Consultants stated that during the inventory chapter the number of IFR operations will be found from FAA databases, however the exact amount of VFR traffic will be difficult to determine. Differences between local, based, transient and itinerant operations were discussed as well as potential sources of operations data.

Historical data including the percentage of based aircraft at Steamboat Springs compared with the total number of based aircraft for the State of Colorado was shown giving the airport an idea of the total percentage within the state and giving a trend from 1997 to 2005. The data was also compared with the population of the City, County and State from 1990 through 2005.

The role of the airport was shown to give the steering committee an idea of who is using the airport on a regular basis, users include air medivac services, business transportation, fire fighting operations, recreational transportation, search and rescue, civil air patrol and flight training operations.

The existing airport layout was presented graphically to show what the existing design standards are using the B-II design standards. The graphic also shows where the existing airport property line is located in relation to the existing facilities. The declared distances were illustrated showing the existing distances available including the takeoff

run available, takeoff distance available, accelerate stop distance and the landing distance available.

The airport FAA grant history was discussed and each line item was shown starting in 1985 through 2006. This shows the total grants provided for improvements to Steamboat Springs from the Federal Government.

A brief outline of the airport financial inventory was presented showing a preliminary review of the airport revenue and expenditures for 2004 and 2005.

Next Steps were discussed including when the first deliverable working paper #1 will be distributed and what the next working papers will include which are the forecasts chapter and the facility requirements chapter.

Steamboat Springs Steering Committee
Working Papers 1 and 2 Meeting Summary
November 16, 2006 4:00 PM Centennial Hall

A Steering Committee Meeting was held at Centennial Hall in Steamboat Springs to go over the Inventory Chapter, Forecast Chapter and present some information on the Facility Requirements of the Airport Master Plan Study. Attendance at the meeting comprised of 15 individuals, including the Steering Committee, the Director of Transportation for Steamboat Springs, Colorado Department of Transportation Aeronautics Division and local citizens.

The meeting agenda was discussed which included Working Paper #1, Inventory; Working Paper #2, Forecast; Facility Requirements input and the next steps in the Airport Master Plan process.

The existing Airport Reference Code (ARC) A-III, was discussed including the dimensions of the protected surfaces surrounding the runway and taxiway. In Working Paper 1 the existing ARC is stated as B-II however since the last approved Airport Layout Plan shows the ARC to be A-III, it was determined that the text should be revised to state the existing ARC is A-III.

The airport revenue and expenses were discussed; several questions were raised about airport operations expenses that include equipment purchases. The steering committee members felt that the revenue and expenses included in the report should be further evaluated by the City of Steamboat Springs to eliminate some of the confusion.

There were several questions and recommendations about certain sections in Working Paper 1 that need to be revised including; the number of acres that are listed as airport property, clarification of the FAR Part 77 Airspace and clarification of the airport service area.

The existing hangar inventory was also covered which needs to be revised to correct hangar quantity and type (T or box) and expand table to indicate hangar ownership (City, private, or other entity if any).

The Airport Master Plan Forecast Chapter was discussed including the airport user surveys that were sent out and the information that was obtained and used to compile the Forecast Chapter. The use of the survey during the Forecast Chapter was strictly to get some rough operations estimates from known users. The milestone thresholds for certain development items such as taxiways were also discussed. The exact numbers of operations that occur at any non-towered airport are acknowledged by the FAA and CDOT to be unattainable and estimates of operations must be relied upon. It was decided that including the entire survey results of the subjective airport user survey in the Forecast Chapter of the Airport Master Plan was not necessary. The entire airport survey, survey results, survey methodology and limitations thereof will be addressed in a subsequent chapter of the Airport Master Plan.

The based aircraft forecast was presented graphically showing the different methods evaluated. The reasoning behind the recommended based aircraft method was also discussed. The recommended method takes into account a larger percent of growth

initially when the facilities, such as hangar space, are made available then trends toward the per capita growth based on the population projections for Routt County. The operations forecast was also shown graphically which presented the different methods utilized. The preferred method takes the existing operations per based aircraft and trends toward the operations per based aircraft that the FAA Terminal Area Forecast shows. These forecasts were considered to be reasonable for the purpose of Airport Master Planning.

The facility requirements of the Airport Master Plan were discussed as well as the objectives of the chapter including the determination of the size and configuration of the airport facilities needed to accommodate the types and volume of aircraft expected to utilize the airport. Data from Chapter 1 and Forecasts from Chapter 2 will be coupled with established planning criteria to determine what improvements are necessary.

The airside facility requirements such as ARC, runway length and strength, threshold siting, instrument approach minimums, parallel taxiway, and apron requirements were briefly discussed. The landside items such as hangars, facilities and a residential airpark were also covered. The design standards for increasing instrument approach minimums and the impacts were discussed along with presenting a table showing the distances surrounding the runway and taxiway.

Next Steps were discussed including when the next deliverable Working Paper #3 Facility Requirements, would be sent out. The next steering committee meeting and public information meeting in which Armstrong Consultants will participate is expected to be in January.

Steamboat Springs Steering Committee
Working Paper 3 Facility Requirements Meeting Summary
February 8, 2007 4:00 PM Centennial Hall

A Steering Committee Meeting was held at Centennial Hall in Steamboat Springs to go over the Facility Requirements Chapter and present some information on the Development Alternatives of the Airport Master Plan Study. Attendance at the meeting comprised of 11 individuals, including the Steering Committee, the Director of Transportation for Steamboat Springs, Steamboat Springs Airport Manager, Yampa Valley Region Airport Manager, Chairman of the Airport Advisory Board and representatives from Armstrong Consultants, Inc.

The meeting agenda was discussed which included Working Paper #3 Facility Requirements and input on Development Alternatives along with the next steps for the airport master planning process.

The Airport Reference Code (ARC) was discussed. The airport ARC B-II was based on the information from the Inventory and the Forecast Chapters. Therefore the Facility Requirements recommendations have been generated using airport design standards for ARC B-II.

The Runway length analysis was described including the conditions that were used to conclude the recommendations made by the FAA computer software*, Airport Design version 4.2d* and FAA Advisory Circular 150/5325-4B *Runway Length Requirements for Airport Design*. The FAA recommendations included providing a minimum 5,780 feet to accommodate 75 percent of the small aircraft fleet at 100 percent useful load. The runway length analysis was taken further to evaluate actual airport users and to look at what the most demanding B-II aircraft would need to takeoff at the maximum mean temperature of the hottest month and the maximum annual temperature at maximum certificated takeoff weight.

Questions about the effective gradient were brought up along with what the increased runway length would do at the airport. The increased runway length would allow existing and future airport users the ability to takeoff and land with higher weight (i.e. passengers and/or fuel) during all conditions.

The recommended runway length is 5,780 feet in the short term and 7,430 feet in the long term. The actual runway extension length may vary depending on several factors including the topographic, environmental and fiscal constraints. These constraints will be further evaluated during the Development Alternatives Chapter.

The taxiway requirements were discussed including what will justify a full length parallel taxiway. The existing activity at the airport currently justifies a partial parallel taxiway. Once operations approach approximately 20,000 annually, a full length parallel taxiway would be justified. It is recommended that the partial parallel taxiway be constructed initially to the end of Runway 32 and a bypass taxiway on Runway 14. In the long term it is recommended that the airport construct a full length parallel taxiway.

Apron and tiedown recommendations were also presented including how the numbers were generated to determine the recommendations. The number of transient aircraft at

the airport was calculated using the peak number of operations that were derived during the Forecast Chapter. This information was used in the calculation of tiedown requirements. The apron size was also determined using information from the Forecast Chapter for the transient aircraft and information provided from FAA Advisory Circular 150/5300-13 on the recommended square yardage per transient and based aircraft.

Hangar requirements were determined from information provided by airport management. According the airport manager there are currently 25 people on the aircraft hangar waiting list for Steamboat Springs Airport. The airport manager also stated that the waiting list does not include the transactions between privately owned hangars which are usually put up for sale and sold before airport management knows the hangar was for sale. Concerns were raised that the hangar waiting list may be low.

The discussion about the possibility of developing an airport business park/residential airpark at the airport was presented. This would include the development of through the fence fees allowing off airport land owners access to the airport for a monthly fee ensuring that off airport land owners do not have an unfair economical advantage over those who own/rent hangars on airport property. It was stated that the FAA is not against through the fence operations; however, they do strongly discourage them.

The recommended facility requirements table was discussed showing the existing conditions at the airport and the recommendations for the short term development items and the long term development items. The Steering Committee indicated that the recommended runway length of 5,780 feet should be shown in the short term and 7,430 feet be shown in the long term. The width of the runway and taxiway were also addressed and that the widths should be shown to meet the recommended airport reference code in the short and long term development.

A preliminary discussion on alternatives was brought up which includes the runway extension, parallel taxiway, landside development including hangars and tiedowns and the potential residential/industrial airpark. A cost benefit analysis will also be included in the Development Alternatives Chapter with each alternative evaluated. This will give the Steering Committee an opportunity to see what each development item would cost and the potential economic benefit.

The next steps will include releasing Working Paper #4, the Development Alternatives Chapter. The next meetings include the public meeting on February 22nd 2007 and the March Steering Committee Meeting to present the Development Alternatives Chapter.

Steamboat Springs Public Information Meeting
Working Papers 1-3 Summary
February 22, 2007 7:00 PM Olympian Hall

A Public Information Meeting was held at Olympian Hall in Steamboat Springs to give a summary of the first three working papers that have been compiled. Attendance at the meeting comprised of 25 individuals, including the FAA, CDOT Aeronautics Division, Steering Committee, the Director of Transportation for Steamboat Springs, Steamboat Springs Airport Manager, interested citizens and airport users.

The meeting agenda was discussed which included the purpose of the master plan, schedule, an overview of the Inventory, Forecast and Facility Requirements Chapters and an opportunity for questions and answers.

The purpose of the Airport Master Plan was presented. The previous Airport Master Plan was completed when the airport was receiving regular scheduled commercial service aircraft, however, since those aircraft no longer operate at the Steamboat Springs Airport the Master Plan needs to be updated in order to reflect the current users and airport role. The current conditions were covered including the number of existing based aircraft and the future trends in general aviation.

Discussion in the Inventory Chapter included the existing fleet mix and the existing airport revenue and expenses summary. The majority of the based aircraft at the airport are single engine piston aircraft. The Inventory Chapter revealed that there are no known A-III aircraft using the airport therefore indicating a need to change the airport reference code.

The Forecast Chapter discussion reviewed the different methods that were used to generate the forecasts along with the reasoning behind selecting the preferred based aircraft forecast and operations forecast. The forecast of aviation activity was discussed showing the estimated number of local and itinerant operations currently taking place and forecasted over the planning period.

Facility Requirements were discussed including recommended runway length using the airport field elevation, runway gradient and the hottest month of the year. The calculations using the FAA Runway Length Analysis program recommended that a runway length of 5,780 feet would be needed to accommodate 75 percent of the small aircraft fleet which includes airplanes less than 12,500 lbs. The Advisory Circular and design program also recommended a runway length of 8,200 feet to accommodate 100 percent of the small aircraft fleet mix. The runway length requirements were also presented using the existing airport users to show what the required runway length would be under the most demanding conditions at maximum gross takeoff weight. As a result of the Advisory Circular and information from performance data on aircraft known to use the airport, the recommended short term runway extension would be to a length of 5,780 feet, the recommended medium term length is 7,430 feet and the long term ultimate recommended runway would be 8,200 feet. The feasibility of providing there lengths will be evaluated in the Alternatives Analysis.

Taxiway requirements were also discussed; the existing airport operations currently justify a partial parallel taxiway. A partial parallel taxiway is justified once operations

reach approximately 10,000 and a full length parallel taxiway is justified when operations approach approximately 20,000. It has been recommended in the Facility Requirements Chapter that a partial parallel taxiway to Runway 32 and a bypass taxiway on Runway 14 be constructed in the short term and a full length parallel taxiway be constructed in the long term.

Aircraft apron and tiedown requirements were presented which took into account the number of transient aircraft operations during peak demand. The majority of based aircraft would prefer hangar space and that the majority of tiedown use would be by transient aircraft.

Information from airport management was shared with the audience on the number of people on the hangar waiting list that the City maintains. There are currently 25 people on the waiting list. The Facility Requirements recommends a mix of small and large box hangars along with T-Hangars.

The potential for an airport business park/residential airpark was discussed. The development of an airpark off airport property that would have access to the runway and facilities would require a through the fence agreement. The through the fence agreement would ensure that off airport land owners with access to the airport do not have an unfair economic advantage to those with hangars on airport property. The through the fence agreement would also ensure that those off airport users are contributing economically to the airport for future development and maintenance. The through the fence agreement could be setup as a monthly or annual fee and would be comparable to the rates charged to on airport hangar owners.

The meeting was then opened up to the public for comments and questions.

The safety of the airport was a concern. The length of the runway and the location in proximity to terrain and the City is a concern. Armstrong Consultants explained that the existing airport meets the design standards from the FAA for the existing users. It is the discretion of the operator of the aircraft based on numerous factors including but not limited to aircraft performance, pilot skill and ability, insurance and weather when operating at the Steamboat Springs Airport. Efforts will be made in the study to ensure continued compatible land uses in the vicinity of the airport.

Questions about the potential layout of the landside development were brought up including how the demand for hangars would be satisfied. It was stated that the hangar development will be further evaluated during the Development Alternatives Chapter. A cost benefit analysis will be included in the Development Alternatives Chapter to show what the cost of developing future hangar and apron area would be along with the potential for revenue increases from the potential increase in based aircraft and increased fuel sales along with the increased revenue generated from land leases.

The future use of the airport by very light jets (VLJs) was also questioned. It has been determined that the airport would be able to accommodate the Eclipse 500 jet at maximum gross takeoff weight during most conditions. The takeoff performance data for the Eclipse 500 will be added to the Facility Requirements Chapter. It was report from the audience that two Eclipse 500's are on order by airport users and are expected to be based at the airport in 2008.

Steamboat Springs Public Information Meeting
Working Paper 4 Development Alternatives
June 13, 2007 7:00 PM Olympian Hall

A Public Information Meeting was held at Olympian Hall in Steamboat Springs to review and discuss the Development Alternatives Chapter and obtain feedback and recommendations for future development. Attendance at the meeting comprised of 11 individuals, including the FAA, CDOT Aeronautics Division, Steering Committee, the Director of Transportation for Steamboat Springs, interested citizens and airport users.

The meeting agenda was discussed which included the Development Alternatives Chapter and an opportunity for questions and answers. The next steps will include gathering the recommendations from the Steering Group and public and providing the recommendations to the Steamboat Springs City Council to approve the recommended future development and complete the remainder of the airport master plan.

The discussion about the existing airport reference code was briefly described. The different development items including runway, taxiway and landside development were discussed separately to allow for questions and comments.

The first item of future development discussed was the location of a future parallel taxiway including the offset from the runway. The offset of the taxiway centerline from the runway centerline is dependent upon the instrument approach minimums. The first option for the taxiway offset included placing the centerline of the taxiway 300 feet from the runway centerline, which would meet the requirements for approach minimums of lower than ¾-mile (i.e. ½-mile) visibility. The second option for the taxiway offset included placing the centerline of the taxiway 240 feet from the runway centerline, which would meet the requirements for approach minimums of as low as ¾-mile visibility. The consensus on the offset of the taxiway was to place the taxiway at 240 feet from the runway centerline, since the cost of development would be reduced due to lower earthwork requirements, less impact on adjacent land owners and the unrealistic expectations of having instrument approach procedures with lower than ¾-mile visibility due to existing terrain constraints. The taxiway offset of 240 feet also provides for the possibility of constructing a retaining wall to keep the future taxiway development on existing airport property. The determination to which end of the runway should have a partial parallel taxiway and which end(s) should have bypass taxiways was also discussed. Partial parallel taxiway to both ends of Runway 14 and 32 would require a significant amount of earthwork to meet the grades. Runway 32 has been recognized as the primary runway, therefore a partial parallel taxiway to Runway 32 and a bypass taxiway on the end of Runway 14 have been recommended. The taxiway development would enhance safety and increase the utility of the airport and is currently justified by existing operation numbers.

The second item of future development discussed was the runway length. Several lengths were identified, each accommodating a different percentage of the small aircraft fleet. The advantages and disadvantages of each runway length were discussed allowing feedback. . The recommendations as a result of the steering group meeting included showing a future 600 foot runway extension to the northwest to a length of 5,052 feet, and showing an ultimate 728 foot runway extension to the northwest to an ultimate length of 5,780 feet. This will allow the runway extensions to occur as demand

justifies and phase the ultimate extension over time allowing for future funding from the FAA and State to potentially become available. Also, these runway lengths including the RPZ will remain on existing airport property. The other alternatives evaluated which included an ultimate length of 7,430 feet and 8,200 feet were determined to be unrealistic during the 20-year planning period and have therefore been eliminated from further discussion.

The third item of future development discussed was the landside development. The landside development includes hangar and apron development. Several areas were identified for future landside development including the conversion of a portion of the automobile parking lot into hangar development, hangar and apron development north of the existing apron, hangar and apron development southwest of the existing apron on the opposite side of Runway 14/32 and hangar and apron development southeast of the existing apron. The advantages and disadvantages were discussed for each location. It is recommended that the airport plan on the development of the parking lot area initially and the area north of the existing apron ultimately. All of the alternatives identified with the exception of the initial parking lot development area, would require significant earthwork to meet grading requirements. The potential development of a residential/airpark was also discussed, however, the FAA and State recommended that the future airpark development not be shown on the Airport Layout Plan, although it could be considered if a private entity approached the City for such a project. Landside cost/benefit analysis was presented for each of the different landside alternatives showing the revenue and expenditures associated with each.

The next step will include releasing the Revised Working Paper #4, the Development Alternatives Chapter. The next meetings include a public information meeting on the Development Alternatives and a City Council Meeting to present the Development Alternative recommendations to the City and to approve the decision on what alternatives will be shown on the Airport Layout Plan Drawing.

Steamboat Springs Steering Group
Working Paper 4 Development Alternatives Meeting Summary
June 13, 2007 4:00 PM Centennial Hall

A Steering Group Meeting was held at Centennial Hall in Steamboat Springs to review and discuss the Development Alternatives Chapter and obtain feedback on recommendations for future development. Attendance at the meeting comprised of 12 individuals, including the Steering Group, the Director of Transportation for Steamboat Springs, Steamboat Springs Airport Manager, a representative from Federal Aviation Administration Denver ADO, a representative from the Colorado Department of Transportation Aeronautics Division and representatives from Armstrong Consultants, Inc.

The meeting agenda was discussed which included Working Paper #4 Development Alternatives along with the next steps for the airport master planning process. The next steps will include gathering the recommendations from the Steering Group and the public and providing the recommendations to the Steamboat Springs City Council to approve the recommended future development and complete the remainder of the airport master plan.

The future airport development was broken down into three fundamental development items which included the taxiway development alternatives, the runway development alternatives and the landside (hangar and apron) development alternatives. Each of the items were addressed separately allowing for input from the group.

The first item of future development discussed was the location of a future parallel taxiway including the offset from the runway. The offset of the taxiway centerline from the runway centerline is dependent upon the instrument approach minimums. The first option for the taxiway offset included placing the centerline of the taxiway 300 feet from the runway centerline, which, would meet the requirements for approach minimums of lower than ¾-mile (i.e. ½-mile) visibility. The second option for the taxiway offset included placing the centerline of the taxiway 240 feet from the runway centerline, which would meet the requirements for approach minimums of as low as ¾-mile visibility. The consensus on the offset of the taxiway was to place the taxiway at 240 feet from the runway centerline, since the cost of development would be reduced due to lower earthwork requirements, less impact on adjacent land owners and the unrealistic expectations of having instrument approach procedures with lower than ¾-mile visibility due to existing terrain constraints. The taxiway offset of 240 feet also provides for the possibility of constructing a retaining wall to keep the future taxiway development on existing airport property. The determination to which end of the runway should have a partial parallel taxiway and which end(s) should have bypass taxiways was also discussed. Partial parallel taxiway to both ends of Runway 14 and 32 would require a significant amount of earthwork to meet the grades. Runway 32 has been recognized as the primary runway, therefore a partial parallel taxiway to Runway 32 and a bypass taxiway on the end of Runway 14 have been recommended. The taxiway development would enhance safety and increase the utility of the airport and is currently justified by existing operation numbers.

The second item of future development discussed was the runway length. Several lengths were identified, each accommodating a different percentage of the small aircraft

fleet. The advantages and disadvantages of each runway length were discussed allowing feedback from the group. The cost/benefit analysis was also covered for each runway length showing the estimated increase in revenue from fuel sales and the local development costs. The revenue or subsidy for each alternative was shown for both the City of Steamboat Springs providing fuel and a future private FBO providing fuel. The recommendations as a result of the meeting include showing a future 600 foot runway extension to the northwest to a length of 5,052 feet, and showing an ultimate 728 foot runway extension to the northwest to an ultimate length of 5,780 feet. This will allow the runway extensions to occur as demand justifies and phase the ultimate extension over time allowing for future funding from the FAA and State to potentially become available. Also, these runway lengths including the RPZ will remain on existing airport property. The other alternatives evaluated which included an ultimate length of 7,430 feet and 8,200 feet were determined to be unrealistic during the 20-year planning period and have therefore been eliminated from further discussion.

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The next step will include releasing the Revised Working Paper #4, the Development Alternatives Chapter. The next meetings include a public information meeting on the Development Alternatives and a City Council Meeting to present the Development Alternative recommendations to the City and to approve the decision on what alternatives will be shown on the Airport Layout Plan Drawing.

Steamboat Springs Public Information Meeting
Working Paper 4 Development Alternatives
July 26, 2007 7:00 PM Centennial Hall

A Public Information Meeting was held at Citizens Hall at Centennial Hall in Steamboat Springs to review and discuss the Development Alternatives Chapter and obtain feedback and recommendations for future development. Attendance at the meeting comprised of 13 individuals, including Steering Committee, the Director of Transportation for Steamboat Springs, interested citizens and airport users.

The meeting agenda was discussed which included the Development Alternatives Chapter and an opportunity for questions and answers. The next steps will include gathering the recommendations from the Steering Group and public and providing the recommendations to the Steamboat Springs City Council to approve the recommended future development and complete the remainder of the airport master plan.

The discussion about the existing airport reference code was briefly described. The different development items including runway, taxiway and landside development were discussed separately to allow for questions and comments.

The first item of future development discussed was the location of a future parallel taxiway including the offset from the runway. The offset of the taxiway centerline from the runway centerline is dependent upon the instrument approach minimums. The first option for the taxiway offset included placing the centerline of the taxiway 300 feet from the runway centerline, which would meet the requirements for approach minimums of lower than ¾-mile (i.e. ½-mile) visibility. The second option for the taxiway offset included placing the centerline of the taxiway 240 feet from the runway centerline, which would meet the requirements for approach minimums of as low as ¾-mile visibility. The consensus on the offset of the taxiway was to place the taxiway at 240 feet from the runway centerline, since the cost of development would be reduced due to lower earthwork requirements, less impact on adjacent land owners and the unrealistic expectations of having instrument approach procedures with lower than ¾-mile visibility due to existing terrain constraints. The taxiway offset of 240 feet also provides for the possibility of constructing a retaining wall to keep the future taxiway development on existing airport property. The determination to which end of the runway should have a partial parallel taxiway and which end(s) should have bypass taxiways was also discussed. Partial parallel taxiway to both ends of Runway 14 and 32 would require a significant amount of earthwork to meet the grades. Runway 32 has been recognized as the primary runway, therefore a partial parallel taxiway to Runway 32 and a bypass taxiway on the end of Runway 14 have been recommended. The taxiway development would enhance safety and increase the utility of the airport and is currently justified by existing operation numbers.

The second item of future development discussed was the runway length. Several lengths were identified, each accommodating a different percentage of the small aircraft fleet. The advantages and disadvantages of each runway length were discussed allowing feedback. . The recommendations as a result of the steering group meeting included showing a future 600 foot runway extension to the northwest to a length of 5,052 feet, and showing an ultimate 728 foot runway extension to the northwest to an ultimate length of 5,780 feet. This will allow the runway extensions to occur as demand

justifies and phase the ultimate extension over time allowing for future funding from the FAA and State to potentially become available. Also, these runway lengths including the RPZ will remain on existing airport property. The other alternatives evaluated which included an ultimate length of 7,430 feet and 8,200 feet were determined to be unrealistic during the 20-year planning period and have therefore been eliminated from further discussion.

The third item of future development discussed was the landside development. The landside development includes hangar and apron development. Several areas were identified for future landside development including the conversion of a portion of the automobile parking lot into hangar development, hangar and apron development north of the existing apron, hangar and apron development southwest of the existing apron on the opposite side of Runway 14/32 and hangar and apron development southeast of the existing apron. The advantages and disadvantages were discussed for each location. It is recommended that the airport plan on the development of the parking lot area initially and the area north of the existing apron ultimately. All of the alternatives identified with the exception of the initial parking lot development area, would require significant earthwork to meet grading requirements. The potential development of a residential/airpark was also discussed, however, the FAA and State recommended that the future airpark development not be shown on the Airport Layout Plan, although it could be considered if a private entity approached the City for such a project. Landside cost/benefit analysis was presented for each of the different landside alternatives showing the revenue and expenditures associated with each.

The next step will include releasing the Revised Working Paper #4, the Development Alternatives Chapter. The next meetings include a public information meeting on the Development Alternatives and a City Council Meeting to present the Development Alternative recommendations to the City and to approve the decision on what alternatives will be shown on the Airport Layout Plan Drawing.

Steamboat Springs Steering Committee
Working Papers 5 and 6 Meeting Summary
October 29, 2007 4:00 PM Centennial Hall

A Steering Committee Meeting was held at Centennial Hall in Steamboat Springs to review and discuss the Airport Layout Plan, Financial Development and Environmental Overview Chapters. Attendance at the meeting comprised of 15 individuals, including the Steering Committee, the Director of Transportation for Steamboat Springs, Steamboat Springs Airport Manager, FAA, State Aeronautics and representatives from Armstrong Consultants, Inc.

The meeting agenda was discussed which included the Airport Layout Plan, Working Papers #5 and #6 Financial Development and Environmental Overview along with the next steps for the airport master planning process.

The Airport Layout Plan drawing sets were described including the information presented on each sheet. The 65 DNL noise contour was described, including the FAA integrated noise model (INM) program that was used to generate the contour. It was explained that the noise program takes fleet mix information and operations information to generate the annual noise contour from operations taking place 24 hours a day. It was requested that a second noise contour be generated using loud older model aircraft to determine what their impact might be on the noise contour. There were several questions raised about the zoning overlay and what would be included. The draft airport overlay zone was briefly described including the different zones and what land uses would be considered compatible.

The Capital Improvement drawing was presented which shows the different projects in the recommended development plan graphically. The FAA and State indicated that some of the projects shown in the short term of the recommended development plan may exceed the funding available for the airport. It was recommended that additional information be added to the Financial Chapter regarding the availability of Federal and State funds for some of the large development projects listed in the recommended development plan. Armstrong Consultants indicated the projects shown in the development plan are recommendations, not required or mandated actions. The development will be at the discretion of the City of Steamboat Springs.

A revised pro forma for the 20 year period was distributed which was revised due to the terminal building expenses shown in both the airport operations and the terminal building breakdown. The updated pro forma indicated the potential for the to start generating positive cash flow in 2010. A question on what it would take for the airport operations to become positive was brought up. The rates and charges would have to be increased for the operations category to become positive sooner, however this could also have negative impact by reducing the number of operations due to the high cost of operating at the airport. Two other pro forma tables were briefly shown; one with limited development including only items such as pavement maintenance, and the first phase of taxilane development. The other pro forma included the financial projections based on not developing a private FBO. The Steering Committee felt it would be beneficial to add both of these options to the Financial Chapter. There was concern about a paragraph in the Financial Chapter which discussed the community support. The Steering Committee

voted to keep the paragraph in the Chapter and expand the discussion to include non-quantifiable benefits.

A discussion on the Environmental Overview Chapter which examined potential environmental impacts using the National Environmental Policy Act (NEPA) categories determined that none of the proposed development items are expected have significant environmental impacts; however; there are potential wetland impacts associated with the second phase runway extension. This preliminary environmental documentation is not intended to eliminate future environmental documentation. Future development items would still require the proper evaluation including possible categorical exclusions for small project and environmental assessments for large projects. Agency coordination was included in the chapter which gave the different environmental agencies an opportunity to comment on the recommended development. The FAA requested that the Environmental Chapter be eliminated as a stand alone chapter and to be incorporated into the other chapters in the Draft Report.

The next steps will include releasing Working Papers 5 and 6 for public review; compiling all working papers into a draft report format for review by the Steering Committee; sending in the Draft ALP to the FAA for airspace review; and send the draft zoning overlay and ordinance to the City for review. The next meetings include the public information meeting on December 13, 2007 and Final City Council presentation in early 2008.

Volume 1, Issue 1

September 7, 2006

AIRPORT MASTER PLAN
STEAMBOAT SPRINGS, COLORADO

INSIDE THIS ISSUE:

Overview	1
Airport Steering Committee	2
Public Information Meeting	2
Purpose of the Master Plan	2
Airport Master Plan Process	3
Master Plan Task Outline List	4

AIRPORT MASTER PLAN STUDY

Steamboat Springs Airport

This is the first of four newsletters that will be distributed during the Airport Master Plan Study. An outline of the process is included on page 3 of this publication. The purpose of the newsletters is to provide updates on the progression of the study, announce upcoming meetings, and to ensure the involvement of the community in order that all interested parties are given consideration and that they remain informed about the progress of the Airport Master Plan.

Overview

The City of Steamboat Springs has received grants from the Federal Aviation Administration (FAA) and Colorado State Aeronautics Division to conduct a Master Plan for the Steamboat Springs Airport/Bob Adams Field in Steamboat Springs, Colorado. Armstrong Consultants, an Airport Planning and Engineering firm from Grand Junction, Colorado has been retained to complete the study. The previous Airport Master Plan was completed in 1998. The 1998 Airport Master Plan was based on commercial service aircraft with an airport reference code of A-III. The updated Airport Master Plan will update user information and determine the current and future airport reference code. The goal of the Airport Master Plan is to provide direction for airport development consistent with the airports role while considering potential environmental and socioeconomic impacts.

Typical components of the Master Plan Process include the following:

- Airport Inventory
- Aviation Forecasts and Facility Requirements
- Environmental Overview
- Financial Analysis and Capital Improvement Program
- Airport Layout Drawings
- Public Involvement

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airport engineering and planning services

AIRPORT STEERING COMMITTEE

Completion of the Study will require contact with and input from many activities on the airport, community agencies both governmental and non-governmental, airport users, pilots, (passengers, shippers, etc.), residents of the community, and others. An Airport Steering Committee has been identified and asked to assist in the ongoing review and participation in the planning process. The Steering Committee will provide input on the recommendations in the study through meetings and review of draft Working Papers, Reports, and Drawings. Public meetings will be held throughout the planning process to provide information and to accept oral and written comments on the project.

PUBLIC INFORMATION MEETINGS

Four public information meetings will be conducted to discuss the progress and present information found during the Master Plan. The informational meetings will include a short presentation and then provide interested parties the opportunity to interact with the consultants and airport representatives to ask specific questions and provide input. Representatives from Armstrong Consultants will be available to answer your questions. Information will also be available throughout the study online at www.armstrongconsultants.com which will be linked from the City's web site as well. Public involvement will be an important part of the Airport Master Plan process.

PURPOSE OF THE AIRPORT MASTER PLAN

The last Airport Master Plan study was completed in 1998 and was based on regional commercial service and aircraft. Currently there are no commercial service aircraft utilizing the airport. There are over 90 based aircraft at the airport with a user fleet mix of single engine pistons, multiengine pistons, turbo props and light jets. The trend in general aviation is an increase in very light jets and fractional business jet ownership. An Airport Master Plan study is need to provide a plan consistent with the types of aircraft currently using and expected to use the airport in the future. The objectives of the Master Plan include:

- Documenting the existing airport and facilities and activity levels.
- Identify the present and future roles of the Steamboat Springs Airport.
- Quantify the economic contribution and airport significance to the community.
- Update aircraft activity and fleet mix forecasts for the airport. Identify the size and layout of airside and landside facilities to accommodate projected aircraft demand and FAA airport design standards.
- To identify optimum landside uses which will enhance the economic benefits of the airport and that are compatible with airside development.
- To develop active and productive public involvement throughout the planning process.
- Develop realistic, phased development and maintenance plans for the airport.
- Provide the basis for future federal, state, local government and third-party investment in the Airport.
- Prepare an Airport Layout Plan, which meets current FAA standards.
- Prepare compatible land-use and height restriction plans consistent for the airport vicinity including recommended zoning protection within the airport influence area.
- Screen proposed development projects for potential environmental impacts.

Steamboat Springs Airport

Points of Contact

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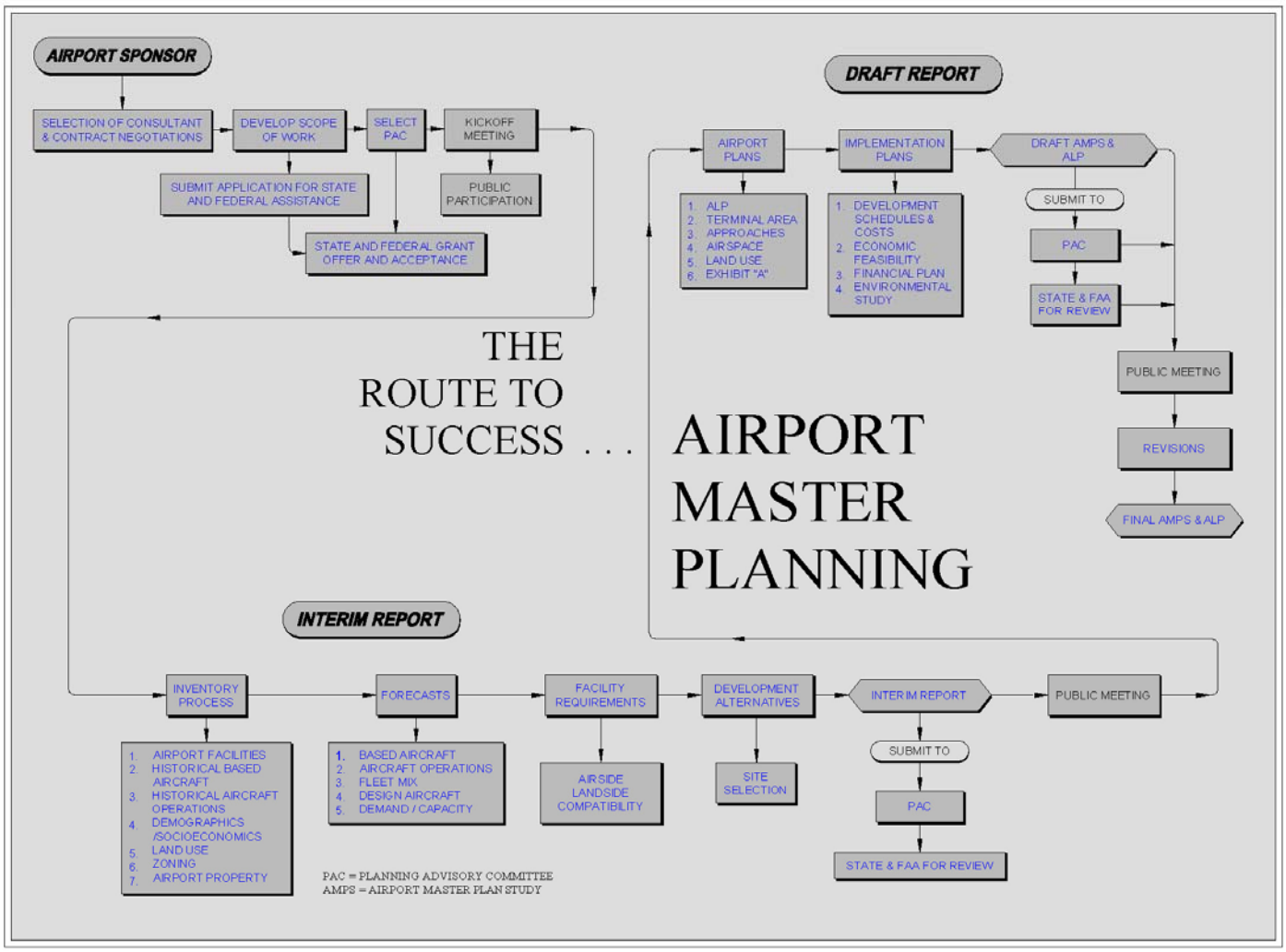
The Airport Master Plan Study Process

The Airport Master Plan process (as shown in the flow chart below) began with the City's acceptance of State and Federal grant offers. The next step is a public meeting to introduce the project.

Phase I of this process includes an inventory of existing airport facilities, forecasts of aviation activity and a listing of facility requirements at the airport. Phase II includes airside and landside alternatives. Phase III is the completion of a detailed set of Airport Layout Plan (ALP) drawings, a Capital Improvement Plan (CIP) and implementation plans for the airport.



THE STEAMBOAT SPRINGS AIRPORT MASTER PLAN TASK LIST

Steamboat Springs Airport
Airport Master Plan
Final Scope of Work Outline
5/24/06

Element	Sequence of Tasks	Working Paper	Meeting
	Airport Commission Presentation		
	City Council Presentation		
1	Establish Working Group and Technical Committee		
2	Working Group Meeting #1 & Public Meeting #1		
3	Airport Inventory		
4	Environmental Inventory		
5	Aviation Forecasts		
	Working Group Meeting #2		
6	Facility Requirements		
	Working Group Meeting #3 & Public Meeting #2		
7	Development Alternatives		
	Working Group Meeting #4 & Public Meeting #3		
	City Council Meeting		
8	Airport Layout Plans		
9	Capital Improvement Plan (CIP)		
10	Financial Feasibility Analysis		
11	Environmental Overview		
12	Compatible Land Use Zoning Plan and Ordinance		
12	Airport Standards Manual		
	Working Group Meeting #5		
13	Draft Narrative Report		
13	Executive Summary Brochure		
	Working Group Meeting #6 & Public Meeting #4		
13	Final Documents		
	City Council Presentation/Approval		

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

Volume 1, Issue 2

January 10, 2007

AIRPORT MASTER PLAN
STEAMBOAT SPRINGS, COLORADO

INSIDE THIS ISSUE:

Overview	*1*
Inventory	*2*
Forecasts	*2*
Facility Requirements	*2*
Upcoming Meeting	*4*

This is the second of four newsletters that will be distributed during the Steamboat Springs Airport Master Plan. The purpose of the newsletters is to provide updates on the progression of the study, announce upcoming meetings and to ensure the involvement of the community in order that all interested parties are given consideration and that they remain informed on the progress of the Airport Master Plan.

STEAMBOAT SPRINGS AIRPORT WORKING PAPERS 1-3

Steamboat Springs Airport Users

Overview

The first three Working Papers for the Steamboat Springs Airport Master Plan have been submitted to the City, the Airport Steering Committee, the Federal Aviation Administration (FAA) and the Colorado Department of Transportation Aeronautics Division for review and comment. Working Paper 1 included an inventory of the existing airport along with existing environmental conditions and the existing financial data showing airport revenues and expenditures. Working Paper 2 presented forecasts of aviation activity which were derived for based aircraft, operations and fleet mix for the airport. Working Paper 3 recommended facility requirements for the 20 year planning period.

The next working paper will discuss the development alternatives, which will take the information from Working Papers 1-3 and develop financially and environmentally feasible alternatives for future development at the Steamboat Springs Airport. Airside development alternatives including runway, taxiway and instrument approach minimums will be discussed. Landside development alternatives including hangar and apron development will also be presented. The development alternatives will be evaluated on costs, environmental impacts and their ability to accommodate existing and future demand at the Steamboat Springs Airport.

INVENTORY

An Inventory of the Steamboat Springs Airport was conducted and presented in Working Paper 1. The Inventory Chapter provided an overview of the airport development and FAA and State Aeronautics grant histories. The service level of the airport was discussed, including information on who is using the airport and for what purpose. The existing activity levels for the airport from the Terminal Area Forecast (TAF), Airport Master Record Form and airport management records were also presented. According to airport management records there are 92 based aircraft at the airport and approximately 11,000 annual operations. Further investigation and estimates indicate approximately 17,000 annual aircraft operations. The existing Airport Reference Code (ARC) and design standards were inventoried and the airport was found to be compliant with all standards for an ARC A-III airport. The Inventory Chapter also discussed the existing airside and landside facilities including the number of hangars, tiedowns and apron space available for airport users.

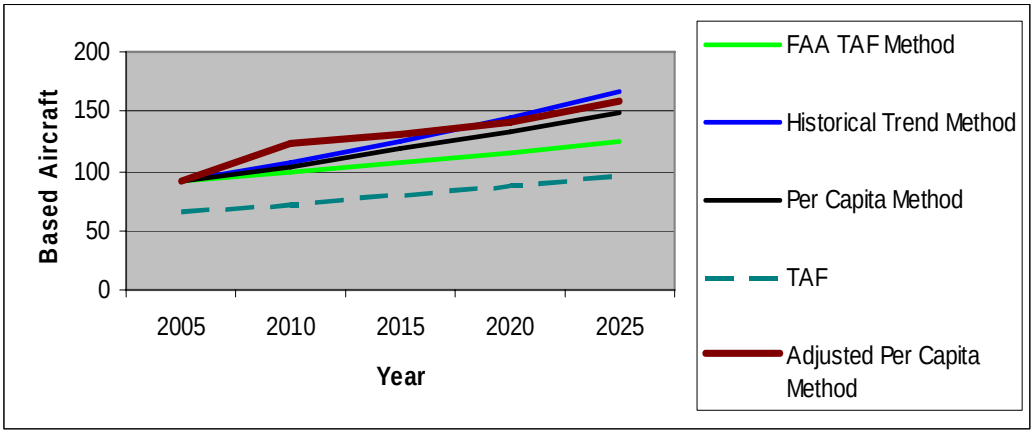
The Inventory Chapter included an overview of the socioeconomic conditions of Routt County and the City of Steamboat Springs. Conditions such as population growth, employment and income can affect demand for aviation services in the area and must be taken into consideration when planning for future aviation needs of the area.

The Inventory Chapter also documented the environmental resources that may be affected by potential airport development. The information that was gathered will be used later in the study in evaluating potential airport development alternatives and to identify environmental related permits that may be required for recommended development projects.

Existing financial data was inventoried to determine what the existing airport costs are to the City of Steamboat Springs. Five years of data was collected showing the financial trends. While it would be an advantage for the airport to support itself, the indirect and intangible benefits of the airport to the community's economy and growth must be considered.

FORECASTS

Working Paper 2 provided forecasts of aviation activity. The existing activity levels at the Steamboat Springs Airport are considered to be constrained by the lack of available hangars.

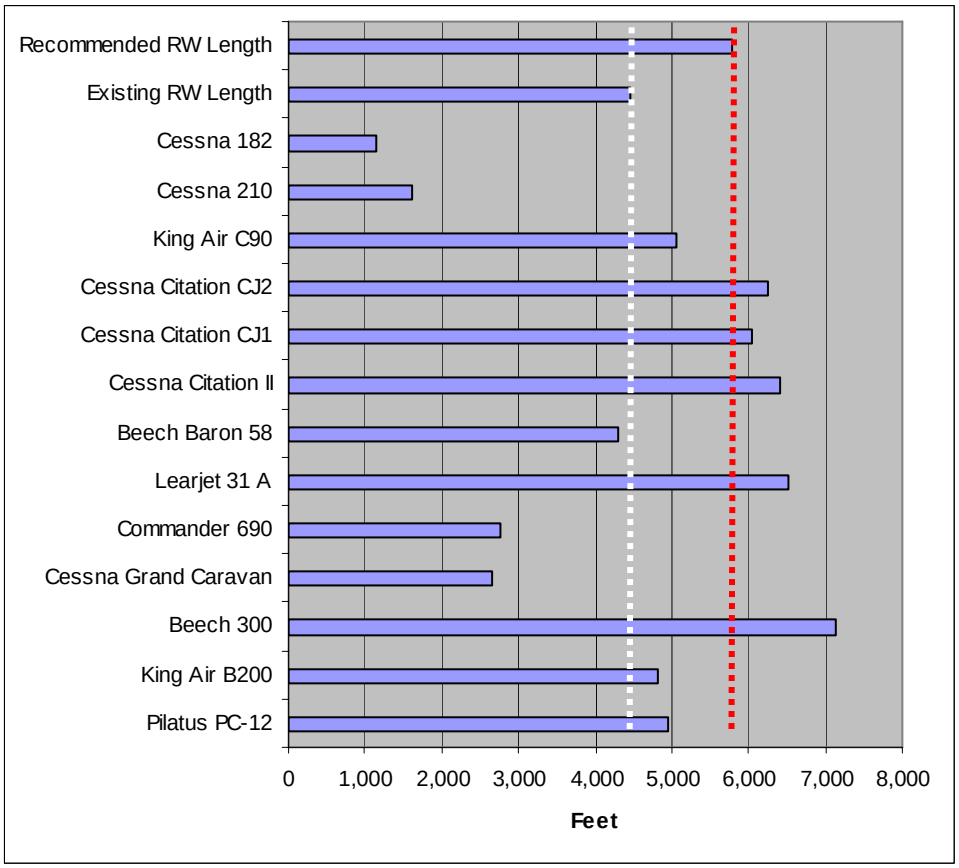


A comparative analysis of based aircraft forecasts was accomplished using four methodologies to derive a preferred forecast of based aircraft for the airport. The adjusted per capita method forecast was selected as the recommended forecast and resulted in approximately 158 based aircraft by 2025. Five methods were analyzed in order to develop a preferred method of forecasting aircraft operations at the Steamboat Springs Airport. Each method utilized the preferred based aircraft forecast and applied an operations per based aircraft (OPBA) figure to the based aircraft forecast. These estimates provide a likely range of activity for future operations at the airport. With improved approaches and additional hangar space it is reasonable to anticipate that the OPBA will increase over the planning period from 186 to 265 in 2025. This would result in approximately 41,870 annual aircraft operations in 2025.

FACILITY REQUIREMENTS

One of the primary objectives of this planning study is to determine the size and configuration of airport facilities needed to accommodate the types and volume of aircraft expected to utilize the airport. Data from Chapter 1 and forecasts from Chapter 2 are coupled with established planning criteria to determine what improvements are necessary to airside and landside areas. Then, having established the facility requirements, alternatives for providing these facilities are provided in Chapter 4 to determine the viability of meeting the facility needs.

The time frame for addressing development needs usually involves Short-Term (1-5 years), Medium-Term (6-10 years) and Long-Term (11-20 years) periods. Long-term planning primarily focuses on the ultimate role of the airport and is related to development. Medium-term planning focuses on a more detailed assessment of needs, while the short-term analysis focuses on immediate action items and may include details not geared towards long-term development.



One of the facility requirements that needed to be evaluated for the Steamboat Springs Airport was runway length. According to the FAA design program, a runway length of 5,780 feet would accommodate approximately 75 percent of the small aircraft fleet. However, it is important to identify the runway length requirements for the specific aircraft that are expected to operate at the airport. The chart shows the types of aircraft that currently operate at the airport. Based on the required runway lengths for these categories of aircraft, a runway length of 5,780 feet will provide adequate takeoff distance for the forecasted aircraft throughout the planning period. This length accommodates the single-engine piston aircraft fleet, most of the twin-engine piston fleet, light turboprop and B-II turbojet aircraft fleet. Although these aircraft are currently able to operate out of the airport they are often limited on the amount of fuel or payload depending on the temperature. An extension to 5,780 feet would increase the utility of the airport by enabling the aircraft to take on more fuel for longer hauls, increase payload and/or use the airport in higher summertime temperatures when they otherwise may not be able to because of aircraft performance limitations. Large aircraft requiring in excess of 5,780 feet of runway length are primarily C-II aircraft and are encouraged to utilize Yampa Valley Regional Airport which is designed to accommodate the large aircraft fleet mix.

Hangar development was also identified as a need at the airport. The City of Steamboat Springs currently has a waiting list for hangars. A partial parallel taxiway at the airport is currently justified and should therefore be planned in the short to medium-term time frame. In the medium to long-term development plan, a full length parallel taxiway should also be considered.

King Air at Steamboat Springs Airport

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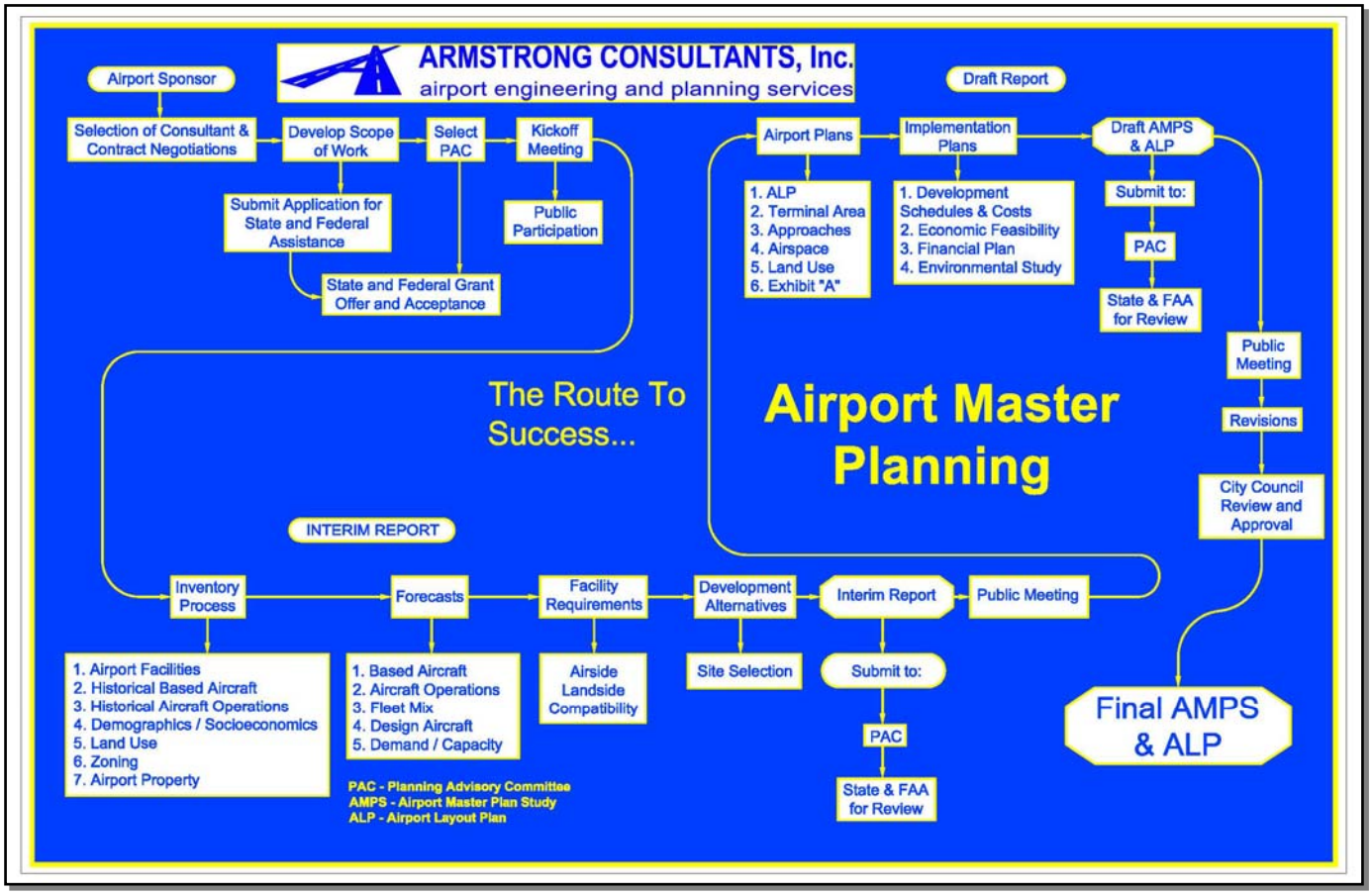
Public Information Meeting

An open house style meeting will be scheduled to update the public on the progress of the study and answer questions about the first three chapters of the study. The meeting date and time will be advertised in the local media.

The informational meeting will include a short presentation and then provide interested parties the opportunity to interact with the consultants and airport representatives to ask specific questions and provide input. Representatives from the City of Steamboat Springs, the Airport Steering Committee and Armstrong Consultants will be available to answer any questions.



Volume 1, Issue 3

July 2007

AIRPORT MASTER PLAN
STEAMBOAT SPRINGS, COLORADO

INSIDE THIS ISSUE:

Overview	*1*
Airport Development Alternatives	*2*
Summary	*4*
Next Steps	*4*

This is the third of four newsletters that will be distributed during the Airport Master Plan. The purpose of the newsletters is to provide updates on the progression of the study, announce upcoming meetings and to ensure the involvement of the community in order that all interested parties are given consideration and that they remain informed about the progress of the Airport Master Plan.

WORKING PAPER 4
DEVELOPMENT ALTERNATIVES

OVERVIEW

The Facility Requirements provided the basis for formulating development alternatives concepts. Working Paper 4 focuses on the logical alternatives the City of Steamboat Springs should consider for the existing and future airport configuration of Steamboat Springs Airport. In order to recommend a development concept, several important questions need to be answered:

- How can the existing facilities accommodate the future activity?
- Is a runway extension feasible?
- How much land should be acquired to protect the airport from incompatible land uses and provide for future development?
- How should short-term and long-term hangar development be accommodated?
- How can the airport be developed in an environmentally and fiscally responsible way?

The alternatives evaluated in this working paper are not requirements for development at the Steamboat Springs Airport, they are options that the City of Steamboat Springs should consider to meet existing and future forecasted demand. The only development that would be required in the future would be safety related items, such as wildlife perimeter fencing.

Initial and future development items would include those necessary to meet existing demand and future development with a B-II Airport Reference Code (ARC).

AIRPORT DEVELOPMENT ALTERNATIVES

Instrument Approach Minimums Alternative

Two options have been identified for future instrument approach minimums. The first option would be to plan for a future instrument approach with approach minimums lower than 3/4-mile. This would result in larger protection and safety areas surrounding the airport along with increased runway to taxiway separation requirements. The second option would be to plan for instrument approach minimums to be 3/4-mile or greater. This would result in smaller protection and safety areas surrounding the airport and reduced runway to taxiway separation requirements. A future instrument approach procedure with minimums lower than 3/4-mile is not feasible at Steamboat Springs Airport due to terrain in the vicinity of the airport (Seattle FAA flight Procedures Office). Therefore, it is recommended that the future minimums be planned for "not lower than 3/4-mile" and the parallel taxiway be developed at 240 feet from the runway centerline.

Runway Development Alternatives

Each airside development alternative addresses the needs for accommodating existing and future aviation demand identified in the Facility Requirements Chapter. Estimated development costs for each alternative have been evaluated in order to conduct an overall comparative analysis.

The following alternatives were evaluated:

Runway Development Alternatives

Alternative	Runway Extension Length	Runway Length
A	600'	5,052'
B	1,328'	5,780'
C	2,978'	7,430'
D	3,748'	8,200'
E (No Action)	-	4,452'

Runway Alternatives Cost Comparison

Alternative	Total Cost	Federal Cost	State Cost	Local Cost
A	$10,050,000	$9,547,500	$251,250	$251,250
B	$19,350,000	$18,382,500	$483,750	$483,750
C	$43,765,000	$41,576,750	$1,094,125	$1,094,125
D	$52,845,000	$50,202,750	$1,321,125	$1,321,125
E	-	-	-	-

Runway Extension Local Share Break Even Analysis with City Providing Fuel

Alternative	Runway Length	Local Development Cost	Estimated Increased Gross Revenue (20 Years)	20-Year Net Revenue or Subsidy (+,-)
A	5,052'	$251,250	$2,295,007	+$2,043,757
B	5,780'	$483,750	$4,993,863	+$4,510,113
C	7,430'	$1,094,125	$6,663,397	+$5,569,272
D	8,200'	$1,321,125	$7,005,939	+$5,684,814

Information assumes 2007 Dollars.

Runway Extension Local Share Break Even Analysis with Private FBO Providing Fuel				
Alternative	Runway Length	Local Development Cost	Estimated Increased Gross Revenue (20 Years)	20-Year Net Revenue or Subsidy (+,-)
A	5,052’	$251,250	$340,843	+$89,593
B	5,780’	$483,750	$741,663	+$257,913
C	7,430’	$1,094,125	$989,613	-$104,512
D	8,200’	$1,321,125	$1,040,486	-$280,639
Information assumes 2007 dollars.				

Taxiway Development Alternatives

The estimated taxiway development costs are shown in the table below.

Taxiway Development Alternatives Cost Comparison						
Runway Length	Partial Parallel (RW 14)	Partial Parallel (RW 32)	Total Cost	Federal Cost	State Cost	Local Cost
4,452’	$4,700,000	$7,000,000	$11,700,000	$11,115,000	$292,500	$292,500
5,052’	$8,000,000	$7,000,000	$15,000,000	$14,250,000	$375,000	$375,000
5,780’	$12,000,000	$7,000,000	$19,000,000	$18,050,000	$475,000	$475,000
7,430’	$22,000,000	$7,000,000	$29,000,000	$27,550,000	$725,000	$725,000
8,200’	$26,000,000	$7,000,000	$33,000,000	$31,350,000	$825,000	$825,000

Landside Development Alternatives

Landside facilities are another important aspect of the airport. Landside facilities serve as the processing interface between the surrounding community and the airport operating environment. Likewise, it offers the traveler the first impression of the airport and local area. Landside facilities house supporting infrastructure for airside operations and often generate substantial revenues for the airport.

The following landside alternatives were evaluated:

Landside Development Alternatives	
Alternative	Description
L1	Expand hangar development northeast of the existing apron area including the conversion of a portion of the automobile parking lot to hangar development.
L2	Expand apron area and hangar development area to the north of the existing hangar and apron area.
L3	Expand apron and hangar development area to the southwest of the existing landside development on the opposite side of Runway 14/32.
L4	Expand apron and hangar development area to the southeast of the existing hangar and apron area.
L5	Develop residential/industrial airpark southwest of the existing landside development on the opposite side of Runway 14/32.
L6	No Action Alternative

Landside Alternative Cost Comparison				
Alternative	Total Cost	Federal Share	State Share	Local Share
L1	$570,000	$541,500	$14,250	$14,250
L2	$7,840,000	$7,448,000	$196,000	$196,000
L3	$22,229,000	$21,117,550	$555,725	$555,725
L4	$8,050,000	$7,647,500	$201,250	$201,250
L5	$2,000,000	$1,900,000	$50,000	$50,000
L6	-	-	-	-

Landside Development Local Share Break Even Analysis			
Alternative	Local Development Cost	Estimated Increased Gross Revenue 20 Years	Net Revenue or Subsidy (+,-)
L1	$14,250	$1,205,106	+$1,190,856
L2	$196,000	$1,205,106	+$1,009,106
L.3	$555,725	$1,205,106	+$649,381
L4	$201,250	$1,205,106	+$1,003,856
L5	$50,000	$1,205,106	+$1,155,106
L6	-	-	-
Information assumes 2007 dollars.			

SUMMARY

Based on the analysis and results of the study to-date, along with Steamboat Springs Airport Steering Group and public input, the following actions are recommended:

1) Accomplish all safety-related and pavement maintenance projects including wildlife perimeter fencing (these types of projects are not included in the Alternatives analysis but will be included in the Financial and Airport Development Plans).

2) Plan for and implement construction of a partial parallel taxiway to Runway 32 and construct a bypass taxiway at the Runway 14 end. FAA funding for a partial parallel taxiway to Runway 14 is not likely. However, if the City is able to obtain excess fill material from other projects to create the embankment then obtaining FAA funding for the paving and lighting would be a higher probability.

3) Plan for and implement Alternative A for a 600 foot runway extension for the initial runway extension and plan for Alternative B in the ultimate for a total runway length of 5,780 feet which would accommodate the recommended 75 percent of the small aircraft fleet. Implement the runway extension alternatives after other higher priority projects (such as wildlife fencing and L1) have been completed.

4) Plan for and implement Alternative L1 and plan for Alternative L2 the area located north of Alternative L2 should also be protected for future landside development occurring adjacent to Alternative L2. The potential development of Alternative L5 is also a possibility should a private developer approach the City.

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NEXT STEPS

- Present the alternatives to the City Council and select the preferred alternative.
- Airport Development and Financial Chapter
- Financial Chapter overview with Steering Group

City of Steamboat Springs

Volume 1, Issue 4

November 2007

AIRPORT MASTER PLAN
STEAMBOAT SPRINGS, COLORADO

INSIDE THIS ISSUE:

Overview	*1*
Financial Plan	*2*
Environmental Overview	*3*
Summary	*4*
Next Steps	*4*

This is the fourth of four newsletters that will be distributed during the Airport Master Plan. The purpose of the newsletters is to provide updates on the progression of the study, announce upcoming meetings and to ensure the involvement of the community in order that all interested parties are given consideration and that they remain informed about the progress of the Airport Master Plan.

WORKING PAPERS 5 AND 6 FINANCIAL DEVELOPMENT AND ENVIRONMENTAL OVERVIEW

OVERVIEW

The Airport Development and Financial Plan includes estimated development costs based on the airport layout plan and are included for each item in the Airport Development Plan. They are based on the recommended facility requirements discussed in Chapter Three and the development projects selected in Chapter Four. The phasing of projects assists the airport sponsor in budgetary planning for construction improvements that are needed to provide a safe and functional facilities for aviation demand. Phased development schedules also assist the airport sponsor in contingencies and construction.

The environmental overview examined the potential environmental impacts associated with the proposed airport improvements listed in the recommended development plan. The environmental overview is intended to provide an overview of the potential impacts and identify additional documentation that may be required as a prerequisite to future development.

Airport Development and Financial Plan

Recommended Airport Development Projects

Short Term
- Repair/Replace Perimeter Fencing
- Acquire land for Approach Protection (RPZ Avigation Easements)
- Construct Taxilanes for Hangar Development (Phase I)
- Partial Parallel Taxiway Runway 32
- Bypass Taxiway Runway 14
- Pavement Preservation

Medium Term
- Environmental Assessment for Runway Extension (Phase I)
- Runway Extension (Phase I)
- Airport Layout Plan Update
- Taxilane Expansion (Phase II)
- Update Airport Master Plan
- Pavement Preservation

Long Term
- Environmental Assessment for Runway Extension (Phase II)
- Runway Extension (Phase II)
- Apron Expansion
- Pavement Preservation
- Replacement Snow Removal Equipment Building

Financial and Airport Development Plan

It is not uncommon for the airport development needs to exceed the level of FAA and State grant funding available. Airports typically submit their unconstrained list of funding needs to the FAA. This list is compiled into the National Plan of Integrated Airport Systems (NPIAS) report that is then submitted to Congress on a biennial basis. The FAA and State then select those projects from the NPIAS list that fall within their priority and funding capacity and enter tem (i.e. program them) into the Airports Capital Improvement Program (ACIP). The ACIP includes those projects that are reasonably expected (but not guaranteed) to be funded over the next six years. Therefore despite eligibility for federal and state funding of the development items shown in the table below, the actual availability of funding for the projects is not guaranteed. None of the development is required to be completed, the projects shown in the plan were based on the needs determined by existing and forecasted demand.

Steamboat Springs Airport Recommended Development Plan

	Project Description	Total Cost	Federal Cost	State Cost	Local Cost
S	Replace/Repair Perimeter-Wildlife Fence	$250,000	$237,500	$6,250	$6,250
S	Land for Approach Protection	$150,000	$142,500	$3,750	$3,750
C	Taxilane Construction	$570,000	$541,500	$14,250	$14,250
C	Partial Parallel Taxiway Runway 32	$7,000,000	$6,650,000	$175,000	$175,000
C	Bypass Taxiway Runway 14	$2,000,000	$1,900,000	$50,000	$50,000
S	Pavement Preservation	$175,000	$166,250	$4,375	$4,375
	Total Short Term	*$10,145,000*	*$9,637,750*	*$253,625*	*$253,625*
S	ALP Update	$125,000	$118,750	$3,125	$3,125
C	EA for Runway 14/32 Extension	$150,000	$142,500	$3,750	$3,750
C	Extend Runway 14/32 (Phase I)	$10,050,000	$9,547,500	$251,250	$251,250
C	Apron Expansion (Phase I)	$570,000	$541,500	$14,250	$14,250
S	Pavement Preservation	$175,000	$166,250	$4,375	$4,375
S	Update Airport Master Plan	$250,000	$237,500	$6,250	$6,250
	Total Medium Term	*$11,320,000*	*$10,754,000*	*$283,000*	*$283,000*
C	EA for Runway 14/32 Extension	$150,000	$142,500	$3,750	$3,750
C	Extend Runway 14/32 (Phase II)	$10,000,000	$9,500,000	$250,000	$250,000
C	Apron Expansion (Phase II)	$7,840,000	$7,448,000	$196,000	$196,000
S	Pavement Preservation	$175,000	$166,250	$4,375	$4,375
S	Snow Removal Equipment	$250,000	$237,500	$6,250	$6,250
S	Replace Snow Removal Equipment Building	$325,000	$308,750	$8,125	$8,125
	Total Long Term	*$18,740,000*	*$17,803,000*	*$468,500*	*$468,500*
	Total	**$40,205,000**	**$38,194,750**	**$1,005,125**	**$1,005,125**

C=Capacity
S=Safety

Steamboat Springs Airport Existing Rates and Charges	
Source	**Rate**
Land Leases	$.22/sq.ft. / year—$.56/sq.ft / year
Hangar Nightly	$300 1st night, $250/night thereafter for large hangars $175 1st night, $150/night thereafter for small hangars
Hangar Monthly Rent	$.39/ sq.ft./month-$.45/ sq.ft./month
Tiedown Fees (Monthly)	$80-$200/month
Transient Overnight Tiedown Fees	$10-$30/night
Fuel Markup Fee	$1.01/gallon
Fuel Flowage Fees	$0.15/gallon
Ramp Facility Fee (Day use)	$5-$25/daily
Ramp Facility Fee (Annual Day use)	$480-$1,200/year
Vehicle Parking Lot	$5/night, $30/month, $300/year
Gate Fee (ramp access fee)	$5
Steamboat Springs Airport Management July, 2007	

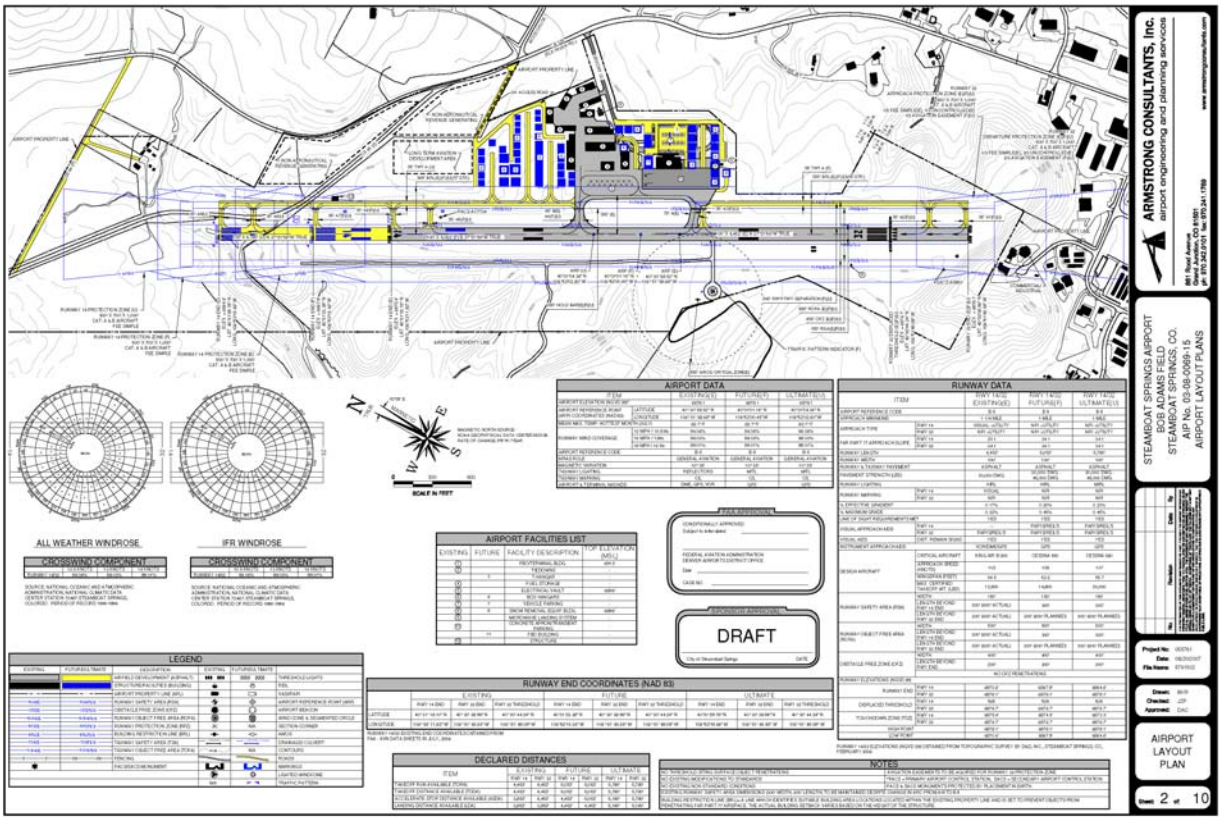
Airport revenues generally consist of land leases, tiedown fees, fuel flowage fees and landing fees. A summary of the current level of rates and changes at Steamboat Springs Airport is listed in the table above.

Environmental Overview

The Potential Environmental Impacts table below provides a summary of the analysis ratings for the eighteen environmental impact categories with respect to the proposed airport improvements. While some categories indicate a potential impact, they are all estimated to be below the threshold of significance as described in FAA Order 5050.4B.

Based on this evaluation, it is recommended that Categorical Exclusions (CATEX's) be issued for all projects included in the Airport Development Plan except for the Phase II runway extension which will require an Environmental Assessment (EA) due to road relocation and potential wetland impacts.

Potential Environmental Impacts		
Impact Category	**Impact Level**	**Description**
Air Quality	Minor	Short term dust and exhaust
Coastal Resources	None	
Compatible Land Use	None	
Construction Impacts	Minor	Short term dust and exhaust
DOT Action Section 4(F)	None	
Farmlands	None	
Fish, Wildlife and Plants	None	
Floodplains	None	
Hazardous Material, Pollution Prevention and Solid Waste	None	
Historical, Architectural, Archaeological and Cultural Resources	None	
Light Emissions and Visual Impacts	None	
Natural Resources and Energy Supply	None	
Noise	None	
Secondary (Induced) Impacts	Minor Positive	Economic benefit from airport
Socioeconomic Impacts, Environmental Justice and Children's Environmental Health	None	
Water Quality	Minor	Stormwater runoff
Wetlands	None (Phase I)	Phase II RW extension will impact wetlands
Wild and Scenic Rivers	None	



SUMMARY

Increasing aircraft storage hangars at the airport would result in increased direct revenues generated through property leases and increased indirect revenue through increased use of the airport services and facilities, such as increased fuel purchases. Locations for additional nested T-hangars and individual box hangars have been identified on the terminal area drawing (TAD), included in the Airport Master Plan. The Financial Development Plan has outlined proposed capital improvement projects and provides a guide for implementing future development of the Steamboat Springs Airport. The plan outlines capital improvement projects in sequence and estimated financial costs to be shared by the federal, state government and the airport sponsor. The objective of this financial analysis is to determine the most likely plan for funding capital improvement projects for the next twenty years.

The Airport's goal is to provide a safe and efficient airport to serve Steamboat Springs by providing aircraft storage, maintenance and fueling. Therefore it is recommended that the airport be able to accommodate existing and forecasted demand by airport users.

Airport planning is a continuous process that does not end with the completion of a major project. The fundamental issues upon which this master plan are based are expected to remain valid for several years; however, several variables, such as based aircraft, annual aircraft operations and socioeconomic conditions are likely to change over time.

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NEXT STEPS

- Draft Airport Overlay Zone Ordinance
- Final Public Information Meeting
- Final Airport Layout Plan and Airport Master Plan

City of Steamboat Springs

Appendix I
Acronyms

Steamboat Springs
Airport Master Plan

COMMONLY USED ACRONYMS

AC	Advisory Circular
AD	Airport Design
ADG	Airplane Design Group
AGL	Above Ground Level
AIP	Airport Improvement Program
ALP	Airport Layout Plan
ALS	Approach Lighting System
ARC	Airport Reference Code
ARP	Airport Reference Point
ARTCC	Air Route Traffic Control Center
ASDA	Accelerate Stop Distance
ASDE	Airport Surface Detection Equipment
ASR	Airport Surveillance Radar
ASV	Annual Service Volume
ATC	Air Traffic Control
ATCT	Airport Traffic Control Tower
AWOS	Automated Weather Observation system
BRL	Building Restriction Line
CAT	Category
CFR	Code of Federal Regulations
CWY	Clearway
CY	Calendar Year
DME	Distance Measuring Equipment
EL	Elevation
EMT	Emergency Medical Technician
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBO	Fixed Base Operator
FSS	Flight Service System
FY	Fiscal Year
GA	General Aviation
GPS	Global Positioning System
HIRL	High Intensity Runway Lights
IEMT	Intermediate Emergency Medical Technician
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
LDA	Landing Distance Available
LOC	Localizer
MALS	Medium Intensity Approach Lighting System
MALSF	Medium Intensity Approach Lighting System
MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
ME	Multi-Engine
MIRL	Medium Intensity Runway Lights
MITL	Medium Intensity Taxiway Lights
MLS	Microwave Landing System
MOA	Military Operating Area
MSL	Mean Sea Level
NAVAID	Navigational Aid
NDB	Nondirectional Beacon
NM	Nautical Mile
NPIAS	National Plan of Integrated Airport Systems
ODALS	Onmnidirectional Approach Lighting System
OFA	Object Free Area
OFZ	Obstacle Free Zone
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
RAIL	Runway Alignment Indicator Lights
REIL	Runway End Identifier Lights
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RVR	Runway Visual Range
RW	Runway
SWY	Stopway
TERPS	Terminal Instrument Procedures
TH	Threshold
TL	Taxilane
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available
TSA	Taxiway Safety Area
TVOR	Very High Frequency Omnirange on an Airport
TW	Taxiway
USGS	United States Geological Society
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules
VOR	Very High Frequency Omnirange
WAAS	Wide Area Augmentation System

Appendix J
Glossary of Terms

Steamboat Springs
Airport Master Plan

GLOSSARY OF TERMS

Above Ground Level (AGL)	A height above ground as opposed to MSL (height above Mean Sea Level).
Advisory Circular (AC)	Publications issued by the FAA to provide a systematic means of providing non-regulator guidance and information in a variety of subject areas.
Airport Improvement Program (AIP)	The AIP of the Airport and Airways Improvement Act of 1982 as amended. Under this program, the FAA provide funding assistance for the design and development of airports and airport facilities.
Aircraft Mix	The number of aircraft movements categorized by capacity group or operational group and specified as a percentage of the total aircraft movements.
Aircraft Operation	An aircraft takeoff or landing.
Airport	An area of land or water used or intended to be used for landing and takeoff of aircraft, includes buildings and facilities, if any.
Airport Elevation	The highest point of an airport's useable runways, measured in feet above mean sea level.
Airport Hazard	Any structural or natural object located on or near a public airport, or any use of land near such airport, that obstructs the airspace required for flight of aircraft on approach, landing, takeoff, departure, or taxiing at the airport.
Airport Land Use Regulations	Are designed to preserve existing and/or establish new compatible land uses around airports, to allow land use not associated with high population concentration, to minimize exposure of residential uses to critical aircraft noise areas, to avoid danger from aircraft crashes, to discourage traffic congestion and encourage compatibility with non-motorized traffic from development around airports, to discourage expansion of demand for governmental services beyond reasonable capacity to provide services and regulate the area around the airport to minimize danger to public health, safety, or property from the operation of the airport, to prevent obstruction to air navigation and to aid in realizing the policies of a County Comprehensive Plan and Airport Master Plan.
Airport Layout Plan (ALP)	A graphic presentation, to scale, of existing and proposed airport facilities, their location on the airport and the pertinent applicable standards. To be eligible for AIP funding assistance, an airport must have an FAA-approved ALP.

Airport Master Record, Form 5010	The official FAA document, which lists basic airport data for reference and inspection purposes.
Airport Reference Code (ARC)	The ARC is a coding system used to relate airport design criteria to the operational and physical characteristics of the airplanes intended to operate at the airport.
Airport Reference Point (ARP)	The latitude and longitude of the approximate center of the airport.
Airspace	Space above the ground in which aircraft travel; divided into corridors, routes and restricted zones.
Air Traffic	Aircraft operating in the air or on an airport surface, excluding loading ramps and parking areas.
Approach Surface	A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.
Automated Weather Observing System (AWOS)	This equipment automatically gathers weather data from various locations on the airport and transmits the information directly to pilots by means of computer generated voice messages over a discrete frequency.
Based aircraft	An aircraft permanently stationed at an airport.
Building Restriction Line	A line, which identifies suitable building area locations on airports.
Ceiling	The height above the earth's surface of the lowest layer of clouds or other phenomena which obscure vision.
Conical Surfaces	A surface extending outward and upward form the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.
Controlled Airspace	Airspace in which some or all aircraft may be subject to air traffic control to promote safe and expeditious flow of air traffic.
Critical/Design Aircraft	In airport design, the aircraft which controls one or more design items such as runway length, pavement strength, lateral separation, etc., for a particular airport. The same aircraft need not be critical for all design items.

Day Night Level (DNL)	24-hour average sound level, including a 10 decibel penalty for sound occurring between 10:00 PM and 7:00 AM
Decibel	Measuring unit for sound based on the pressure level.
Design Type	The design type classification for an airport refers to the type of runway that the airport has based upon runway dimensions and pavement strength.
Federal Aviation Administration (FAA)	The federal agency responsible for the safety and efficiency of the national airspace and air transportation system.
FAR Part 77	A definition of the protected airspace required for the safe navigation of aircraft.
Fixed Base Operator (FBO)	An individual or company located at an airport and providing commercial general aviation services.
Fuel Flowage Fees	A fee charged by the airport owner based upon the gallons of fuel either delivered to the airport or pump at the airport.
General Aviation (GA)	All aviation activity in the United States, which is neither military nor conducted by major, national or regional airlines.
Glider	A heavier-than-air aircraft that is supported in flight by the dynamic reaction of the air against its lifting surfaces and whose free flight does not depend principally on an engine (FAR Part 1),
Global Positioning System (GPS)	The global positioning system is a space based navigation system, which has the capability to provide highly accurate three-dimensional position, velocity and time to an infinite number of equipped users anywhere on or near the Earth. The typical GPS integrated system will provide: position, velocity, time, altitude, groundspeed and ground track error, heading and variation. The GPS measures distance, which it uses to fix position, by timing a radio signal that starts at the satellite and ends at the GPS receiver. The signal carries with it, data that discloses satellite position and time of transmission and synchronizes the aircraft GPS system with satellite clocks.
Hazard to Air Navigation	An object which, as a result of an aeronautical study, the FAA determines will have a substantial adverse effect upon the safe and efficient use of navigable airspace by aircraft, operation of air navigation facilities or existing or potential airport capacity.
Horizontal Surface	A horizontal plane 150 feet above the established airport elevation, the perimeter which is constructed by swinging arcs of specified radii form the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs.

Imaginary Surfaces	Surfaces established in relation to the end of each runway or designated takeoff and landing areas, as defined in paragraphs 77.25, 77.28 and 77.29 of FAR Part 77, *Objects Affecting Navigable Airspace*. Such surfaces include the approach, horizontal, conical, transitional, primary and other surfaces.
Itinerant Operations	All operations at an airport, which are not local operations.
Jet Noise	The noise generated externally to a jet engine in the turbulent jet exhaust.
Knots	Nautical miles per hour, equal 1.15 statute miles per hour.
Large Airplane	An airplane of more than 12,500 pounds maximum certified takeoff weight.
Local Operations	Operations by aircraft flying in the traffic pattern or within sight of the control tower, aircraft known to be arriving or departing from flight in local practice areas, or aircraft executing practice instrument approaches at the airport.
Location Identifier	A three-letter or other code, suggesting where practicable, the location name that it represents.
Maneuvering Area	That part of an airport to be used for the takeoff and landing of aircraft and for the movement of aircraft associated with takeoff and landing, excluding aprons.
Master Plan	A planning document prepared for an airport, which outlines directions and developments in detail for 5 years and less specifically for 20 years. The primary component of which is the Airport Layout Plan.
Mean/Maximum Temperature	The average of all the maximum temperatures usually for a given period of time.
Mean Sea Level (MSL)	Height above sea level.
Medium Intensity Runway Lights (MIRL)	For use on VFR runways or runway showing a nonprecision instrument flight rule (IFR) procedure for either circling or straight-in approach.
Minimum Altitude	That designated altitude below which an IFR pilot is not allowed to fly unless arriving or departing an airport or for specific allowable flight operations.

National Airspace System	The common network of United States airspace, navigation aids, communications facilities and equipment, air traffic control equipment and facilities, aeronautical charts and information, rules, regulations, procedures, technical information and FAA manpower and material.
National Plan of Integrated Airport Systems (NPIAS)	A plan prepared annually by the FAA which identifies, for the public, the composition of a national system of airports together with the airport development necessary to anticipate and meet the present and future needs of civil aeronautics, to meet requirements in support of the national defense and to meet the special needs of the Postal Service. The plan includes both new and qualitative improvements to existing airports to increase their capacity, safety, technological capability, etc.
NAVAID	A ground based visual or electronic device used to provide course or altitude information to pilots.
Noise	Defined subjectively as unwanted sound. The measurement of noise involve understanding three characteristics of sound: intensity, frequency and duration.
Noise Contours	Lines drawn about a noise source indicating constant energy levels of noise exposure. DNL is the measure used to describe community exposure to noise.
Noise Exposure Level	The integrated value, over a given period of time of a number of different events of equal or different noise levels and durations.
Non-Precision Instrument	A runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance for which a straight-in nonprecision instrument approach procedure has been approved.
Notice to Airmen (NOTAM)	A notice containing information (not known sufficiently in advance to publicize by other means concerning the establishment, condition or change in any component (facility, service, or procedure) of or hazard in the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.
Object	Includes, but is not limited to, above ground structures, NAVAIDs, people, equipment, vehicles, natural growth, terrain and parked aircraft.
Object Free Area (OFA)	A two-dimensional ground area-surrounding runways, taxiways and taxilanes which is clear of objects except for object whose location is fixed by function.

Obstacle Free Zone (OFZ)	The airspace defined by the runway OFZ and, as appropriate, the inner-approach OFZ and the inner-transitional OFZ, which is clear of object penetrations other than frangible NAVAIDs.
Obstruction	An object which penetrates an imaginary surface described in the FAA's Federal Aviation Regulations (FAR), Part 77.
Parking Apron	An apron intended to accommodate parked aircraft.
Pattern	The configuration or form of a flight path flown by an aircraft or prescribed to be flown, as in making an approach to a landing
Precision Approach Path Indicators (PAPI)	The visual approach slope indicator system furnishes the pilot visual slope information to provide safe descent guidance. It provides vertical visual guidance to aircraft during approach and landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that they are "on path" if they see red/white, "above path" if they see white/white and "below path" if they see red/red.
Primary Surface	A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway, but when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway.
Rotating Beacon	A visual navaid operated at many airports. At civil airports, alternating white and green flashes indicate the location of the airport.
Runway	A defined rectangular surface on an airport prepared or suitable for the landing or takeoff of airplanes.
Runway End Identifier Lights (REIL)	REILs are flashing strobe lights which aid the pilot in identifying the runway end at night or in bad weather conditions.
Runway Gradient	The average gradient consisting of the difference in elevation of the two ends of the runway divided by the runway length may be used provided that no intervening point on the runway profile lies more than five feet above or below a straight line joining the two ends of the runway. In excess of five feet the runway profile will be segmented and aircraft data will be applied for each segment separately.
Runway Lighting System	A system of lights running the length of a system that may be either high intensity (HIRL), medium intensity (MIRL), or low intensity (LIRL).
Runway Orientation	The magnetic bearing of the centerline of the runway.

Runway Protection Zone (RPZ)	An area off the runway end used to enhance the protection of people and property on the ground.
Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion form the runway.
Segmented Circle	A basic marking device used to aid pilots in locating airports and which provides a central location for such indicators and signal devices as may be required.
Small Aircraft	An airplane of 12,500 pounds or less maximum certified takeoff weight.
Taxiway	A defined path established for the taxiing of aircraft from one part of an airport to another.
Terminal Area	The area used or intended to be used for such facilities as terminal and cargo buildings, gates, hangars, shops and other service buildings, automobile parking, airport motels, restaurants, garages and automobile services and a specific geographical area within which control of air traffic is exercised.
Threshold	The beginning of that portion of the runway available for landing.
Touch and Go Operations	Practice flight performed by a landing touch down and continuous takeoff without stopping.
Traffic Pattern	The traffic flow that is prescribed for aircraft landing at, taxiing on or taking off form an airport. The usual components are the departure, crosswind, downwind, and base legs; and the final approach.
Transitional Surface	These surfaces extend outward and upward at right angles to runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces.
Universal Communications (UNICOM)	A private aeronautical advisory communications facility for purpose other than air traffic control. Only one such station is authorized in any landing area. Service available are advisory in nature primarily concerning the airport services and airport utilization. Locations and frequencies of UNICOMs are listed on aeronautical charts and publications.
Visual Flight Rules (VFR)	Rules that govern flight procedures under visual conditions.
Visual Runway	A runway intended for visual approaches only with no straight-in instrument approach procedure either existing or planned for that runway.

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