Table of CONTENTS

SECTION 1 - INTRODUCTION

This document is an update of the Steven A. Bean Municipal Airfield Master Plan. The Airfield is located in the town of Rangeley, in the northwest corner of the state of Maine. This update replaces the last update prepared in 1993.

The airport was renamed in honor of the late Steven A Bean. Its previous name was Rangeley Municipal Airport. Throughout this document, reference to "Rangeley", "Airfield", or "Airport" means the Steven A. Bean Airfield, in Rangeley, Maine.

AIRPORT MASTER PLAN – DEFINED

An airport master plan is a comprehensive study of the airport and typically describes short-, medium-, and long-term plans for airport development. Master planning studies, that address major revisions are commonly referred to as "Master Plans,", while those that change only parts of the existing document and require low level of effort tend to be known as Airport Master Plan Update (AMPU). In common usage, however, the distinction refers to relative levels of effort and detail of master planning studies. In most cases, as is with this one, the master plan update includes the following elements:

- **Pre-Planning**. The pre-planning process, which was completed earlier in the year (2010), included an Initial Needs Determination, Development of the Study Design, Negotiation of Consultant fee and contract, and an Application for Study Financing. This update is funded through a grant with the FAA and the Airport Improvement Program (AIP), which is covering 95% of the total project cost. The remaining costs are borne equally through a grant from the Maine Department of Transportation (MaineDOT) and the town of Rangeley.
- **Public Involvement**. The public involvement program for this AMPU includes the selection and appointment of a Planning Advisory Committee (PAC). Over the course of the study, the public involvement program will encourage information sharing and collaboration among the PAC members, who represent the town, users and tenants, resource agencies, elected and public officials, residents, and the public. Collectively, these various groups form the stakeholders who have an interest in the outcome of the study. The PAC will be provided with an early opportunity to comment, before major decisions are made; provide adequate notice of opportunities for their involvement; and will be provide regular forums throughout the study. In addition to the four planned PAC meetings, a public information meeting will also be held before the final document is presented to the town for approval and submission to the FAA.
- **Existing Conditions**. An inventory of pertinent data for use in subsequent plan elements. It's a snapshot of how and what the airport looks today.
- **Aviation Forecasts**. Forecasts of aviation demand for the short-, medium-, and long-term time frames. Where the airport should be in terms of aircraft, operations, and other pertinent issues and conditions in five, ten, and twenty years (or the short-, medium-, and long-term).

- **Facility Requirements**. Assesses the ability of the existing airport, both airside and landside, to support the forecast demand. Identifies the demand levels that will trigger the need for facility additions or improvements and estimate the extent of new facilities that may be required to meet that demand.
- **Alternatives Development and Evaluation**. This element identifies options to meet projected facility requirements and alternative configurations for each major component. Assesses the expected performance of each alternative against a wide range of evaluation criteria, including its operational, environmental, and financial impacts. A recommended development alternative, called the preferred alternative, will emerge from this process and will be further refined in subsequent tasks. This element should aid in developing the purpose and need for subsequent environmental documents.
- **Environmental Considerations**. This section will provide a clear understanding of the environmental requirements needed to move forward with each project in the recommended development program.
- **Airport Layout Plans**. One of the key products of a master plan is a set of drawings that provides a graphic representation of the long-term development plan for an airport. The primary drawing in this set is the Airport Layout Plan, which becomes the official airport "blueprint."
- **Facilities Implementation Plan**. Provides a summary description of the recommended improvements and associated costs. The schedule of improvements depends, in large part, on the levels of demand that trigger the need for expansion of existing facilities.
- **Financial Feasibility Analysis**. Identifies the financial plan for the airport, describe how the sponsor will finance the projects recommended in the master plan, and demonstrate the financial feasibility of the program.

PROJECT PURPOSE

The purpose of this AMPU is to revise the existing facilities, forecasts, facility requirements, and development alternatives as identified in the 1993 AMPU. In addition, an implementation schedule will be prepared that includes cost estimates and environmental impacts for the recommended improvements.

BACKGROUND

Because the current plan is now 19 years old, most, if not all of the information is long since outdated and unrelated to the facility as it is today. The airport has changed considerably during the last two decades. Runway 14/32 was lengthened from 2,701 feet to 3,200 feet, with a change in grade to meet FAA standards. The terminal area was expanded through a combination of grading, tree clearing, and fill, resulting in an area much larger surface area for development. In addition, the old terminal building was razed, making room for a new snow removal equipment building and fuel system. However, the terminal area does not reflect the long-term designs incorporated in the 1993 Plan. Instead, it mirrors changes in town philosophy and attitudes over the course of nearly

20 years. Consequently, in 2012, the airport sponsor (town of Rangeley) needs a new long-term vision for the airport; one that reflects the needs of current users, both local and transient, the changing landscape around the airport, and more conservative and fiscal views of its future.

PROJECT FOCUS

The primary focus of this study will be the terminal area. As addressed above, the existing terminal area layout has changed appreciably since the last update. Buildings were removed, and others added, which has both increased the facility's capacity and brought a modern look and appeal to the airport. However, it still lacks basic infrastructure to service the changing fleet-mix of larger corporate aircraft, which frequent the airport in ever-increasing numbers. Most of the changes are a result in the increased popularity of the Rangeley Region as a year-round tourist draw to the lake and ski resorts. The area's appeal is evident in the rapid increase in seasonal and year-round homes in the region, mostly concentrated within a few miles of the airport, which as will be discussed later in this document, is growing rapidly. As a result, demand for airport facilities, such as navigation aids, aircraft parking, hangars, and fuel, dictates a fresh and creative approach to planning the airport's terminal needs.

A secondary focus is to study the required runway length and the possibility of adding a partial or full-length taxiway. While this is not a high-priority issue, the need to reassess the terminal area may lead to alternatives that make adding a longer runway and parallel (full or partial) taxiway prudent. While a longer runway is not deemed essential by the community, they would like to determine if a longer surface is required and if so, how long and how it could be accomplished. This is deemed a minimal effort.

PRODUCT OF THE MASTER PLANNING PROCESS

The products of this master planning process will include the following deliverables:

- **Technical Report.** The Technical Report (this document) contains the results of the analyses conducted during the development of the master plan. Interim reports will be produced to facilitate coordination with various government agencies, tenants, users, the general public, and other interested parties. At the conclusion of the study, the interim reports are assembled into the final technical report.
- **Airport Layout Plan (ALP) Drawing Set.** The ALP will contain a graphical representation of the proposed development in the master plan and will be produced as a separate set of full-sized drawings. In addition, the ALP drawing set will be included in this Technical Report in reduced form.

FAA REVIEW

The recommendations contained in this airport master plan represent the views, policies and development plans of the town of Rangeley and do not necessarily represent the views of the FAA.

However, acceptance of the master plan by the FAA does not constitute a commitment on the part of the United States to participate in any development depicted in the plan, nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public law. The FAA will review all elements of the master plan to ensure that sound planning techniques have been applied. However, the FAA only approves two keys elements of airport master plans:

- **Forecasts of Demand**. The master plan forecasts should be reviewed to ensure that the underlying assumptions and forecast methodologies are appropriate. Inconsistencies between the master plan forecast and FAA Terminal Area Forecasts must be resolved, and the forecast approved, before proceeding with subsequent planning work.
- **Airport Layout Plan**. All airport development at Federally-obligated airports must be done in accordance with an FAA-approved ALP. Furthermore, proposed development must be shown on an approved ALP to be eligible for AIP funding. FAA approval of the ALP indicates that the existing facilities and proposed development depicted on the ALP conforms to the FAA airport design standards in effect at the time of the approval or that an approved modification to standard has been issued. Such approval also indicates that the FAA finds the proposed development to be safe and efficient.

SECTION 2 - EXISTING CONDITIONS

GENERAL

The first step in the airport master planning process involves gathering information about the airport and its environs. An inventory of current conditions is essential to the success of a master plan, since the information also provides a foundation, or starting point, for subsequent evaluations. It is a snapshot of the airport as it appears during a very short period of time and serves as a benchmark for measuring changes leading up to it.

The inventory of existing conditions for the Rangeley AMPU includes the following information:

- Information pertaining to airport ownership and management, the general airport setting, transportation access, the airport's relationship to the Federal airport system, and airport history
- Population and socioeconomic information for the geographic area where most of the passengers are coming from
- A review of historic and current airport activity, including commercial service, general aviation, and military activity
- An overview of the area's airspace and obstructions
- Descriptions of facilities and services now provided at the airport including a general description of airside, terminal, landside, and support facilities, as well as utilities and other infrastructure
- A summary of environmental conditions at the airport
- A financial analysis including historic revenue and expenses

The information gathered for this portion of the Master Plan, to the extent possible, is current as of the end of March 2012. Updated information will be gathered throughout the development of the Master Plan and will be included in subsequent sections, to the extent that the final Technical Report will be as current as possible.

TERMS, ABBREVIATIONS & DEFINITIONS

Appendix 1 contains a list of terms and abbreviations common to the aviation industry, but possibly nebulous to outsiders not familiar with airports and aircraft. To avoid defining each term throughout this report, readers not familiar with them should refer to the Appendix.

AIRPORT SETTING

Steven A Bean Municipal Airfield is located within the municipal boundaries of the town of Rangeley, Maine, in the county of Franklin. The airport, which consists of 125 acres, is two miles north of the main district of the town, on the edge of Dallas Plantation. The airport was formally

named Rangeley Municipal, but was renamed several years ago for the late Steven A Bean. It originally opened in 1940 and has been in continuous operation since.

The Airport has a single 3,200 foot long by 75 foot wide runway oriented southeast-northwest. Other particulars are:

- FAA Identifier: 8B0
- International Identifier: K8B0
- Latitude / Longitude: 44-59-30.8220N / 070-39-52.6490W
- Elevation: 1,825 ft.
- Variation: 16.2W (2010)
- From town: 2 miles NW of the town of Rangeley, ME
- Time zone: UTC -4 (UTC -5 during Standard Time)
- Runway Designation: 14-32
- Runway Bearing: 121° / 301° True (137.2° / 317.2° magnetic)

The airport is located off Loon Lake Road, which connects to State Highways 4 and 16. Loon Lake Road transitions to logging and non-public roads several miles from town. Highway 4 connects to the south with the state capital in Augusta (75 miles) and with New Hampshire (30 miles west). Route 16, via State Route 27 provides access to Quebec Providence, Canada (48 miles). **Figure 2-1** (next page) shows the airport's location in relation to the surrounding area.

AIRPORT ROLE

The Airport is classified a general aviation facility under the National Plan of Integrated Airports System (NPIAS)[1]. The facility is municipally owned and open to the public 24 hours a day. It is one of two public use airports in Franklin County, the other is Sugarloaf Regional Airport, 20 miles northeast in Carrabassett. Both airports in Rangeley and Carrabassett serve two of the state's largest ski areas, Saddleback and Sugarloaf, respectively.

[1] NPIAS number 23-0041.

Within the state of Maine airport system, Rangeley is classified as a Level III System Airport[2]. Goals within the Systems Plan were translated into performance measures, and serve as a report card to evaluate system and individual airports. **Table 1** (next page) lists the target goals as compared to actual conditions. The 14 measurements are addressed in subsequent sections of this section.

Figure 2-1. Airport and Surrounding Community

ACTIVITY

This section is divided into two parts: based aircraft and aircraft operations. This information is typically gathered for general aviation airports and serves as a benchmark for measuring growth leading up this point and then forecasting changes for future planning.

BASED AIRCRAFT

Rangeley is a low- activity airport. The number of based aircraft have varied little since 1985, averaging about 8-10 aircraft. There are eight based aircraft today. **Table 2-1** (next page) presents the historical based aircraft count for the years 1985 – 1990, and today in 2010.

OPERATIONS

Aircraft operations are reported at 12,350[3]. This number includes 5,000 itinerant, 7,000 local, 300 military and 50 air taxi operations (40%, 57%, 2%, and 0.4% respectively). However, this number appears too high given the number of based aircraft. Industry standards indicate that there is a direct correlation between the number of based aircraft and operations. This number ranges from between 300 and 450 operations per aircraft, depending on a number of local variations, such as extensive flight training, or airline service, etc.). In the case of Rangeley, the actual count should be

[2] Maine Aviation Systems Plan Update, Phase I, Final Technical Report, Maine Aviation Systems Plan. Prepared by Wilbur Smith Associates for Maine Department of Transportation, March 2006.
[3] Airport Master Record, FAA Form 5010-1 (Retrieved 10/27/10).

between 2,400 and 3,600 operations. Given the remoteness of Rangeley, with no airline service, and the lack of any formal flight training operations, operations probably equal about 300 per based aircraft, or 2,400 total takeoffs and landings. This revised count will serve as the baseline data and is shown in Table 2-2.

Table 2-1-Systems Plan Measurements

Measurement	Target	Assessment
Aircraft Design Group	B or A Category	Meets
Primary Runway	2,500 – 3,500 feet long x 60 feet wide	Meets
Taxiway	Turnaround	Does not meet
Approach	Visual	Meets
Lighting	Low Intensity runway; taxiway reflectors	Exceeds
Visual Aids	Segmented circle, lighted wind cone	Meets
Based Aircraft Parking	50% covered; 50% apron	Exceeds
Transient Aircraft Parking	25% accommodated on apron	Exceeds
GA Auto Parking	Equal to number of 50% based aircraft	Exceeds
Fuel	100LL	Exceeds
Terminal	500 sq. ft. terminal with phone, restrooms	Does not meet
FBO	Limited Service	Does not meet
Food	Vending	Does not meet
Security	Full perimeter fencing	Does not meet

Source: Maine Aviation System Plan Update (March 2006)

Table 2-2. Historic Based Aircraft and Operations

Year	Based Aircraft	Reported Operations				
		Local	Itinerant	Military	Air Taxi	Total
1985	8	5,475	3,650			9,125
1990	11	7,200	4,800			12,000
2010	8	1,250	1,000	100	50	2,400

Source: 1993 Airport Master Plan; Town of Rangeley; FAA Master Record

FLEET MIX – AIRCRAFT & OPERATIONS

The fleet mix for aircraft and operations is presented in **Table 2-3.**

PEAK HOUR OPERATIONS

Peak-hour (PH) operations are calculated to help determine facility requirements such as transient aircraft parking and passenger and pilot terminal spatial needs. The months of July and August are typically the busiest period at most general aviation airports in the northern latitudes. For airports such as Rangeley, where aircraft operations are based on broad assumptions, the calculations for determining PH involves some standard planning deductions (best guess).

Standard planning guidelines suggest that 15 percent of all annual operations occur in the peak month (PM), and that the peak-month, average day (PMAD) is 1/30 of the PM. The PH is assumed to be 20 percent of PMAD. Given this, the PH for Rangeley is 2.4 operations, which is calculated as follows:

- PM = Total Operations * 15%
- PMAD = PM/30
- PH= PMAD * 20%

Thus:

- PM = 2,400 * 15% = 360
- PMAD = 360/30 = 12
- PH = 12 * 20% = **2.4 operations**

Table 2-3. Fleet-Mix Aircraft & Operations

Segment	Count
Based Aircraft	
Single Engine Reciprocating	7
Multiengine Reciprocating	1
Turboprop	0
Turbofan/Jet	0
Helicopter	0
Total	8
Operations	
Local	1,250
Itinerant	1,150
Total	2,400
Fleet Mix Local Operations	
Single Engine Reciprocating	1,200
Multiengine Reciprocating	50
Turboprop	0
Turbofan/Jet	0
Helicopter	0
Total	1,250
Fleet Mix Itinerant Operations	
Single Engine Reciprocating	1,000
Multiengine Reciprocating	50
Turboprop	75
Turbofan/Jet	0
Helicopter	25
Total	1,150

DESIGN AIRCRAFT & AIRPORT REFERENCE CODE

The design (critical aircraft)[4] for Rangeley according to the last AMPU was the Raytheon Beechcraft Model Super King Air 200, a twin-engine turboprop corporate and passenger/utility transport aircraft. However, there's no supporting data to indicate that this aircraft uses the airport more than once or twice a month, occasionally more often in the summer, but never to the extent that it would meet or exceed the FAA's minimum of 500 operations per year.

After a review of aircraft visitor's logs and other data maintained by the airport sponsor, the Cessna 172 Skyhawk is more likely the existing design aircraft (see **Figure 2-2**). **Table 2-4** lists the Skyhawk's physical and operating characteristics. Given the aircraft's wingspan and approach speed, the existing airport reference code (ARC) [4] for Rangeley is A-I. The ARC establishes FAA design standards.

Table 2-4. Design Aircraft Parameters

Condition	Measurement
Wingspan	36'-1"
Length	27'-2"
Height	8'-11"
Empty Weight / MGTOW[5]	1,691 lbs. / 2,450 lbs.
Stall Speed / Approach Speed	46 knots / 60 knots
Takeoff Distance (sea level / Rangeley[6])	1,200 ft / 1,549 ft
Landing Distance (sea level / Rangeley)	1,100 ft / 1,425 ft
Approach Speed / Category	65 knots / A
Airplane Design Group	I

OWNERSHIP AND MANAGEMENT STRUCTURE

Steven A Bean Municipal Airport is owned and operated as a public-use facility by the town of Rangeley. It is operated as a department within the town's municipal organization. The town's administrative assistant also the airport manager. There are no employees solely employed at the airport. Maintenance is handled primarily through the town's Public Works department or contracted out.

Figure 2-2. Cessna 172 Skyhawk

AIRSIDE FACILITIES AND CONDITION

Airports are divided into two main areas; airside and landside. The airside area consists of the parts of the airport that accommodate the movement of aircraft (runways, taxiways, parking aprons). The airside also includes the navigational and communication equipment designed to facilitate aircraft operations, navigation

[4] See Appendix 1
[5] Maximum Gross Takeoff Weight.
[6] Airport Elevation 1,825 feet & Mean High Temperature of 75°F.

aids, lighting systems, antennae, etc. Landside facilities include hangars and other support buildings (arrivals building, fuel terminal, etc.), auto parking, access roads, and supporting infrastructure/utilities.

DEVELOPMENT HISTORY / PLANNING STUDIES

Table 2-5 lists the FAA grant history.

Table 2-5. FAA Grant History

Grant Number	Year	Description
9-17-016-0301	1955	Land Acquisition Construct 800 foot landing strip extension Tree clearing
9-17-0016-6102	1961	Land Acquisition Extend and widen landing strip (2,900 x 250 feet) Clear approaches
7-23-0041-01-72	1972	Pave and mark Runway 14-32 (2,100 x 75 feet)
7-23-0041-02-77	1977	Construct aircraft parking apron (100 x 370 feet) Construct stub taxiway (30 x 200 feet)
83-1-3-23-0041-01-83	1983	Install runway and taxiway lights, lighted navigation aids Install NDB
84-1-3-23-0041-02-85	1985	Acquire snow removal equipment
85-1-3-23-0041-03-86	1986	Clear and grub approach & transitional surfaces (41 acres)
23-0041-006	1997	Conduct Miscellaneous Study
23-0041-007	1998	Improve Runway Safety Area Rehabilitate Runway Extend Runway
23-0041-008	2003	Expand Apron
23-0041-009	2006	Improve Access Road
23-0041-010-2007	2007	Construct Taxiway
23-0041-011-2010	2010	Update Airport Master Plan
23-0041-012-2011	2011	Construct Snow Removal Equipment Building

Source: Federal Aviation Administration (December 2011)

Figure 2-3 and **Figure 2-4** (next page) are aerial photographs of the airport. **Figure 2-5** (page 13) is the Existing Airport Layout Plan. The existing ALP represents the latest plan approved by the FAA; however, it does not reflect the airport as it appears today. Numerous "pen and ink" changes were adopted over the course of many years. These graphics are referenced through this document.

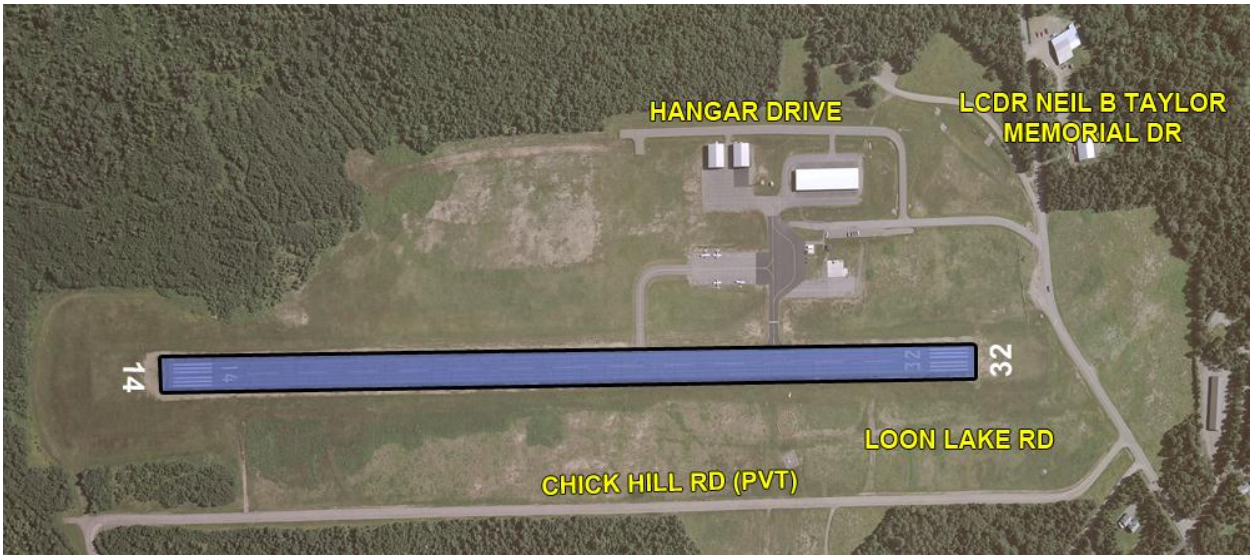


Figure 2-3. Steven A Bean Municipal Airfield (July 2010)

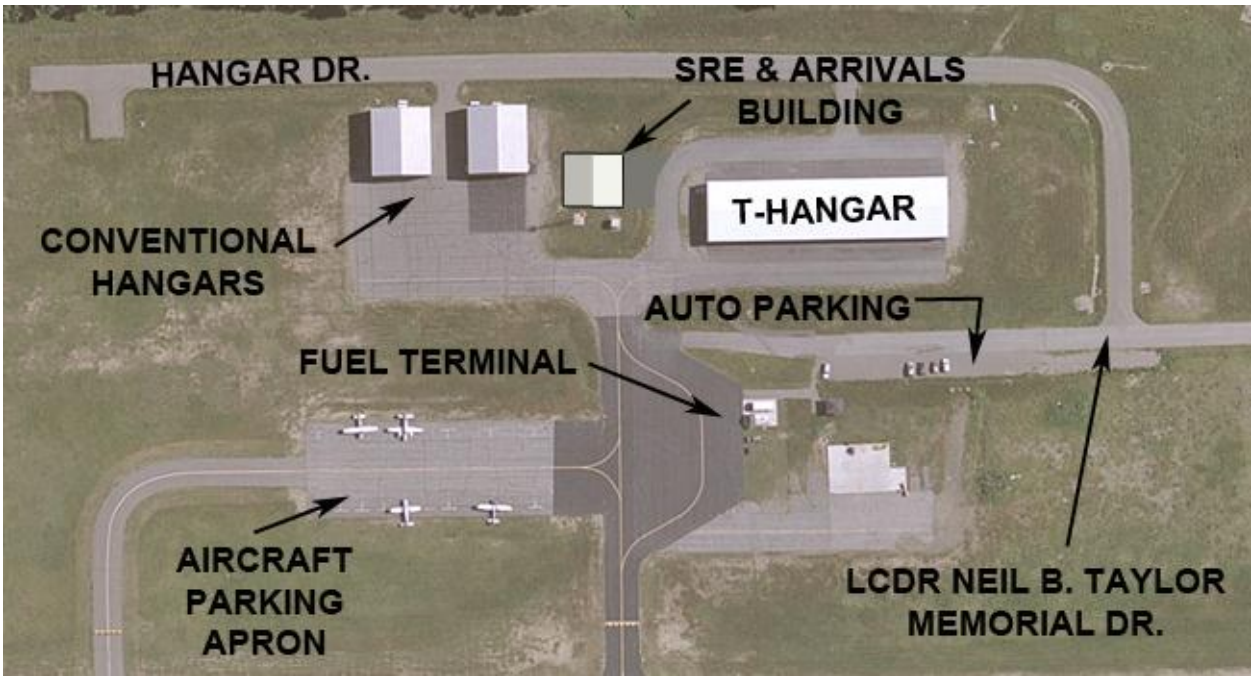


Figure 2-4. Airport Terminal Area
Note: SRE & Arrivals Building added graphically

Insert Existing Airport Layout Plan

RUNWAY

Rangeley has a single 3,200 long, by 75 foot wide paved runway, designated 14/32. The runway was extended to its current length in 1998, during which the existing runway was reconstructed (AIP project # 007-1998). There are no aircraft turnaround areas or end of runway hold/runup areas.

The runway has stake mounted medium-intensity lights offset approximately one foot from the edge of pavement, with threshold lights offset eight feet. The last 2,000 feet of Runway 32 has split amber-white lens. The approach end of Runway 32 is equipped with Runway End Identifier Lights (REIL). Lights are controlled by a Pilot-Controlled Lighting (PCL) system on the airport's Common Traffic Advisory Frequency (CTAF) 122.8 megahertz (MHz). **Table 2-6** provides additional runway details and **Figure 2-6** (next page) shows both ends of the runway.

Table 2-6. Runway Data Table

RWY	ELEV/HDG	TRAFFIC PATTERN	MARKINGS	LIGHTS	IAP	OBSTRUCTIONS
14	1823.2 ft MSL 139° magnetic 120.8° true 0.2% down	Left	Non-precision	MIRL	NDB-A GPS-A	None
32	1817.5 ft MSL 319° magnetic 300.8° true 0.2% up	Left	Non-precision	MIRL REIL	NDB-A GPS-A	Tree 260 ft left of center, 24 ft high, 1,080 ft from end 37:1 clearance slope

Source: FAA (AVN Datasheet System); FAA 5010-1 Master Record; Aircraft Owners & Pilots Association

Other than some slight erosion along the edges, the runway, as shown in **Figure 2-6** (next page), is in excellent condition, undergoing routine crack sealing.

Figure 2-6. Photographs - Runway 14-32
(Top left: Runway Edge of Pavement; Top Right: Runway 14; Bottom: Runway 32)
Source: Stantec Consulting Services (July 2010)

TAXIWAYS AND TAXILANES

The airport has two stub taxiways connecting the apron with the runway (**Figure 2-7**). The midfield stub (designated "A" in the photo) is 30 feet wide and the stub closest to Runway 32 end (B) is approximately 38 feet wide. There are a limited number of taxiway lights at the runway entrance; otherwise the stubs are equipped with reflective taxiway markers. Taxilanes are located through the main aircraft parking apron as well as the fuel terminal area. The taxiways and lanes are marked with standard yellow centerline stripes.

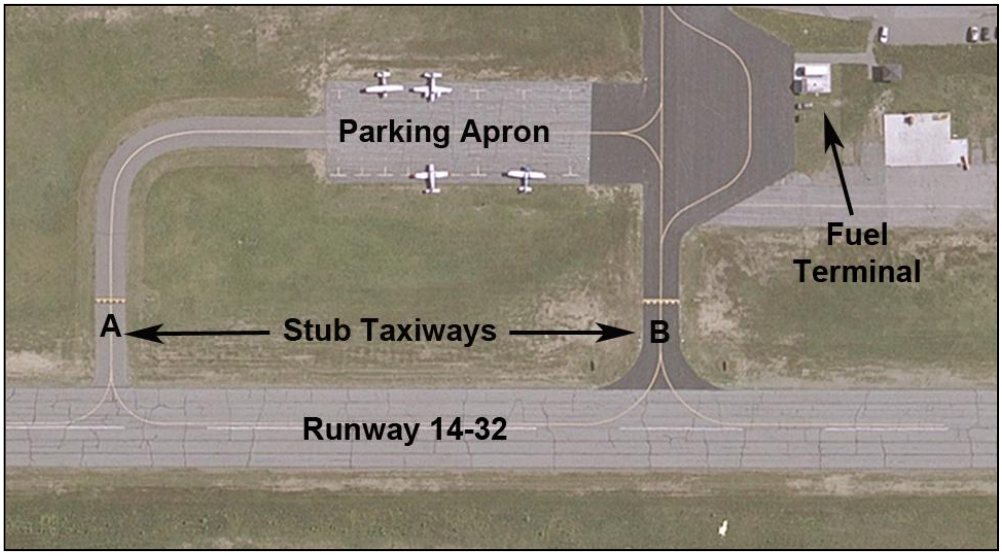


Figure 2-7. Taxiway Layout

VISUAL NAVIGATION AIDS

Rangeley has several visual navigation aids, both visual and electronic. **Table 2-7** lists the airport's Visual Aids as well as their purpose and condition. Electronic Navaids are discussed later.

Table 2-7 - Navigation Aids

Type	Purpose	Condition
Medium Intensity Runway Lights (MIRL)	Outline runway edge	Fair
Medium Intensity Taxiway Lights (MITL)	Outline small section of Taxiway A (see Figure 2-7 above)	Excellent
Taxiway Edge Markers	Outline taxiway leading from parking apron to runway along Taxiway B. (see Figure 2-7above)	Excellent
Runway End Identifier Lights (Runway 32)	Mark approach end of both runway ends	Good
Rotating Beacon	Marks location of airport	Good

COMPLIANCE ISSUES

An inspection of the airport and documents, including the airport Master Record, FAA Form 5010-1 (see **Figure 2-8**) indicates there are no known compliance issues. This includes hangars, which are used exclusively for aircraft storage.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 01/09/2012
AFD EFF 12/15/2011
Form Approved OMB 2120-0015

>1 ASSOC CITY: RANGELEY
>2 AIRPORT NAME: STEVEN A. BEAN MUNI
3 CBD TO AIRPORT (NM): 02 NW
4 STATE: ME
6 REGION/ADO: ANE/NONE
LOC ID: 8B0
5 COUNTY: FRANKLIN ME
7 SECT AERO CHT: MONTREAL
FAA SITE NR: 08230.*A

GENERAL
10 OWNERSHIP: PU
>11 OWNER: TOWN OF RANGELEY
>12 ADDRESS: TOWN OFFICE RANGELEY, ME 04970
>13 PHONE NR: 207-864-3326
>14 MANAGER: PERRY ELLSWORTH
>15 ADDRESS: 15 SCHOOL STREET RANGELEY, ME 04970
>16 PHONE NR: 207-864-2257
>17 ATTENDANCE SCHEDULE: IREG

SERVICES
>70 FUEL: 100LL A
>71 AIRFRAME RPRS:
>72 PWR PLANT RPRS:
>73 BOTTLE OXYGEN: NONE
>74 BULK OXYGEN: NONE
75 TSNT STORAGE: HGR, TIE
76 OTHER SERVICES:

BASED AIRCRAFT
90 SINGLE ENG: 5
91 MULTI ENG: 0
92 JET: 0
TOTAL: 5
93 HELICOPTERS: 0
94 GLIDERS: 0
95 MILITARY: 0
96 ULTRA-LIGHT: 0

18 AIRPORT USE: PUBLIC
19 ARPT LAT: 44-59-30.8000N ESTIMATED
20 ARPT LONG: 070-39-52.6000W
21 ARPT ELEV: 1825 SURVEYED
22 ACREAGE: 125
>23 RIGHT TRAFFIC:
>24 NON-COMM LANDING: NO
25 NPIAS/FED AGREEMENTS: NGY
>26 FAR 139 INDEX:

FACILITIES
>80 ARPT BCN: CG
>81 ARPT LGT SKED: DUSK-DAWN
>82 UNICOM: 122.800
>83 WIND INDICATOR: YES-L
84 SEGMENTED CIRCLE: YES
85 CONTROL TWR: NONE
86 FSS: BANGOR
87 FSS ON ARPT: NO
88 FSS PHONE NR:
89 TOLL FREE NR: 1-800-WX-BRIEF

OPERATIONS
100 AIR CARRIER: 0
102 AIR TAXI: 50
103 G A LOCAL: 7,000
104 G A ITNRNT: 5,000
105 MILITARY: 300
TOTAL: 12,350
OPERATIONS FOR 12 MONTHS ENDING 08/16/2010

RUNWAY DATA

>30 RUNWAY IDENT:	14/32		
>31 LENGTH:	3,201		
>32 WIDTH:	75		
>33 SURF TYPE-COND:	ASPH-G		
>34 SURF TREATMENT:			
35 GROSS WT: SW	13.0		
36 (IN THSDS) DW			
37 DTW			
38 DDTW			
>39 PCN:			
LIGHTING/APCH AIDS			
>40 EDGE INTENSITY:	MED		
>42 RWY MARK TYPE-COND:	NPI - G / NPI - G	- / -	- / -
>43 VGSI:	/	/	/
44 THR CROSSING HGT:	/	/	/
45 VISUAL GLIDE ANGLE:	/	/	/
>46 CNTRLN-TDZ:	N - N / N - N	- / -	- / -
>47 RVR-RVV:	- N / - N	- / -	- / -
>48 REIL:	N / Y	/	/
>49 APCH LIGHTS:	/	/	/
OBSTRUCTION DATA			
50 FAR 77 CATEGORY:	A(V) / A(V)	/	/
>51 DISPLACED THR:	/	/	/
>52 CTLG OBSTN:	/ TREE	/	/
>53 OBSTN MARKED/LGTD:	/	/	/
>54 HGT ABOVE RWY END:	/ 24	/	/
>55 DIST FROM RWY END:	/ 1,080	/	/
>56 CNTRLN OFFSET:	/ 260L	/	/
57 OBSTN CLNC SLOPE:	50:1 / 37:1	/	/
58 CLOSE-IN OBSTN:	N / N	/	/
DECLARED DISTANCES			
>60 TAKE OFF RUN AVBL (TORA):	/	/	/
>61 TAKE OFF DIST AVBL (TODA):	/	/	/
>62 ACLT STOP DIST AVBL (ASDA):	/	/	/
>63 LNDG DIST AVBL (LDA):	/	/	/

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

>110 REMARKS:
A 014 TOWN MANAGER ALSO ARPT MGR.
A 070 FOR FUEL CALL 207-864-4328
A 081 ACTVT MIRL RWY 14/32 & REIL RWY 32 - 122.8.
A 110-2 MIGRATORY BIRDS ON & INVOF ARPT.
A 110-3 MILITARY OPERATIONS IN AREA (F16 & A-10 AIRCRAFT).

111 INSPECTOR: (C) 112 LAST INSP: 08/16/2010 113 LAST INFO REQ: 09/28/1982

Figure 2-8. FAA Master Record (Form 5010-1) for Rangeley
Source: GCR & Associates, January 9, 2012

LANDSIDE FACILITIES

Landside facilities are those that do not involve the active operation of aircraft during flight. These include parking aprons and hangars, ground vehicle access and parking, terminal facilities, etc.

PARKING APRONS

The Airport has a single area available for aircraft parking. Area A is marked with tie down anchors with space for 6 aircraft. **Table 2-8** (next page) lists each area along with their capacity and condition while **Figure 2-9** (next page) shows the two areas graphically.

Table 2-8. Aircraft Parking Aprons

Area	Size (sy)	Aircraft Capacity	Condition	Notes
A	1,200	6	Good	Marked for 12 aircraft with maximum wingspan of 45 feet. Part of apron encroaches on Runway Object Free Area, which reduces capacity to 6 aircraft
Total	1,200	6		

HANGARS

The airport has three new hangars; two conventional units and one T-hangar unit, all located along the airport's northern boundary, well clear of the runway and operating environment, with utility service and easy access to both aircraft and vehicular traffic. In addition, land on both sides of the hangars is permitted and suitable for additional hangar development, including an expansion of the T-hangar unit. **Table 2-9** (next page) lists each along with their capacity and **Figure 2-10** (next page) shows their location graphically.

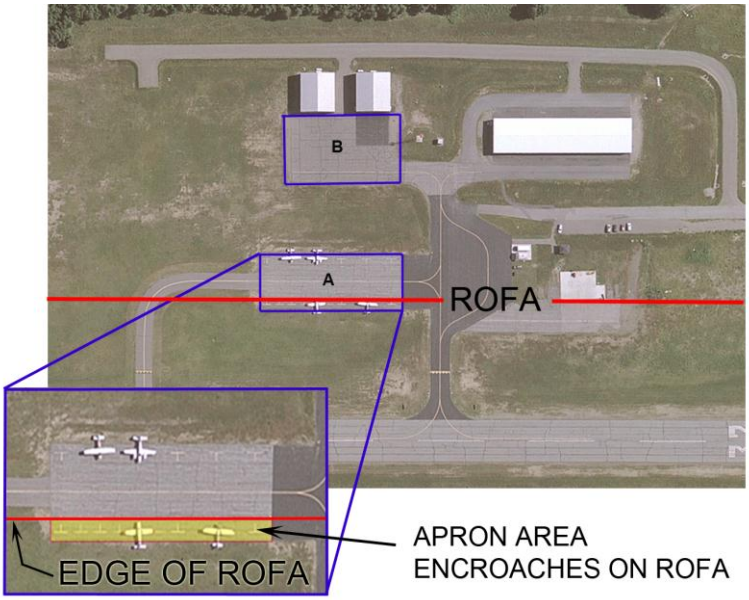


Figure 2-9. Aircraft Parking Aprons

Table 2-9. Hangar Inventory

Unit No.	Type	Ownership	Size	Capacity (aircraft)	Utilities
1	Conventional	Private	60' x 70'	1-4	Electric and propane
2	Conventional	Private	60' x 70'	1-4	Electric and propane
3	T-Unit	Private	250 x 50	10	Electric
		Total	**20,900 sf**	**12-18**	

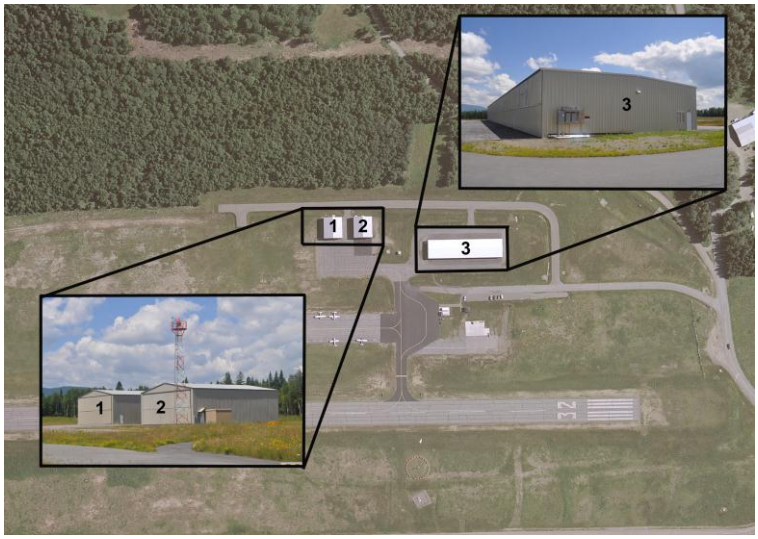


Figure 2-10. Existing Hangars

ARRIVALS BUILDING

Until recently Rangeley had a small arrivals building; a 180 square foot wood structure with electric and telephone service. The building, which lacked restroom facilities, was replaced during the development of this Master Plan Update as part of a new Snow Removal Equipment (SRE) Building. The SRE building also contains a public restroom and pilot waiting area.

AUTOMOBILE PARKING AND ACCESS

Auto parking is along a 250' x 16 foot partially paved/gravel strip that parallels Airport Road, which connects to Loon Lake Road, a public thoroughfare. The parking area contains parking for approximately 15 vehicles and is used primarily by visiting pilots and non-hangared aircraft owners. The auto parking area is visible in **Figure 2-4** on page 12. Based aircraft pilots with hangars typically park adjacent to or inside their hangars while flying.

FUELING FACILITIES AND SALES

Rangeley has both aviation gas (100LL) and jet fuel available through a contract with a private vendor, SK Fuels. Jet fuel is dispensed from a 10,000 gallon double-walled tank and 100LL is dispensed from a 6,000 single-wall tank inside a containment system. Jet fuel sales average 2,000 gallons per year and 100LL sales average 6,000 gallons per year. All fuel sales are full service only (customer's contact the vendor via telephone located at the fuel site that then dispatches an employee).

The apron in front of the fuel terminal is approximately 120 x 128 foot paved area (15,360 sf). The pavement appears in fair condition, but according to the FAA 5010-1 Master Record, is subject to severe frost heaves.

Figure 2-11 (next page) shows the fuel terminal location and tank configuration.

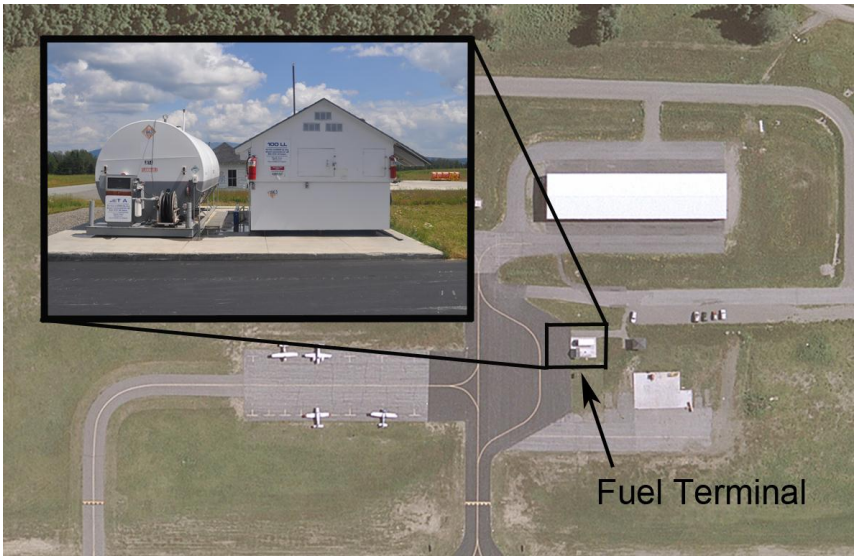


Figure 2-11. Fuel Terminal

ENVIRONMENTAL OVERVIEW

The evaluation of environmental impacts is an important part of the airport master planning process. This section provides airport officials with an overview of the potential environmental impacts associated with airport improvement projects proposed in the AMPU. The environmental analysis is intended to provide a general overview of the natural environment within the vicinity of the airport and a description of the resources that may warrant protection under federal, state, and local regulations.

EXISTING CONDITIONS

The Airport is located in the northeasterly section of the town of Rangeley on Loon Lake Road in the western mountain region of the State of Maine. The year-round population of Rangeley is approximately 1,200 people, with a significant summer population increase to approximately 6,000 people. The region is known for its natural resources, mountainous terrain, and scenic highways. Appropriately, the region offers many year round recreational opportunities. These include skiing at two of Maine largest and most popular ski resorts, Saddleback Mountain and Sugarloaf Mountain and hiking on the Appalachian National Scenic Trail. The highest point in the town is 2,480 feet above sea level at the top Ephram Ridge (3.1 miles northwest), and the lowest point is 1,480 feet above sea level in Oquossoc (3.6 miles southwest). The airport is located at 1,824 feet above mean sea level.

Approximately 25% of the Town's total area is surface water, the largest source being Rangeley Lake which has an estimated surface area of 6,000 acres. In addition to Rangeley Lake, there are several other lakes in the area, including Mooselookmeguntic, Kennebago, Cusuptic, and

Saddleback, and many ponds and rivers, including the Rangeley and Kennebago Rivers. Of the town's land area, a large proportion is woodland. Both the available water resources and the timber resources and associated wildlife species provide a great number of economic benefits to the community.

The Comprehensive Plan prepared by the Androscoggin Council of Governments for the Town of Rangeley, adopted by the town in 1987, states that "Rangeley's somewhat isolated location in relation to transportation is a deterrent to industry attraction" and "The Rangeley Airport can be a significant economic asset to the community. It is not currently being used to its potential". Due to the relative remoteness of the Rangeley Lakes region and the abundant recreational opportunities in the area, the airport can be an important driver for economic development in this region.

GEOLOGIC CONDITIONS

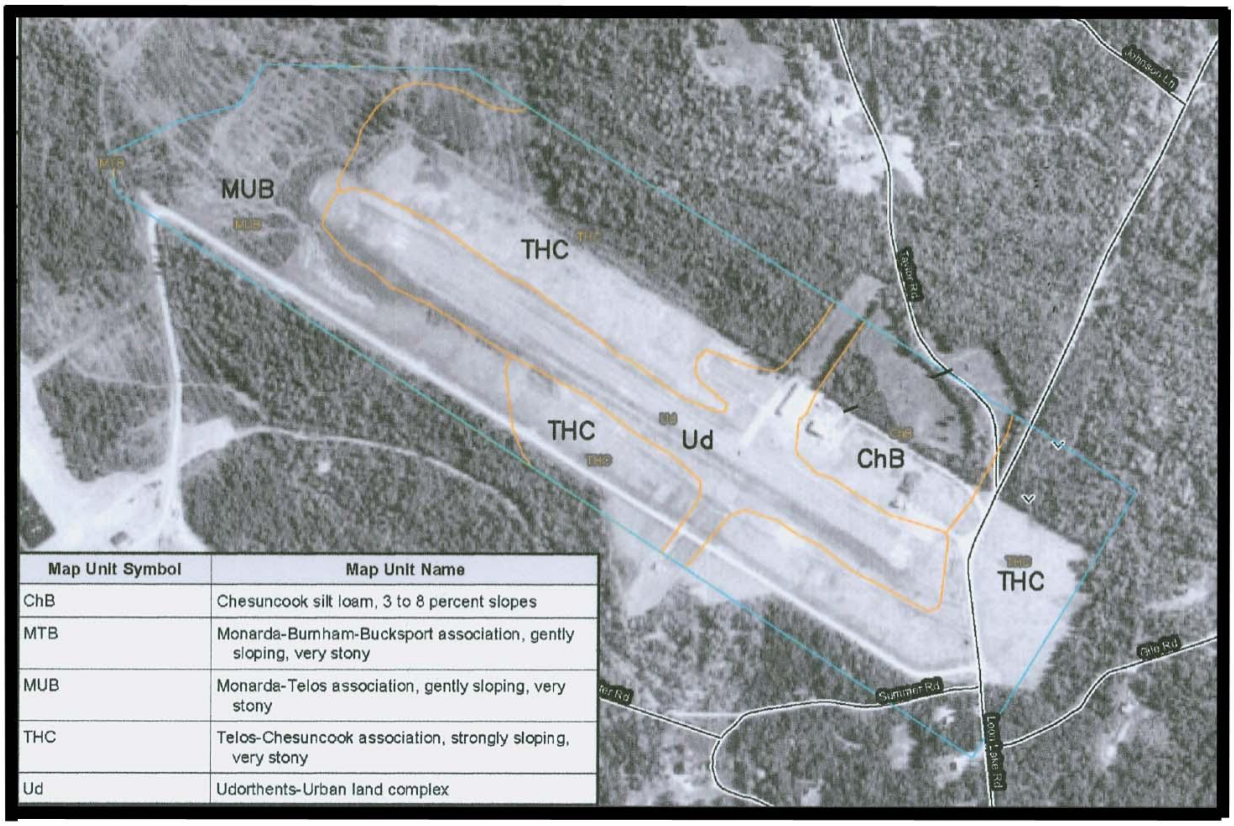
Geologic data was obtained from Maine Geologic Survey (MGS) geologic maps. Surficial geology consists of areas of bedrock outcropping and glacial till- loose to very compact, poorly sorted sands, silts, and clay. Bedrock geology is composed of Devonian age gabbro/diorite/ultramafic intrusive rocks, Silurian age calcareous lithic sandstone stratified rocks, and Ordovician interbedded pelite and sandstone stratified rocks.

SOILS

Local soils data was obtained from the online version of the Natural Resources Conservation Service Soil Survey for Franklin County (see **Figure 2-12**, next page). The soils at the airport are composed of the Chesuncook, Monarda-Telos association, and Telos-Chesuncook association series, and fill, or Udorthents.

The Chesuncook series, located southeasterly on airport property, consists of very deep, moderately well drained soils on till plains, hills, ridges, and mountains. The soils formed in dense glacial till derived mainly from slates and other dark colored sedimentary and metamorphic rocks. Slopes range from 3 to 45 percent.

The Monarda series, located northwesterly and at the Runway 14 threshold, consists of poorly drained soils formed in dense glacial till derived mainly from slate, metasandstone, phyllite and shale with small amounts of granite, fine grained quartzite and sandstone, on lower slopes or in slight depressions on till plains. They are very deep to bedrock and shallow to dense glacial till. Slopes range from 0 to 15 percent.



Map Unit Symbol	Map Unit Name
ChB	Chesuncook silt loam, 3 to 8 percent slopes
MTB	Monarda-Burnham-Bucksport association, gently sloping, very stony
MUB	Monarda-Telos association, gently sloping, very stony
THC	Telos-Chesuncook association, strongly sloping, very stony
Ud	Udorthents-Urban land complex

Figure 2-12. Soils Map

The Telos series, located in all other areas of the airport with the exception of the fill areas, consists of somewhat poorly drained soils on till plains, hills, and ridges. They are shallow to dense lodgement till and very deep to bedrock. These soils formed in dense glacial till derived mainly from slate and other dark colored sedimentary and metamorphic rocks. Slopes range from 0 to 25 percent.

Due to alteration of the local surficial deposits during the construction of the airport, portions of the land beneath the airport are referred to as “made land” or described as fill. These are more accurately classified as Udorthents. Udorthents at the airport consist of moderately well drained very gravelly sandy loam, with a slope of 0 to 8 percent.

SURFACE WATER RESOURCES

Stephen A. Bean Municipal Airport is located within the Rangeley Lake watershed. The airport drains to four different ponds and streams within the Rangeley Lake watershed: Perk Pond is located to the northwest of the airport; Ross Pond is located to the southwest of the airport; and Gull Pond is located to the southeast of the airport. Between the airport and Gull Pond, there is an unidentified wetland which serves as the headwaters for Haley Pond, located just south of Gull

Pond. Both the town of Rangeley and Rangeley Lake is located south of the airport. Ross Pond and Perk Pond are both located more than one half a mile from the airport; Gull Pond, Haley Pond, and Rangeley Lake are all located more than a mile from the airport.

No rivers subject to protection under the Federal Wild and Scenic Rivers Program were identified in proximity to the Airport.

GROUNDWATER RESOURCES

There is minimal demand for groundwater at the airport in existing and ultimate conditions. Stormwater pollution prevention measures have been established in the airport's Stormwater Pollution Prevention Plan (SWPPP) and the Spill Prevention, Control, and Countermeasures Plan (SPCC) to protect both groundwater and surface water resources from spills and leaks of petroleum products, chemicals, paints, lubricants, and deicing fluids; stormwater runoff from impervious surfaces; and non-stormwater discharges into the stormwater conveyance system. During construction projects proposed in the airport's CIP, a central location for all construction machinery, refueling, and mechanical work will be established in order to reduce the risk of potential groundwater impacts. Measures will be taken to prevent the discharge of pollutants from construction materials and equipment such as fuels, lubricants, or any other harmful or potentially harmful material into wetlands or any other water body on the project area or off-site. Dust created during construction will be controlled using water; calcium chloride will not be used as dust control during the construction process.

COMPATIBLE LAND USE

As stated in the previous Master Plan: Land use compatibility is an issue of concern in the vicinity of any airport. Land uses such as high density residential developments, mobile home parks, hospitals, schools, elderly housing facilities and churches are the types of land uses not considered compatible with airport operations. This is predominantly due to the potential for noise disturbance and, to a lesser degree, water and air quality impacts. The presence of incompatible land uses is not currently a problem at the airport. This is due to the low density development in proximity to the airport and the low number of aircraft operations, and the small size of the aircraft currently using the airport. However, as shown in the long-term forecast for growth at the airport and in the town, the number of aircraft and the size of the aircraft may increase.

Judicial long-term municipal planning and clear municipal regulatory guidelines, such as those found in the town's Zoning Ordinances, can prevent future land use conflicts. The town of Rangeley does have a Comprehensive Plan prepared by the Androscoggin Council of Governments, which was adopted by the town on May 28, 1987. The Comprehensive Plan states that "the Town's Zoning Ordinance should assure that new industrial development be allowed in appropriate areas and adjacent to the airport". The Town's existing Zoning Map show in **Figure 2-13** (next page) has airport property zoned as industrial, with a 425-foot strip of land easterly of the airport zoned commercial.

Land adjacent to the airport and to the northwest is currently being utilized for forestry practices; land to the west is being utilized for a septic system lagoon and some forestry; and the remaining land around the airport is a mix of undeveloped forest and residential development. This development, or lack of development, is occurring in land zoned Residential and Woodland.

Figure 2-13. Zoning Map

Neither Residential nor Woodland zoning addresses height restrictions for development adjacent to the airport, which could cause potential land use compatibility conflicts in the future. Within the Woodland zoning, a wide variety of land uses are permitted, including campgrounds; individual campsites; single-, two-family, and multi-family dwellings; mobile homes; manufactured housing; mobile home parks; garages, storage building and similar structures not intended for human habitation; home occupations; commercial facilities; motels and hotels, inns, bed & breakfast establishments; public buildings and institutions; and community buildings. The presence of any of these may present compatibility issues, either with potential extrusions into air space around the airport due to a lack of height restrictions, or with a conflict between the noise and activity associated with the airport and properties adjacent to the airport. Many of the same concerns are associated with Residential zoning for property adjacent to the airport.

AIR QUALITY

The airport is neither in a nonattainment or maintenance area for the National Ambient Air Quality Standards for the six criteria pollutants, including ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxides, or lead.

HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL AND CULTURAL RESOURCES

The Maine State Historic Preservation Officer and the Tribal Historic Preservation Officer were contacted during the current AMPU planning process; correspondence from these agencies is pending. No impacts to structures listed on or eligible for listing on the National Register of Historic Places is anticipated. Correspondence from this and other agencies can be found in **Appendix 2**.

PLANT AND WILDLIFE COMMUNITIES

The majority of the vegetation on the airport site consists of a variety of low-growing grasses, sedges (Carex sp.), a variety of herbaceous plants, such as hawkweed (Hieracium sp.), goldenrod (Solidago sp.), strawberry (Fragaria sp.), dandelion (Taraxacum officinalis), chickweed (Stellaria media), clover (Trifolium sp.), buttercup (Ranunculus sp.), vetch (Vicia sp.), yarrow (Achillea millefolium), oxeye daisy (Leucanthemum vulgare), and at the perimeter of the forested areas, bunchberry (Cornus canadensis), and low-growing shrub species such as dogwood (Cornus stolonifera) and blueberry (Vaccinium corymbosum). The forested areas on-site are located around the periphery of the airport property, primarily at the thresholds of the runway. At the Runway 32 threshold, a mixed forest community consisting of poplar (Populus tremuloides) and paper birch (Betula papyrifera) intermixed with spruce (Picea sp.), fir (Abies balsamea), and cedar (Thuja occidentalis) conifers dominates. At the Runway 14 threshold, several different types of plant communities are present: to the north, spruce/fir dominates. There are areas of mixed forest community, with pockets of beaked hazelnut (Corylus cornuta) stands, as the observer moves south. To the south, there is primarily a mixed forest community interspersed with areas in which northern hardwoods dominate.

The open-grassed area of the airport is likely to provide habitat for small mammals such as mice, shrews, and voles, and also certain bird species which seek open grasslands to feed and nest. In the forested areas at the thresholds of the runway and adjacent to the airport property, white-tailed deer (Odocoileus virginianus), moose (Alces alces) and black bear (Ursus americanus) are likely to be found, along with grouse (Bonasa umbellus). No significant wildlife habitats have been identified in the immediate vicinity of the airport. An unidentified raptor, killdeer (Charadrius vociferus), seagulls (Larus sp.), and extensive goose dung pellets (likely from Branta canadensis) were spotted during the site visit to the airport for field observations. A conversation with the airport manager has confirmed that geese are a major wildlife hazard at the airport. Goose deterrent is used on the runways and taxiways to repel geese and to control the problem.

During the previous Airport Master Plan planning process, both the Maine Natural Heritage Program and the Maine Department of Inland Fisheries and Wildlife were contacted regarding the potential for impact on any rare or endangered species, critical areas, or significant wildlife habitat. Both agencies indicated that their files showed no rare, threatened or endangered species located on airport property. The Maine Department of Inland Fisheries and Wildlife, US Fish and Wildlife Service, and the Maine Department of Conservation, Natural Areas Program were contacted during the current AMPU planning process; correspondence from these agencies is included in the back of this section. The US Fish and Wildlife Service website and correspondence indicates that there is one federally threatened species, the Canada lynx (Lynx canadensis), that is listed for Franklin County; however, due to the limited occurrence of woodland on airport property, the preferred habitat for Canada lynx and its primary prey species, the snowshoe hare (Lepus americanus), lynx presence on airport property is likely to be low to non-existent. The US Fish and Wildlife Service

website also indicates that there is one federally endangered species, the Atlantic salmon (Salmo salar), listed for Franklin County.

As described in the Surface Water Resources section, due to the distance between surface water resources and airport property airport and the undeveloped nature of most of the property adjacent to the airport, it is unlikely that activities at the airport will affect the movement or habitat of Atlantic salmon. The US Fish and Wildlife Service correspondence also indicated that occasional, transient bald eagles (Haliaeetus leuccocephalus) may occur in the vicinity of the airport. While the bald eagle was removed from the federal threatened list in 2007, it is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. No activities proposed at this airport are anticipated to have adverse impacts on transient bald eagles in the area.

Correspondence from the Maine Department of Inland Fisheries and Wildlife (**Appendix 2**) indicates that there are no Essential Habitats associated with airport property, meaning habitat associated with bald eagle, roseate and least tern, and piping plover nest sites. There may be some deer wintering areas which occur on the outer edges of airport property and are considered Significant Habitat. As described in the letter in the back of this section, if the town is considering a project at the airport which involves Maine Department of Environmental Protection Site Location of Development permitting and tree clearing, the Department of Inland Fisheries and Wildlife should be contacted for input and recommendations regarding forestry operations and potential impacts to these deer wintering areas.

WETLANDS

Wetlands are regulated on the federal, state, and local levels. The federal level regulations are based on Section 404 of the Clean Water Act, the state regulations are based on the Natural Resource Protection Act, and the local level regulations are based on the State Mandatory Shoreland Zoning Act, implemented through the municipal shoreland zoning regulations. All three tiers of regulations define wetlands utilizing a three-parameter approach, which requires the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. **Figure 2-14** (next page) is the National Wetland Indicator Map for the Stephen A. Bean Municipal Airfield.

As indicated, there are no mapped wetland resources located on or adjacent to the airport. Based on preliminary site inspections, there are areas located on airport property that exhibit borderline wetland characteristics. There are existing man-made drainage swales located adjacent to the runway that may qualify as wetland under the Army Corps of Engineers definition. It is doubtful that these areas would qualify as wetland under the State's definition because it is unlikely that these resources would be hydraulically connected to a wetland of greater than ten acres or would be part of a floodplain wetland. It was also noted during the previous site investigation for the Master Plan that there is also an area north of the exiting terminal building, beyond the existing tree line, that supports a dense stand of spruce and fir. The ground in this area has pit mound topography that may qualify as wetland. Although this area is beyond airport property, tree clearing projects associated with penetrations to imaginary surfaces may result in some activity in

this area in the future. A detailed on-site wetland evaluation will be required prior to the permitting phase of any airport improvement projects to confirm that wetlands will not be impacted. If there are wetlands located in either of these areas, the anticipated impacts may not be significant.

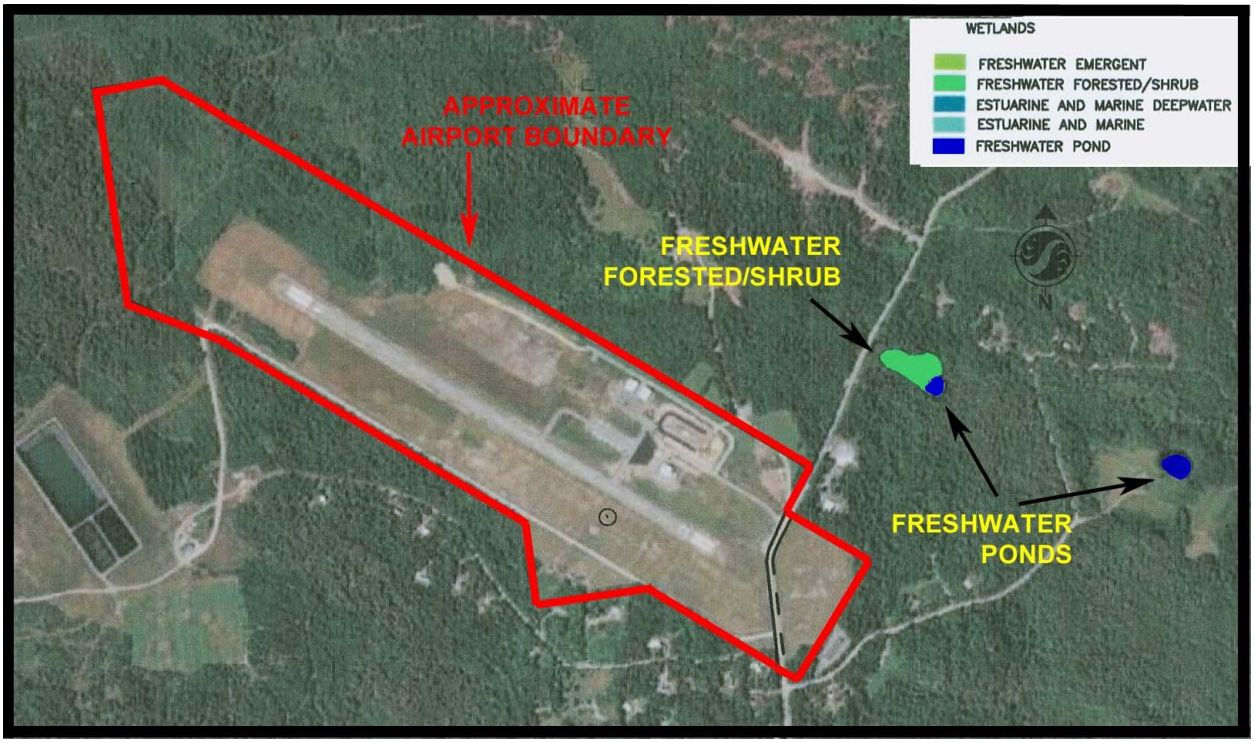


Figure 2-14. Wetlands Map

FLOODPLAINS

Floodplain data was obtained from flood rate maps prepared for the Federal Emergency Management Agency. There are no 100-year floodplains within the boundaries of the airport.

FINANCIAL OVERVIEW

The airport budget falls within the town's Public Works department budget. The budget is prepared by the town manager, recommended by the town's Board of Selectmen, and approved during an annual town meeting as a lump sum appropriation, generally from taxes, which are offset by airport revenues. Appropriations not expended at the end of the fiscal year are used to offset the following year's appropriations. Consistent with Federal statute, revenue is carried over and used exclusively for the airport. The town's fiscal year runs from July 1 to June 30.

EXPENSES

The airport budget consists of operating and nonoperating expenses. Operating expenses cover normal operating and maintenance costs (repairs, utilities, snow plowing, etc), while nonoperating expenses cover such items as the town's share of capital improvement projects (such as their share of this AMPU).

Table 2-10. Airport Expense History

Fiscal Year	Appropriations	Expended
2007 – 2008	$49,775.00	$38,277.71
2008 – 2009	$50,775.00	$43,641.86
2009 - 2010	$49,230.00	$36,954.27
Average	$49,926.67	$39,624.61

Source: Town of Rangeley

The airport's budget and actual expenditures for the period 2007 through 2010 was reviewed and is reported in **Table 2-10**.

REVENUE

Airport Revenue comes from three sources: hangar rent, aircraft excise taxes, and aircraft parking/tiedown fees, which cover between 30 and 40% of the total operating budget (see **Table 2-11**). As previously reported (page 30), the town receives no revenue from fuel sales (fuel flowage fees). Hangar rent is derived from land leases charged to hangar owners. While hangars are privately owned, the owners pay the town approximately $0.30 per square foot for the right to place the hangar on town (airport property). Aircraft that is owned or controlled by a resident of the State is subject to an excise tax. This tax is collected by the state and then transferred back to the municipality where the aircraft is kept. The last revenue source, parking and miscellaneous comes primarily from aircraft parking on the apron. Owners are charged a flat rate of $300 annually after 14 days.

Table 2-11. Revenue (2007 - 2010)

Source	2007-2008	2008-2009	2009-2010
Hangar Rent	$4,086.00	$9,221.00	$9,221.00
Aircraft Excise Tax	$2,112.05	$1,470.00	$719.10
Parking & Miscellaneous	$480.00	$240.00	$840.00
Total	$6,738.05	$10,931.31	$10,780.00

Source: Town of Rangeley

For the record, hangar owners also pay property taxes on the buildings (real property), however, consistent with state law, real estate taxes are directed into the town's general fund (which eventually is used to offset the differences between airport revenue and expenses.

AIRSPACE

GENERAL

The airspace assessment will include a brief review of the airport's existing airspace classifications to determine if growth at the airport could require an upgrade to a higher airspace class. Because Rangeley is a "non-towered" airport, this update will determine if growth in aircraft operations will exceed threshold values for the establishment of an airport traffic control tower. In addition, an assessment of penetrations to imaginary surfaces[7] is presented.

AIRSPACE OVERVIEW

There are two categories of airspace or airspace areas: Regulatory (Class A, B, C, D and E airspace areas, restricted and prohibited areas); and non-regulatory (military operations areas (MOAs), warning areas, alert areas, and controlled firing areas). Within these two categories, there are four types:

- Controlled,
- uncontrolled,
- special use, and
- other airspace.

The categories and types of airspace are dictated by:

- The complexity or density of aircraft movements,
- The nature of the operations conducted within the airspace,
- The level of safety required, and
- The national and public interest.

For the purpose of clarification:

- Class A airspace is more restrictive than Class B, Class C, Class D, Class E, or Class G airspace;
- Class B airspace is more restrictive than Class C, Class D, Class E, or Class G airspace;
- Class C airspace is more restrictive than Class D, Class E, or Class G airspace;
- Class D airspace is more restrictive than Class E or Class G airspace; and
- Class E is more restrictive than Class G airspace.

Figure 2-15 shows the standard U.S. airspace classifications. Definitions of airspace types and categories can be found in **Appendix 1**.

[7] 14 CFR Part 77, *Objects Affecting Navigable Airspace*

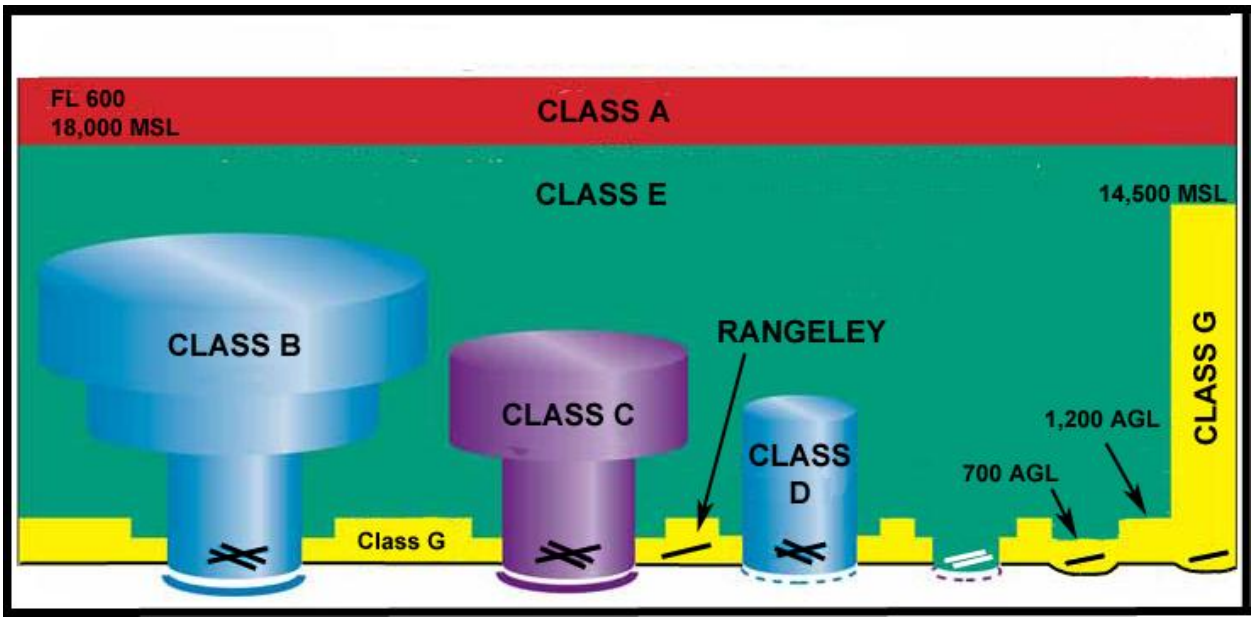


Figure 2-15. United States Airspace Classifications

AIRSPACE ASSESSMENT

From the surface of the Airport up to 700 feet above ground level (AGL) is Class G airspace, meaning it is uncontrolled and no ATC service is provided. From 700 feet to 14,500 feet AGL is Class E Airspace where ATC services is provided; which in the case of Rangeley is provided as a means of protecting instrument operations. In addition, special use airspace exists over and in the vicinity of the airport in the form of a Military Operations Area (MOA)[8]. **Figure 2-16** (next page) shows the airspace structure around Rangeley, including the Condor 1 & 2 MOAs, which have a floor of 7,000 feet and the Class E airspace boundary that protect instrument flight operations.

In addition to the Condor MOA, there are several Military Training Routes (MTR) in the vicinity of the airport. MTRs are divided into Instrument Routes (IR), and Visual Routes (VR). Each route is identified by either of these two letters, followed by either four digits for routes below 1,500 feet above ground level, or three digits for routes extending for at least one leg above 1,500 ft AGL. (i.e.: VR-1056). The difference between the IR and VR routes is that IR routes are flown under ATC, while VR routes are not. A close examination of **Figure 2-17** (page 33) indicates VR-840-841 northwest of the airport and VR-842 southeast of the airport (1,500' AGL floor in both cases), and a series of Instrument Routes (IR-850, 851 and 852) in close proximity to the airport (1,500' AGL floor).

[8] See definition in Appendix 1.

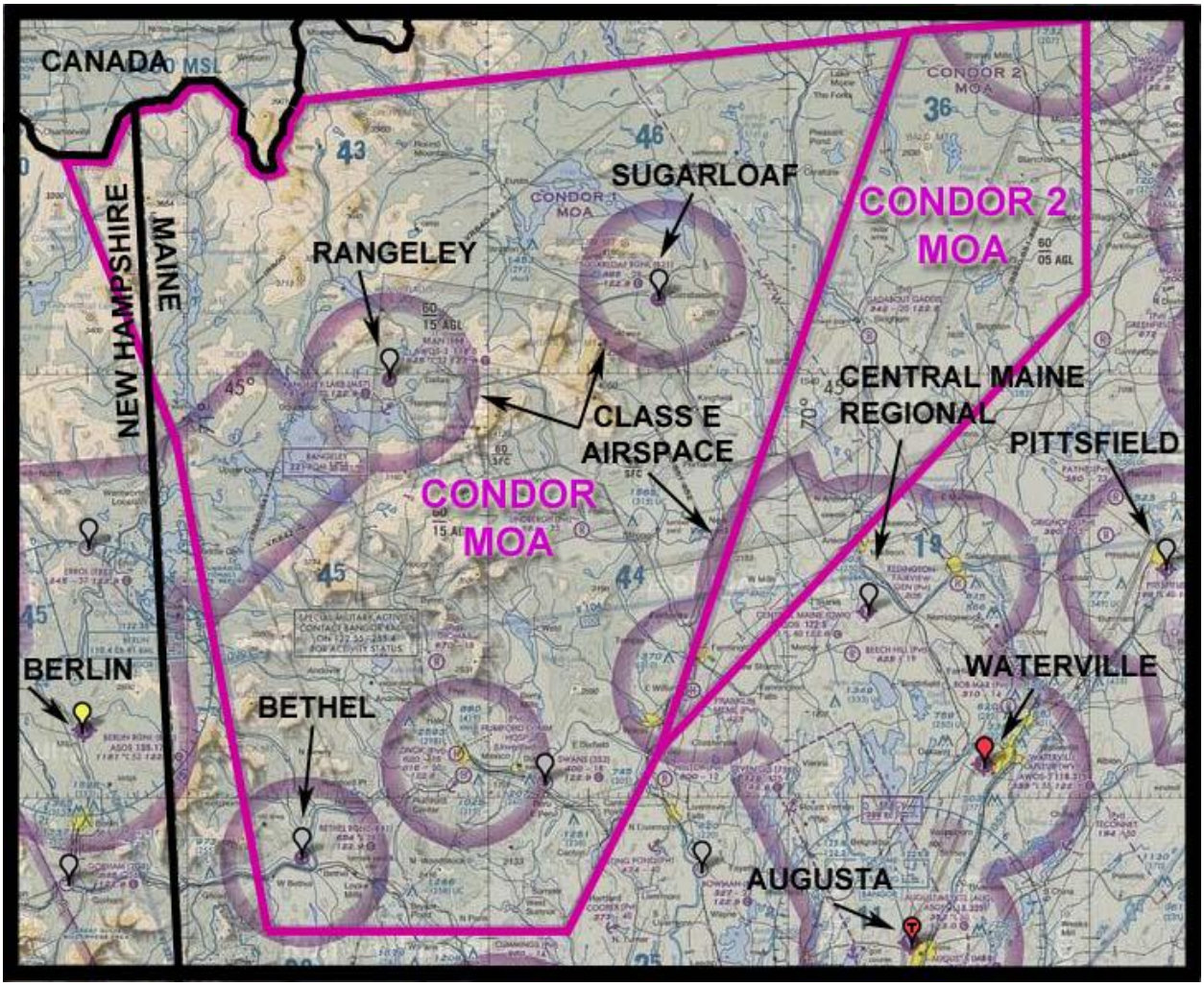


Figure 2-16. Airspace Overview

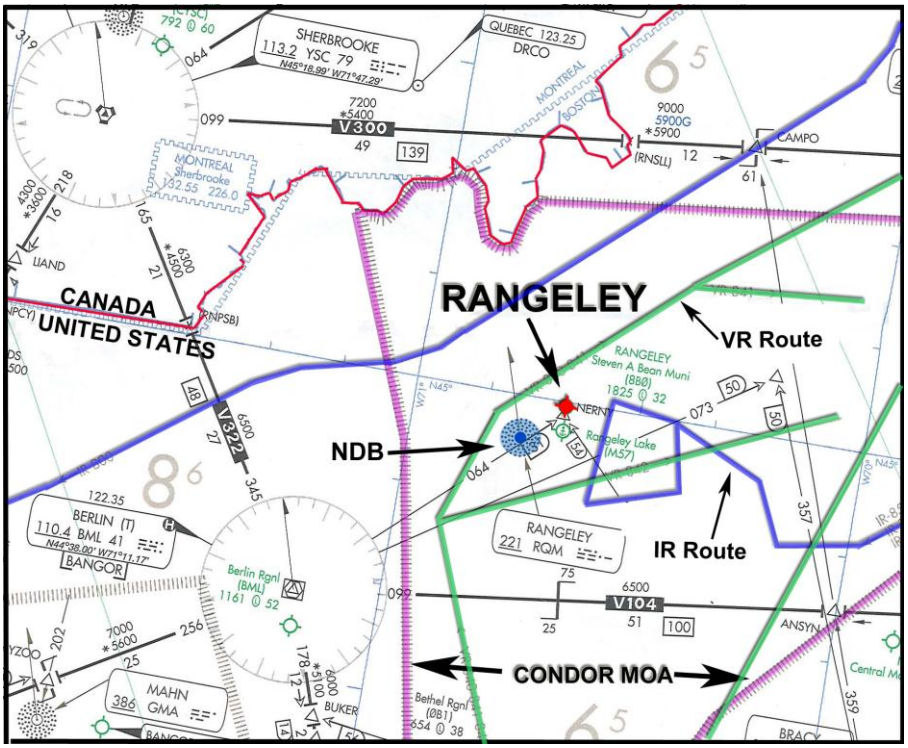


Figure 2-17. IFR Airspace

NAVIGATIONAL AIDS / COMMUNICATIONS / WEATHER AIDS

Navigation Aids

In addition to the visual aids discussed on Page 16 (see Visual Aids), the airport has a single electronic aid in the form of a non-directional radio beacon (NDB). The Rangeley NDB is located on a small track of town land on the southwest corner of Rangeley Lake, five miles from the airport. The beacon is a MHW class aid with a power output of 25 watts transmitting on frequency 221 MHz and call sign RQM.

The Rangeley NDB provides lateral navigational guidance for the NDB-A procedure (discussed later). Because of the NDBs location in relation to the runway alignment, a straight in procedure is not possible; hence, pilots fly a circling procedure. A circle to land maneuver is the opposite of a straight-in landing. It is a maneuver used when a runway is not aligned within 30 degrees of the final approach course of the instrument approach procedure or the final approach requires 400 feet of descent (or more) per nautical mile, and therefore requires some visual maneuvering of the aircraft in the vicinity of the airport after the instrument portion of the approach is completed for the aircraft to become aligned with the runway to land. The Rangeley procedure permits a decent to not lower than 695 feet AGL (2,520 feet MSL) and within about 1 nautical mile of the airport before the pilot must acquire the airport in visual conditions.

Communications

Communications at the airport consists of a single Unicom frequency that also serves as the Common Traffic Advisory Frequency (CTAF)[9], operating on frequency 122.8 MHz

Weather Aids

The Airport is equipped with an Automatic Weather Observation System (AWOS). The AWOS is a Type IIIP/T system operating on frequency 118.0 MHz with remote telephone access at (207) 864-5250. **Figure 2-18** shows the location of the Rangeley AWOS. A detailed definition of AWOS is located in Appendix 1.

The Airport also has a single lighted windsock located inside a 100-foot radius segmented circle near the approach end of Runway 32 (**Figure 2-18**).

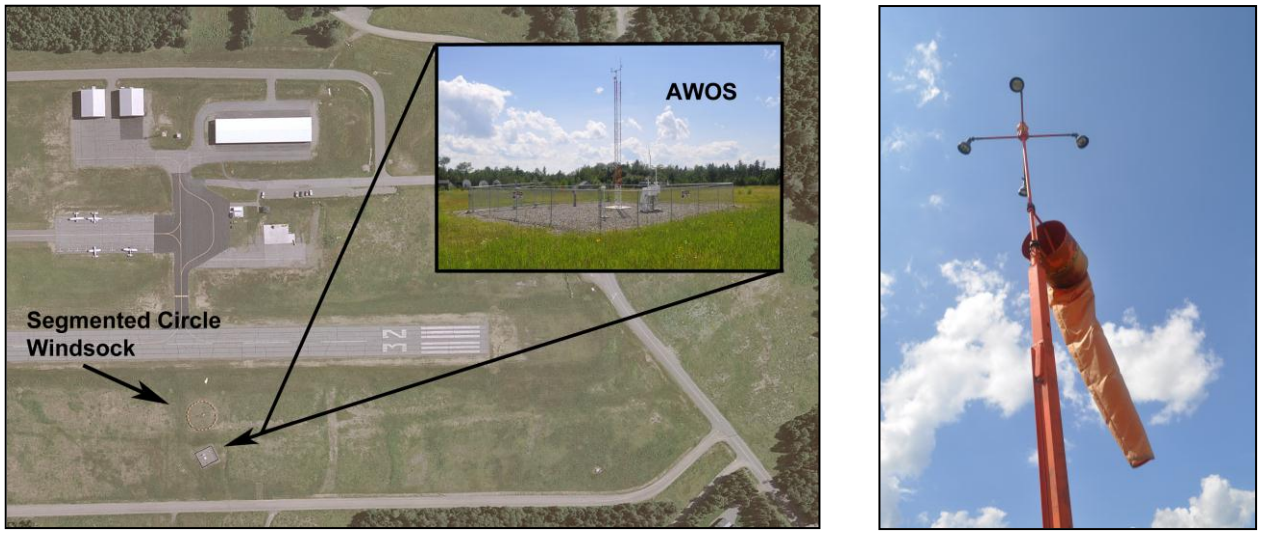


Figure 2-18. AWOS Location and Windsock
(Left: AWOS Location; Right: Lighted Windsock)

OBSTRUCTIONS TO NAVIGATION

A field survey was performed to supplement existing aerial survey data to determine on-airport ground obstructions and both on- and off-airport vegetation obstructions that are located within the Federal Aviation Regulations (FAR) Part 77 primary, approach, and transitional surfaces[10]. The field survey included random treetop locations and elevations in the vicinity of the airport to establish treetop elevations and penetration height. The survey also included detailed ground topography in all areas where the removal of ground obstructions may be required. The data was

[9] See Appendix 1.
[10] 14 CFR Part 77, *Obstructions to Navigable Airspace*.

tied into the horizontal datum (Geographic Coordinates, NAD 83) and vertical datum (NAVD 88) as required, using an proprietary program called RASP (Runway Approach Survey Program). This data will be combined with information obtained from aerial photography and topographic charts to prepare a Part 77 survey plan presented in **Figure 2-19** (RASP Analysis) and **Figure 2-20** (page 2-35).

The field survey indicated that there is a single obstruction (penetration) to the airport's Part 77 approach to transitional surface to Runway 32. This penetration is a small group of poplar trees located on airport property (east side of Loon Lake Road) that penetrates the approach transitional surface by 24 feet.

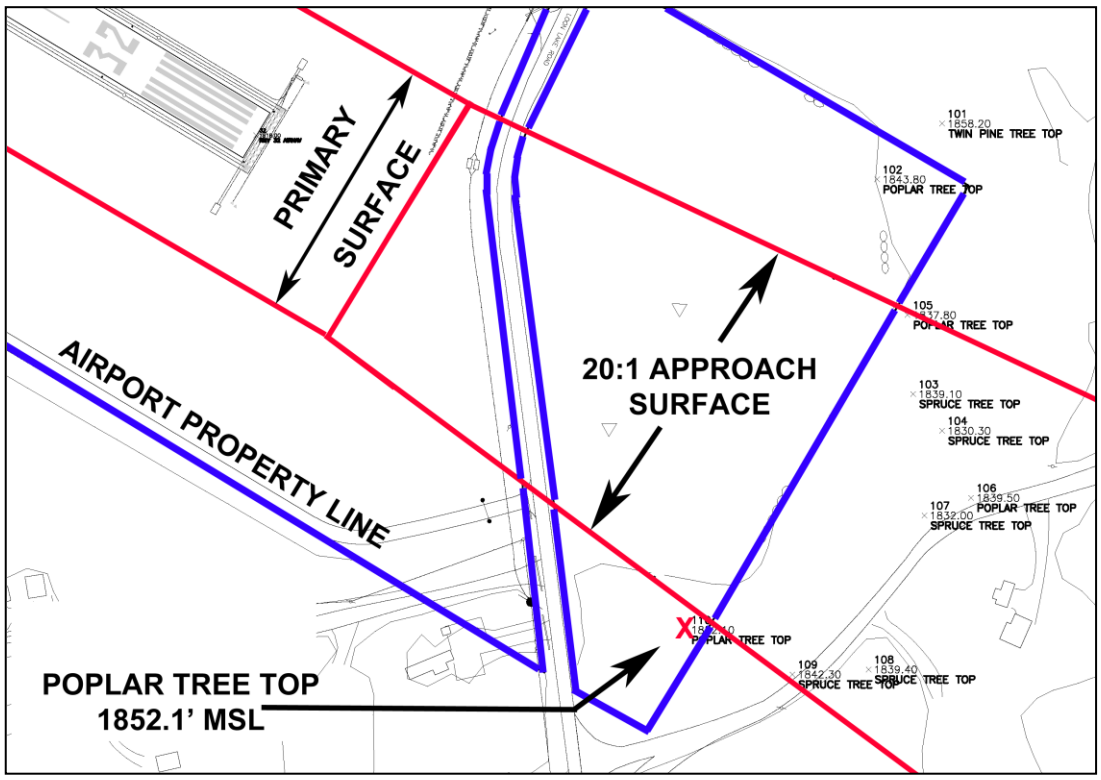


Figure 2-19. RASP Analysis

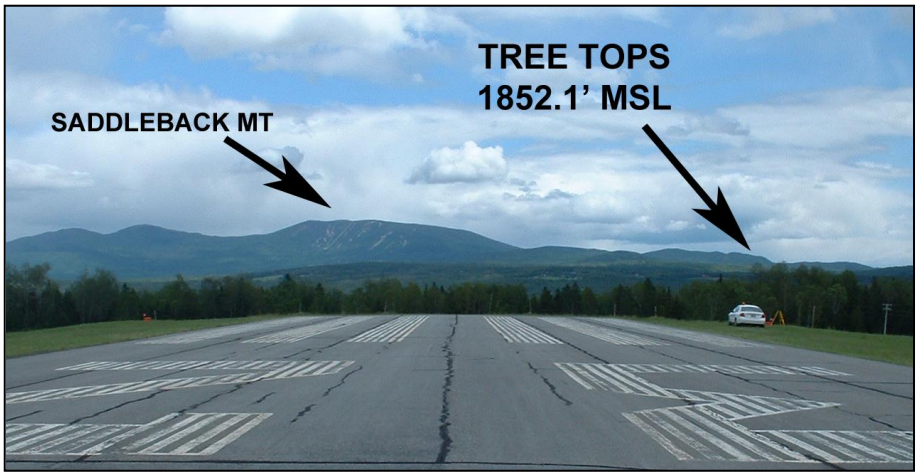


Figure 2-20. Runway 32 Part 77 Obstruction

INSTRUMENT APPROACH PROCEDURES

Rangeley is served by two instrument approach procedures (IAP) (see Appendix 2). Because of high terrain immediately to the east and west of the airport (in alignment with the runway), development of a "straight-in" procedure, with its inherent lower approach minimums, using current technology is not possible. The two IAPs to Rangeley are classified as "circling" procedures that intercept the runway at an angle exceeding the straight-in standard of 30 degrees or less. Consequently, the Airport has approach minimums that are higher than optimum for maximum airport viability. **Figure 2-21** and **Figure 2-22** (next page) present the Non-Directional (NDB-A) and GPS-A approaches, respectively.

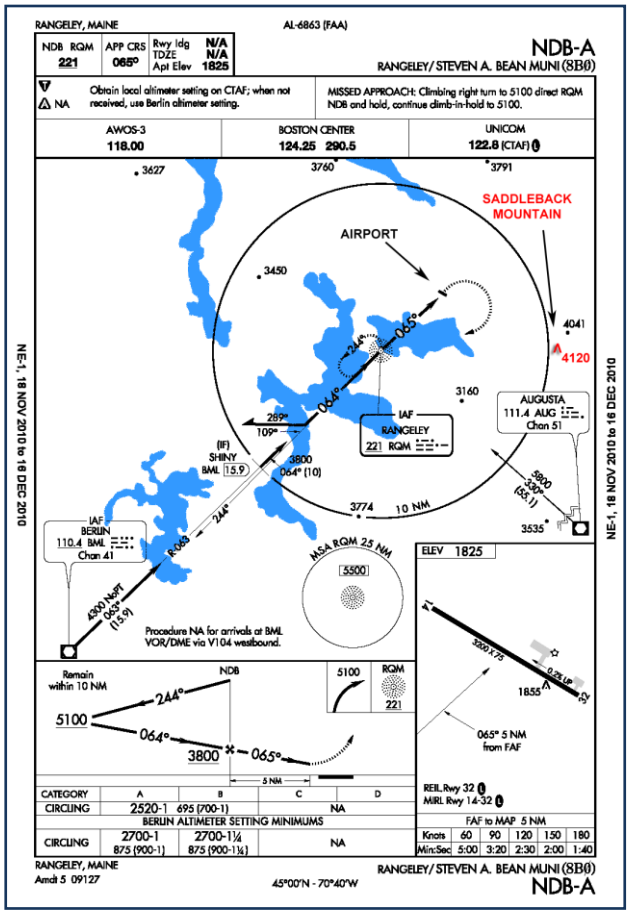


Figure 2-21. NDB-A Approach Procedure

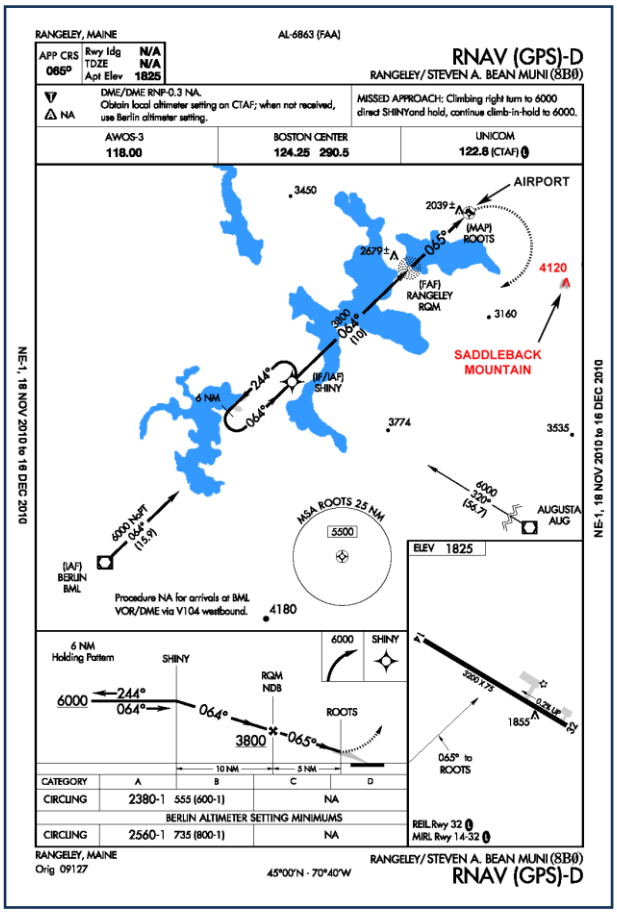


Figure 2-22. RNAV (GPS)-D Approach Procedure

DEMOGRAPHICS

SERVICE AREA

The airport service area boundary for Rangeley in the 1993 update was approximately a 25 mile radius of the airport, or about a 30 minute driving time. Since little has changed in the past 17 years, the service area will remain essential unchanged. For demographic purposes, Franklin County will be used.

SOCIOECONOMIC PATTERNS

Socioeconomic characteristics such as population and economic conditions provide insights concerning an area's historic and future growth. Moreover, socioeconomic characteristics usually have a positive relationship to aviation activity and are often useful tools in preparing estimates of future airport activity. For an airport master plan, socioeconomic characteristics are collected and

examined to derive an understanding of the dynamics of growth within the geographic area served by the airport. This information is typically used in forecasting aviation demand. Presented in this report are population and Gross Domestic Product (GDP)[11] changes.

U.S. Census data from Franklin County was used to produce a population set for the Service Area. We compared this data with growth trends in Maine and the United States. For consistency, we analyzed data during the period 1990 through 2010 using data from the 1990, 2000 and 2010 census.

During the 20 year period between 1990 and 2010, the U.S. population grew by 23.4 percent; but Maine grew by only 7.4 percent; Franklin County by 2.5 percent and the town by a respectable 9.7 percent. **Figure 2-23** presents the historical (relative) population changes for the United States, Maine, Franklin County, and the town of Rangeley, while **Figure 2-24** on the next page shows the rate of growth for the same areas during the 20 year study period.

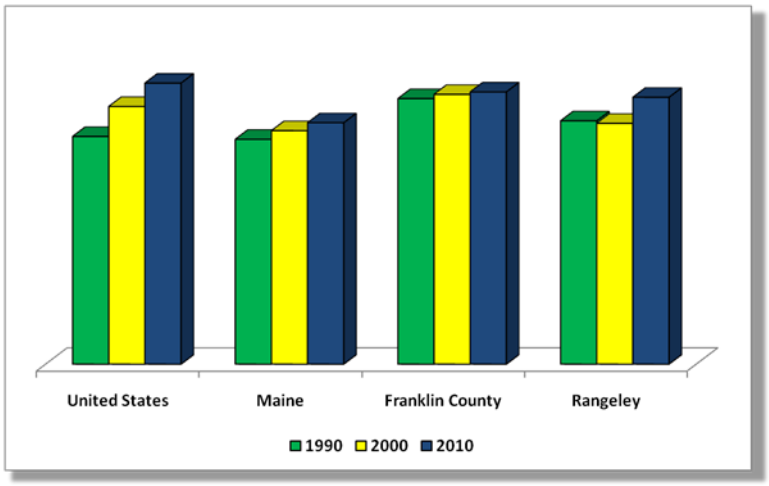


Figure 2-23. Relative Changes in Population (1990 - 2010)

[11] Real gross domestic product -- the output of goods and services produced by labor and property located in the United States.

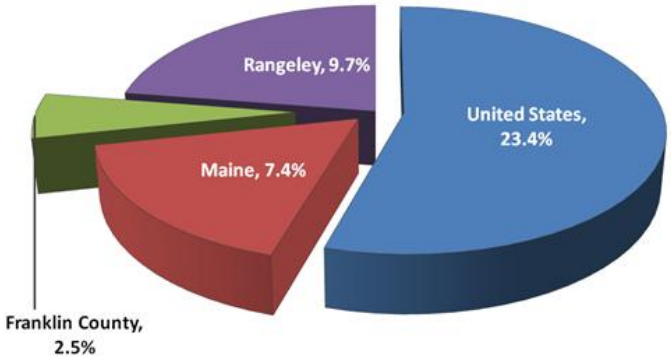


Figure 2-24. Population Rate of Growth (1990 - 2010)

INVENTORY SUMMARY

Changes to the Steven A Bean Municipal Airfield and its service area since the last master plan update 19 years ago have been small, yet subtle. Physical changes to the airfield have occurred during this period, including improvements to the Runway Safety Areas, a complete rehabilitation of the runway along with an extension, including improvements to the runway grade (line of sight). The aircraft parking apron was expanded including a second stub taxiway, and improvements to the airport access road were completed. Three new aircraft hangars were constructed including additional apron space, and an old outdated hangar located too close to the runway and inside the airport's Building Restriction Line (BRL)[12]. Each of these changes improved the safety, efficiency, capacity and/or viability of the airport; however, over the course of nearly two decades, growth at the airport is stagnant. The number of based aircraft and operations has changed little in nearly two decades (see Based Aircraft and Operations, page 9). Yet the Rangeley Lakes Region remains one of the most popular tourist and vacation attractions in the state. As shown in **Figure 2-23** (page 38) and **Figure 24** (above), population growth in the service area exceeds changes in the county and state. Saddleback Mountain ski area and Rangeley Lake are the largest in the state and within easy access to the airport. Flight time from the airport to major population centers in Portland (largest city in the state) and Augusta (state capital) is under one hour in most cases. The airport remains the only instrument capable facility within a 40 miles radius, and the only viable facility in the northwestern mountain region of Maine and New Hampshire.

[12] The Building Restriction Line (BRL) is an imaginary line where an assumed height (20 feet at Rangeley) is reached on the Part 77 transitional surface.

Table 2-12 summarizes the information presented in this section. The next section, Forecasts of Aviation Demand, use this data as a baseline in the development of future conditions.

Table 2-12. Inventory Summary

Condition	Measurement
Runway (7-25)	3,200 ft x 75 ft
Critical (Design) Aircraft	Cessna 172 Skyhawk
Airport Reference Code	A-I
Fleet Mix	
Single-Engine Reciprocating	7
Multiengine Reciprocating	1
Turboprop	0
Turbofan/Jet	0
Helicopter	0
Total Based Aircraft	8
Operations	
Local	1,250
Itinerant	1,000
Military	100
Air Taxi	50
Total Operations	2,400
Peak Operations	
PM	360
PMAD	12
PH	2.4
Hangar Space	3 Units (12-18 aircraft)
Apron Space	2,000 sy (9 aircraft)
Fuel Sales	6,000 (100LL) / 2,000 (Jet-A)
Automobile Parking	15 spaces
Population in Service Area	29,735

SECTION 3 - FORECASTS OF AVIATION DEMAND

INTRODUCTION

Forecasts of future levels of aviation activity are the basis for effective decisions in airport planning. These projections are used to determine the need for new or improved facilities. In general, forecasts should be realistic, based upon the latest available data, be supported by information in the study, and provide an adequate justification for airport planning and development. This planning process will eventually result in various facility development recommendations tied to the demand projected within respective forecast periods.

In all likelihood activity growth will not occur as projected. There undoubtedly will be peaks and valleys over the next 20 years that our process depicts in a linear fashion. Therefore, the facility development recommendations may have to be adjusted accordingly. Slower than projected growth may delay or even negate the need for recommendations, especially for those in outlying years. Naturally, the opposite may hold true for faster than projected growth.

This update started with the preparation of reliable activity baseline, which was accomplished in Section 2. The next step will be a review of factors affecting aviation activity, followed by discussion of other local, regional, and national aviation and related forecasts, and a review of various forecast methodologies. We then develop a forecast range, compare it to other forecasts for reasonableness, and submit the forecasts to the Sponsor, MaineDOT and FAA for approval.

FORECAST ELEMENTS

To establish the demands likely to be placed on Rangeley, forecasts will include all relevant aviation demand elements, including both the type and level of aviation activity expected at the airport over the planning horizon. The specific activity elements to be forecasted include:

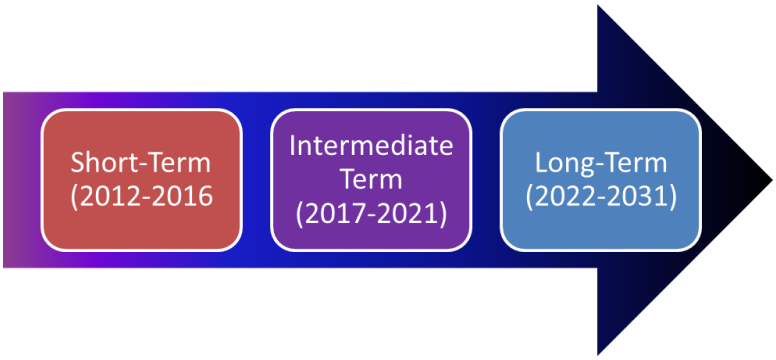
- Number and Type of Based Aircraft
- Aircraft Operations
- Peak Activity (aircraft and operations
- Identification of the Forecasted Critical Aircraft

AVIATION FORECAST PERIODS

Forecasts are prepared for short-, medium- and long-term periods and will specify the existing and future critical aircraft. Short-term forecasts for the first five years are used to justify near-term development and support operational planning and environmental improvement programs. Medium-term forecasts (a 6- to 10-year time frame) are typically used in planning capital improvements and long-term forecasts (beyond 10 years) are helpful in general planning.

Given the above, the forecast horizons for this update are as follows:

- **Short-Term.** Five-year period from 2012 through 2016. During this period, the airport and its sponsor will focus on correcting safety related issues, such as improving the runway safety areas. In addition, operational and environmental improvements should be undertaken.
- **Intermediate-Term.** Second five-year period from 2017 through 2021. During this period, the sponsor should focus on capital improvements, including major construction projects.
- **Long-term.** Last 10 year period, from 2022 through 2031. This is the general planning period. Assuming all short and intermediate term projects are successfully completed, the sponsor should undertake another master plan update while concentrating on how to best position the airport for the third and forth decades.



FACTORS AFFECTING AVIATION FORECASTS

In preparing forecasts of demand and updating existing forecasts factors considered include socioeconomic data, demographics, disposable income, geographic attributes, and external factors such as fuel costs and local attitudes towards aviation. To the extent data is available; we will address each of these elements.

- **Economics.** The economic characteristics of a community will affect the demand for air traffic. In regions experiencing strong economic growth, business travel typically increases and greater disposable income translates into higher volumes of personal and vacation air travelers. In addition to national and regional economic trends, local activities that distinguish the geographic area served by the airport must also be considered. If an airport serves a major recreational area, peak seasonal demands should be assessed. In the case of Rangeley, there appears to be two high-value tourist periods: summer and the lake and winter and ski slopes. The spring and fall see a dramatic drop-off in tourism, with a slight edge to the fall and hunting and sightseeing (fall foliage).
- **Demographics**. The demographic characteristics of an area's population also affect the demand for aviation services. Demographic characteristics influence the level, composition, and growth of both local traffic and traffic from other areas. Factors such as leisure time and recreational activity are important in estimating activity, but can be difficult to measure (will the snowfall be normal or better; a rainy/wet summer keeps visitors and summer vacationers away.). Another important demographic characteristic is the level of disposable income, usually measured on a per capita basis, which is a good indicator of the propensity to travel and general aviation aircraft purchases and use. The Rangeley Lakes Region is

typical of many areas in Maine; it's home to "snowbirds,", or those who summer in Maine and winter in a warmer climate, returning for an occasional ski getaway. This attraction can be good for overall aviation use since many will fly back and forth, many using general aviation as a transportation resource. As evidence is the growth seen around Saddleback Mountain, primarily off Route 4 and along Loon Lake Road, which also serves as the main access road to the airport.

- **Geographic Attributes.** The geographic distances between populations and centers of commerce within the airport's service area may have a direct bearing on the type and level of transportation demand. The existence of populations and centers of commerce beyond an airport's service area may indicate the need for additional airports that serve transportation demand. The physical characteristics of the area and the local climate may also be important, since they may stimulate holiday traffic and tourism. The role of the airport within the airport system and its relationship to other airports may also have an effect on the services that are demanded at the airport. As addressed in the previous section, Rangeley is outside the main population areas of Maine (as are most communities). Except for the year round faithful, Rangeley is a seasonal and tourist community; it is for the most part a vacation destination. Demand for air transportation is low and given the regulatory and slow historic growth of the region, and relatively short automobile drive to Augusta and Portland (60 and 100 miles respectively), air travel is and will most likely remain a mode for those who can afford it.
- **Other Factors.** External factors may also influence the demand for airport services. These include economic actions such as fuel price changes, availability of aviation fuels, currency restrictions, and changes in the level and type of aviation taxes. Political developments, including rising international tensions, changes in the regulatory environment, and shifting attitudes toward the environmental impacts of aviation, may also impact future demand and should be considered in developing or updating airport forecasts. As of this writing the United States is in what some are calling the worst economic crisis in the country's history. When this crisis will end is a matter of speculation and depends on many factors way beyond the scope of reach of this document. What matters is the uncertainty that it brings and how it might impact aviation, particularly general aviation. For now the community remains strong and relatively untouched; however, a rapid rise in aviation fuel prices, for instance, will impact recreational and business travel.

PREVIOUS AVIATION FORECASTS

Applicable forecasts prepared specifically for Rangeley are reviewed in this section. This includes three different forecasts sources prepared by the FAA, as well as forecasts from the last master plan. In addition, forecasts from the Maine Aviation System Plan (MEASP) are presented. The primary focus of forecast review will be on general aviation activity (this includes private, corporate, air taxi and charter aircraft and operations).

FAA FORECASTS

Three different forecast sources prepared by the FAA are reviewed in this section. The first is from the annual update of the National Integrated Plan of Airport Systems (NPIAS) prepared earlier this year for the period 2011 - 2015. This particular document is primarily used as a tool as for capital budgeting for required funding through the AIP. The second document, FAA Aviation/Aerospace Forecasts 2010-2030 is also updated annually by the FAA and represents a national overview of projected activity levels. It is especially helpful in projecting the changes in fleet mix at both commercial service and general aviation airports. The third forecast source prepared by the FAA is the Terminal Area Forecast (TAF). This effort is more site-specific than the other two documents in terms of based aircraft and operations for an individual airport. Each is briefly discussed below.

NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS (NPIAS)

The NPIAS is used by FAA in administering the AIP. It supports the goals identified in the FAA Flight Plan for safety and capacity by identifying airports and airport improvements that will help achieve those goals. Fifty-seven percent of the development is intended to rehabilitate existing infrastructure and keep airports up to standards for the aircraft that use them. Forty-three percent of the development in the report is intended to accommodate growth in travel, including more passengers, cargo and activity, and larger aircraft.

The downturn in the economy has dampened the near-term prospects for the general aviation industry, but the long-term outlook remains favorable. FAA projects growth in business aviation demand over the long term driven by a growing U.S. and world economy. The active general aviation fleet is projected to increase at an average annual rate of 0.9 percent over the 21-year forecast period, growing from an estimated 229,149 in 2009 to 278,723 aircraft by 2030. The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow at an average of 3.0 percent a year over the forecast period, with the turbine jet portion increasing at 4.2 percent a year.

On July 21, 2004, FAA published the final rule for sport aircraft, “Certification of Aircraft and Airmen for the Operation of Light-Sport Aircraft,” which went into effect on September 1, 2004. This final rule establishes new light-sport aircraft (LSA) categories and allows aircraft manufacturers to build and sell completed aircraft without obtaining type and production certificates. Instead, aircraft manufacturers will build to industry consensus standards. This reduces development costs and subsequent aircraft acquisition costs. This new category places specific conditions on the design of the aircraft to limit them to “slow (less than 120 knots maximum) and simple” performance aircraft. New pilot training times are reduced and offer more flexibility in the type of aircraft the pilot would be allowed to operate.

Viewed by many within the general aviation industry as a revolutionary change in the regulation of recreational aircraft, the new LSA rule is anticipated to significantly increase access to general aviation by reducing the time required to earn a pilot’s license and the cost of owning and operating

an aircraft. These regulations are aimed primarily at the recreational aircraft owner/operator. By 2030, FAA expects there to be 16,300 of these aircraft in the national fleet.

Most of the data contained in the NPIAS is based upon individual airports' master plans and capital improvement plans (CIPs). These documents are prepared to support the modernization or expansion of existing airports, or the creation of new airports. Typically, operators of individual airports prepare airport master plans, usually with the assistance of consultants. FAA field offices review these plans, which follow a standard outline contained in an FAA advisory circular that links development to current and forecast activity. The plans include consideration of all significant aviation requirements, including the needs of national defense and the postal service. Periodically, FAA offices will meet with airport sponsors and review the CIP making adjustments to reflect the current airport development needs[1]. Plans for major development, such as new runways or runway extensions, tend to be controversial, and the planning process provides interested parties with the opportunity to request a public hearing.

FAA projects aviation will continue to grow over the long term, despite current global economic conditions. At Rangeley specifically, NPIAS projects the role of the airport to remain General Aviation with 13 based aircraft over the next five years and $1,471,053 needed for AIP eligible project funding over this five year period.

FAA AVIATION/AEROSPACE FORECASTS

Developing forecasts of aviation demand and activity levels continues to be challenging as the aviation industry evolves and prior relationships change. In times of amplified volatility, the process is filled with uncertainty, particularly in the short-term. Even though the highly cyclical U.S. aviation industry went into a downward spiral during 2009, history has shown the demand for air travel is resilient and growth will return. With the start of 2010, the lingering questions are 1) how much economic recovery will be required to jumpstart the industry back to a period of growth, and 2) when will the recovery occur?

The general aviation forecasts rely heavily on discussions with industry experts and the results of the 2008 General Aviation and Part 135 Activity Survey. The assumptions have been updated by FAA analysts to reflect more recent data and developing trends, as well as further information from industry experts.

The FAA forecasts the fleet and hours flown for single-engine piston aircraft, multi-engine piston, turboprops, turbojets, piston and turbine powered rotorcraft, light sport, experimental and other (which consists of gliders and lighter than air vehicles). The FAA forecasts "active aircraft," not total

[1] MaineDOT generally holds these meetings during the summer with individual airports, and their consultants, and then complies the data and presents its findings to the FAA, which results in a mutually agreed upon CIP between all three stakeholders.

aircraft. The FAA uses estimates of fleet size, hours flown, and utilization from the General Aviation and Part 135 Activity Survey (GA Survey) as baseline figures upon which assumed growth rates can be applied. Beginning with the 2004 GA Survey there were significant improvements to the survey methodology. Coinciding with the changed survey methodology, large changes in many categories were observed, both in the number of aircraft and hours flown. The results of the 2008 GA Survey are consistent with the results of surveys since 2004, reinforcing our belief that the methodological improvements have resulted in superior estimates relative to those in the past. Thus, they are used as the basis for our forecast. Because results from the GA Survey are not published until the following year, the 2008 statistics are the latest available. Figures for 2009 are estimated based on other activity indicators, and the forecasts of activity begin in 2010 and continue through 2030.

The following key points are gleaned from the FAA Aviation Forecasts for aviation nationally:

- The demand for business jet aircraft has grown over the past several years. New product offerings, the introduction of very light jets, and increasing foreign demand have helped to drive this growth. In addition, corporate safety/security concerns for corporate staff, combined with increasing flight delays at some U.S. airports have made fractional, corporate, and on-demand charter flights practical alternatives to travel on commercial flights.

- The active general aviation fleet is projected to increase at an average annual rate of 0.9 percent over the 21-year forecast period, growing from an estimated 229,149 in 2009 to 278,723 aircraft by 2030. The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow at an average of 3.0 percent a year over the forecast period, with the turbine jet portion increasing at 4.2 percent a year.

- The current forecast calls for 440 VLJs to enter the US fleet over the next three years, with an average of 216 aircraft a year for the balance of the forecast period.

- The number of active piston-powered aircraft (including rotorcraft) is projected to decrease from the 2008 total of 166,514 through 2017, with declines in both single and multi-engine fixed wing aircraft, but with the smaller category of piston-powered rotorcraft growing. Beyond 2017 active piston-powered aircraft are forecast to increase to 172,613 by 2030. Over the forecast period, the average annual increase in piston powered aircraft is 0.2 percent.

- Starting in 2005, a new category of aircraft (previously not included in the FAA's aircraft registry counts) was created: "light sport" aircraft. At the end of 2008 a total of 6,811 active aircraft were estimated to be in this category while the forecast assumes the fleet will increase approximately 825 aircraft per year until 2013. Thereafter the rate of increase in the fleet tapers considerably to about 335 per year. By 2030 a total of 16,311 light sport aircraft are projected to be in the fleet.

- The number of general aviation hours flown is projected to increase by 2.5 percent yearly over the forecast period. A large portion of this growth will occur in the short term post recession period, where record low utilization rates experienced in 2009 will return to normal trends, particularly in the turbine jet category. As with previous forecasts, much of the long term increase in hours flown reflects strong growth in the rotorcraft and turbine jet category.

- Hours flown by turbine aircraft (including rotorcraft) are forecast to increase 4.1 percent yearly over the forecast period, compared with 1.1 percent for piston-powered aircraft. Jet aircraft are forecast to account for most of the increase, with hours flown increasing at an average annual rate of 6.1 percent over the forecast period. The large increases in jet hours result mainly from the increasing size of the business jet fleet, along with measured recovery in utilization rates from recession induced record lows. Rotorcraft hours, relatively immune to the economic downturn when compared to other categories, are projected to grow by 3.0 percent yearly.

- The light sport aircraft category is expected to see increases in hours flown on average of 5.9 percent a year, which is primarily driven by growth in the fleet.

TERMINAL AIRPORT FORECASTS

The FAA TAF for Rangeley was reviewed and determined to be of little consequence to this update. The data provided is minimal and would have no impact on forecasted changes.

MAINE SYSTEMS PLAN FORECASTS

In 2001, the Maine Department of Transportation initiated an update of the 1995 Maine Aviation Systems Plan (MASPU). Various phases of the plan were completed between 2001 and 2005 as funds were made available from the FAA. The plan was prepared to guide the MaineDOT Office of Passenger Transportation (OPT), with an important tool to monitor the ability of the airports to meet performance measures identified through the aviation system planning process. The MSAPU phases addressed numerous key elements; two of particular interest in this AMPU are the airport's goals, which were previously addressed in Section 2 (see Airport Role, page 6), and the projection of future aviation demand.

For the purpose of this AMPU, future demand is limited to the number of based aircraft and aircraft operations; two key elements that determine future facility requirements. Both forecasted elements were prepared for a 20-year period from 2001 to 2021. In 2001, Rangeley had a reported 12 based aircraft, or 1.3% of the total fleet in Maine. The forecast indicated that this number would increase by one aircraft during the entire 20-year period. Likewise, operations in 2001 were reported at 9,000, with a projected 20-year increase to 10,560. Today, almost 10 years since the MSAPU was prepared, the number of based aircraft has declined to 8, while reported operations increased to over 12,000. Given the relatively low numbers for both elements, and the wide difference between the MSAPU and actual count, it would appear that using the MSAPU's data

would not provide reliable data. In short, the based aircraft count is too small and the operations count too unreliable to support forecasting in this update.

PREVIOUS RANGELEY FORECASTS

Other than the MSASP, the last forecasts prepared for Rangeley were in the 1993 AMPU, which were prepared through the year 2010. The 1993 forecasts are presented in **Table 3-1** as an example of how difficult it is to prepare aviation forecasts, particularly when dealing with relatively low numbers. The table presents the base data used in the last AMPU for the year 1990, along with the 2010 forecasts, as well as the current 2010 data presented in Section 2 of this report.

Table 3-1 - Previous Forecasts

Data	1990	2010 Forecast[2]	2010 Actual
Population (Town of Rangeley)	1,157	1,505	1,166
Based Aircraft	11	17	8
Aircraft Operations	12,000	18,500	2,400
Fuel Flowage (gallons)	17,000	26,300	8,000

Source: Rangeley Municipal Airport Master Plan Update (1993)

FORECAST METHODOLOGY

The forecasts in this study are prepared using a combination of trend analysis and professional judgment based on the knowledge gleamed from our study of the airport, its history, and trends in aviation, primarily the general aviation component. In addition, we will look at market share for based aircraft only and compare it to data from a trend analysis and professional judgment. Historical aviation trends over time can be used to project future aviation activity levels. In using it, we have evaluated the history of operations at the airport and will project a future trend based on that history.

STEVEN A BEAN MUNICIPAL AIRFIELD FORECASTS

To assess the future of general aviation activity at Rangeley, we must take a second look at its historic performance, particularly during the past 10 to 20 years. As discussed earlier, Rangeley has seen a flat line in both based aircraft and operations; however, the population growth during the past 10 years in the region is positive. Year round residents have declined but seasonal residents and tourism has increased.

[2] From 1993 AMPU

Over the past decade, rising fuel and aircraft costs, that have exceeded corresponding increases in income levels, have driven many recreational pilots away from flying. One only has to look at the declining operations around the country to realize the direction general aviation is going. Changes in the fleet mix with the introduction of sport aircraft will result in an increase in smaller, less expensive aircraft populating the flight line and hangars. Unlike their predecessor, sport aircraft are relatively inexpensive to own and operate. However, these new smaller less expensive aircraft will likely only replace existing standard single engine piston, and some light twin piston aircraft. It is unlikely that a net gain will be realized. As stated earlier in this section, it is assumed that relatively inexpensive VLJs and new light sport aircraft could erode the replacement market for traditional piston aircraft in the mid-range market. These aircraft are typically higher cost single and light twin engine aircraft in the $200,000 to $800,000 range.

On the positive side, development in the Rangeley Lakes Region has been steady for the past 25 years, particularly in the vacation home market, and those homes used by seasonal residents (see *Demographics*, page 44). Recently, the town approved development of Rangeley North, a planned community that will include 117 new single-family residential lots and six commercial lots off Loon Lake Road, just north of the airport (see **Figure 3-1**). These proposed lots will be in addition and adjacent to an existing 14 lot estate (Johnson Farm), for a total of 137 new lots.

Figure 3-1. Rangeley North Development

BASED AIRCRAFT FORECASTS

Based aircraft, of which 100 percent are recreational in size and use, will see very moderate growth during the 20-year planning cycle.

While the cost of owning and operating aircraft continues to escalate, the number of potential owners and operators will continue to increase as an overall percentage of the new seasonal and vacation homes are built in the region. The average rate of growth will mirror the change in population as new homes are introduced to the area. In addition, the number of based aircraft will reflect the seasonal patterns already experienced in many airports in Maine. That is, the numbers will swell during the summer months and shrink as seasonal homeowners and tourists leave the area after fall foliage, returning for brief winter excursions to ski, snow mobile, etc. An annual growth rate of 10 percent (or more) over the next 20 years is not unrealistic. However, given the existing low number of based aircraft (8), this change is negligible. This rate would results in less than one additional

aircraft per year, or 16 total aircraft in 20 years. For planning purposes it is assumed this rate will be uniform throughout the 20 year period.

OPERATIONS FORECASTS

We anticipate that operations growth will be mixed during the planning period. While local operations, primarily a function of recreational based aircraft will decline because of rising fuel, insurance, and other ownership costs, itinerant operations, primarily from business aircraft will increase because of increased tourism to the area, primarily the lake and it's amenities during the summer and the ski region in the winter. Business development and its demand for air travel is not considered important enough to draw any significant use of business aircraft.

Overall, compared to based aircraft growth, operations will remain flat. According to our analysis, aircraft operations total 2,400 per year (see **Table 3-2**, page 51). This is an industry trend for general aviation seen nationwide. Given the remoteness of the airport and the lack of any formal flight training, operations realistically equal about 300 per based aircraft. For planning purposes the ratio between based aircraft and operations will remain constant throughout the 20-year planning period. This results in forecasted operations of 4,800 at the end of the planning horizon.

FLEET MIX FORECASTS

The current fleet-mix consists of seven single engine (88 percent) and one multiengine (12 percent) aircraft. This mix will probably not change appreciably during the planning years. The relatively low starting number (8) is not influenced by even large changes in growth patterns. That is changes to the fleet mix will be inconsequential in terms of planning future facility needs. Thus the fleet mix will remain the same, resulting in possibly two multiengine aircraft and 14 single engine aircraft. Given the current runway length of 3,200 feet, the likelihood of turbine (jet) aircraft operating from Rangeley on a regular basis is remote.

PEAK-HOUR FORECASTS

Current peak-hour operations were calculated at 2.4 operations (see Peak-Hour Operations, page 9). Given the slight increase in forecasted operations, this number will double in 20 years to 4.8 operations per hour (PH).

DESIGN/CRITICAL AIRCRAFT FORECAST

As discussed on in Section 2 (Page 10), the current design aircraft is Cessna 172 Skyhawk. However, it is reasonable to believe that a larger aircraft, such as the Beech King Air 200 could be the critical/design aircraft in the next 5-10 years. The Rangeley Lakes area is growing and new homes in the area are either in the low end or priced in the high end ($1,000,000 homes are not unusual). Given the planned developed just north of the airport (Rangeley North, see page 49), this area can someday support larger turboprop or even small turbojet aircraft. Therefore, starting in about 5-10 years, the Beech 200 is considered the future design aircraft with an ARC of B-II

FORECAST SUMMARY

Table 3-2 summarizes the forecast data for Rangeley, broken out by the three planning periods.

Table 3-2. Forecast Summary

Condition	Existing	Short-Term (2011-2015	Intermediate-Term (2016-2020)	Long-Term (2021-2030)
Critical (Design) Aircraft	Cessna 172	Cessna 172	Beech 200	Beech 200
Airport Reference Code	A-I	A-I	B-II	B-II
Population in Service Area	29,735	31,000	33,000	35,000
Fleet Mix				
Single-Engine Reciprocating	7	9	11	14
Multiengine Reciprocating	1	1	1	2
Turboprop	0	0	0	0
Turbofan/Jet	0	0	0	0
Helicopter	0	0	0	0
Total Based Aircraft	8	10	12	16
Operations				
Local	1,250	1,400	1,600	2,500
Itinerant	1,000	1,200	1,300	2,000
Military	100	140	140	200
Air Taxi	50	60	60	100
Total	2,400	2,800	3,100	4,800
Peak Operations				
PM	360	560	620	720
PMAD	12	19	21	24
PH	2.4	2.8	3.1	4.8
Fuel Sales (gallons)				
100LL	6,000	7,000	7,750	12,000
Jet-A	2,000	2,200	3,000	4,000

SECTION 4 –FACILITY REQUIREMENTS

AIRSIDE CAPACITY & REQUIREMENTS

This section investigates the capacity of the airport, its ability to meet current demand, and the facilities required to meet forecasted needs as established in Section 3 (Forecasts). The objective of this analysis is to determine the adequacy of existing facilities, which will lead to a preliminary determination of what is required to satisfy future requirements. The results of these preliminary findings are subjected to an analysis of development alternatives before being finalized.

Facility requirements are also based on issues not related to capacity and demand. FAA design standards, safety, and services for airport users are also considered in the AMPU.

The airside and landside capacity needs are determined by comparing the capacity of the existing facilities to forecasted demand for them. In cases where demand exceeds capacity, additional facilities are recommended. The timeframe for assessing development needs usually involves the three forecast periods: short – (0 - 5 years), intermediate – (year 6 through 10), and long-term (year 11 through 20).

RUNWAY REQUIREMENTS

The existing runway is examined with respect to dimensional criteria, length, width, and pavement design strength.

Design Aircraft & ARC Requirements

As discussed in Section 2 (page 10), FAA guidance on dimensional standards is based on a coding system know as the Airport Reference Code (ARC). This includes both existing and future classifications. In the case of Rangeley, this classification is applied to the entire airport including the runway, future taxiways (if any), apron areas, etc). As also noted in Section 2 (page 10), the existing design aircraft carried over from the 1993 AMPU was the Beech King Air 200. However, we now know that this aircraft only uses Rangeley a few times per year and is not the existing design aircraft. Instead, the Cessna 172 Skyhawk was selected as the current aircraft. This aircraft is in the ARC A-I group (for small aircraft). However, it was determined that the future design aircraft at Rangeley could conceivable be the King Air again, which places the airport into design group B-II. The reason for this decision was to protect the airport for future activity and to avoid the need to restructure facilities if the airport grows to its potential (move buildings away from the runway, widen protective surfaces, etc.). This decision is also consistent with the Maine Aviation Systems Plan (see *Airport Role*, Section 2, page 6) that places the airport into the Group B category.

Runway Length & Width Analysis

The length of the runway is a function of many factors, the most notable of which at Rangeley is the selection of the appropriate design aircraft. Aircraft-specific runway length requirements are a function of aircraft physical characteristics at time of flight, weather conditions, and runway conditions. Like runway length, the required width of a runway is a function of the approach minimums, airplane approach category, and airplane design group for the design aircraft using the runway.

Runway Length

The existing runway length is 3,200 feet long. The required length was evaluated using a standard FAA process to determine general runway length based on a wide variety of generic aircraft and a length based on existing and forecasted aircraft. In addition, the required runway length was analyzed using specific aircraft performance data for the existing and future design aircraft.

An analysis using FAA Design Software indicates that the runway at Rangeley will support a wide range of small general aviation aircraft, upward to 95% of all "small" aircraft. **Table 4-1** lists the various length requirements. Note that only "small[1]" airplanes are included in this analysis. All aircraft classified as "large" require a minimum of 4,830 feet of runway.

Table 4-1. Runway Length Requirements (FAA Design Rationale)

Aircraft Conditions	Runway Requirement (feet)
Small airplanes with approach speed of less than 30 knots	350
Small airplanes with approach speed of less than 50 knots	950
Small airplanes with less than 10 passenger seats	
75% of these small airplanes	2,900
95% of these small airplanes	3,460
100% of these small airplanes	4,040
Small airplanes with 10 or more passenger seats	4,280

Note: Based on airport elevation of 1,825' MSL; mean daily maximum temperature of 70°F, and a maximum difference of runway centerline elevation of 6 feet.

An assessment was also conducted using specific aircraft operating requirements based on manufacturer recommendations. The suggested runway length for both the existing and ultimate design aircraft are listed in **Table 4-2**, which includes both takeoff and landing runway

[1] Small aircraft are defined as those with a maximum gross takeoff weight of 12,500 pounds or less; all others are classified as either "large" or "heavy".

requirements at sea level, at maximum gross takeoff weight at Rangeley, and with an 80% load at Rangeley.

Table 4-2. Aircraft Specific Takeoff and Landing Length Requirements

Aircraft	Takeoff Runway Length (feet)			Landing Runway Length (feet)		
	Sea Level[2]	At 8B0[3]	80% Load	Sea Level[14]	At 8B0[15]	80% Load
Cessna 172	1,200	1,549	1,239	1,100	1,425	1,140
King Air 200	2,579	3,260	2,608	2,845	3,590	2,872
Cessna Citation Jet II (CJ-2)[4]	3,420	4,303	3,443	2,980	3,757	3,006

Based on current demand there is no requirement for a longer runway at Rangeley. However, if the King Air or a similar aircraft starts to use the airport on a more frequent basis (500 or more annual operations), then a longer runway would be justified. Assuming this aircraft is the King Air, and then a runway length of approximately 3,500 to 4,000 feet should be considered. In the mean time, the airport sponsor should protect the airspace around the airport by showing (in the long term) a longer runway. The cost of planning for this potential is minimal compared to not planning for it and discovering that the airspace structure was compromised (development of incompatible land uses, such as nursing homes, hospitals, schools, cell towers, etc., are prime examples).

Runway Pavement Strength

The current runway pavement strength is rated at 13,000 for single wheel aircraft. This rating is satisfactory given the current airport standards and usage. If the runway is extended, then the pavement strength might have to be upgraded based on the future fleet-mix and operational use.

Geometric Standards

The runway width and clearance standard dimensions are listed in **Table 4-3** (next page). This data is based on the ultimate ARC of B-II.

[2] International Standard Atmosphere at maximum gross takeoff weight.

[3] Field Elevation 1,825 feet, maximum mean summer temperature of 70°F, positive runway gradient.

[4] Includes for comparison purposes only.

Table 4-3. Geometric Standards (Based on B-II ARC)

Standard	Measurement (feet)
Runway Width	75
Runway Centerline to Parallel Taxiway Centerline	240
Runway Centerline to Edge of Aircraft Parking	250
Runway Shoulder Width	10
Runway Safety Area (RSA) Width	150
RSA Length Beyond Runway End	300
Runway Object Free Area (OFA) Width	500
Runway OFA Length Beyond Runway End	300
Runway Obstacle Free Zone (OFZ) Width	400
Runway OFZ Length Beyond Runway End	200
Runway OFZ Inner Approach Width	400
Runway Protection Zone (RPZ) Runway End Width	500
RPZ Outer Width	700
RPZ Length	1,000

TAXIWAY REQUIREMENTS

There is no current requirement for a parallel taxiway at Rangeley for capacity or safety purposes. However, there should be aircraft turnaround areas on both runway ends and the sponsor should plan for a full length parallel taxiway when and if a longer runway is required. Like a longer runway, this is for planning purposes and does not indicate a need exists today.

VISUAL NAVIGATION AIDS

As noted in Section 2 (see Table 2-7, page 16), the airport's visual aids are in generally good condition. The runway edge, threshold lights, and runway end identifier lights are in fair to good condition as is the rotating beacon. Taxiway lights and markers are in excellent condition.

Table 4-4 lists the visual navigation aids and future requirements.

Table 4-4. Visual Navigation Aid Requirements

System	Recommendation	Timeframe
Runway Edge and Threshold Lights	Replace/upgrade	As required
Runway End Identifier Lights – Runway 14	Install	As soon as possible
Runway End Identifier Lights – Runway 32	Replace/Upgrade	As required
Rotating Beacon	Replace with newest technology	As required
Segmented Circle	Include traffic pattern indicator	As soon as possible
Segmented Circle – Windsock	Replace/Upgrade	As required
Signage	Replace/upgrade	As required

LANDSIDE CAPACITY & REQUIREMENTS

This section addresses issues related to landside capacity and recommended changes. This includes aircraft parking (aprons and hangars), terminal building space, automobile parking, and miscellaneous storage and facilities.

AIRCRAFT STORAGE

The first assumption is how the mix of aircraft that park on ramps and those in hangars will change during the planning period. Currently all based aircraft are parked in hangars. Aircraft aprons are used exclusively for transient aircraft parking. However, for planning the assumption is that 25% of future based aircraft will park on open apron space and that half of all itinerant aircraft will park on apron space with a small percentage opting for hangar space, if available.

Aprons & Tiedowns

The airport has apron space for about 19-22 aircraft, but only tiedowns for 12 aircraft, and all spaces are designed for aircraft with a maximum wingspan of 45 feet. In addition, about 15% (9,500 sf) of the existing apron is in poor condition (see *Parking Aprons*, Section 2, page 18), and there are no spaces or tiedown areas large enough to accommodate larger such as a King Air. While the existing number of small aircraft tiedown spaces is sufficient to meet demand through the next 20 years, added space for larger aircraft is essential.

For planning purposes in addition to normal itinerant aircraft additional apron is required to handle several large aircraft in Design Group II (49-79 foot wingspan). **Table 4-5** presents standard calculations used for planning itinerant parking space. **Table 4-6** (next page) presents similar calculations for based aircraft, and **Table 4-7** (next page) combines both. As shown, the airport currently has a small surplus of apron space, but this surplus will turn into a deficit within the next 5-10 years. By the end of the planning period the airport will need to increase aircraft apron space by about 1,700 square yards, or 140%.

Table 4-5. Itinerant Aircraft Apron Space

Parameter	Planning Year			
	2012	2016	2021	2031
Total Annual Operations	2,400	3,000	3,600	4,800
Busiest Month Operations	480	600	720	960
Average Day Busy Month Operations	15	19	23	31
Busiest Day 10%> average Day	17	21	26	34
Itinerant Landing Operations	4	5	6	9
Number Itinerant Aircraft Parking Demand	2	3	3	4
Square Yards Per Aircraft	360	360	360	360
Planned Apron Square Yards (rounded)	850	1,050	1,300	1,700

Table 4-6. Based Aircraft Apron Space

Parameter	Planning Year			
	2012	2016	2021	2031
Based Aircraft	8	10	12	16
Percent Aircraft in Hangars	100%	90%	75%	75%
Based Aircraft on Apron Space	0	1	3	4
Square Yards Per Aircraft	300	300	300	300
Planned Apron Square Yards (rounded)	0	300	900	1,200

Table 4-7. Total Aircraft Apron Space

Parameter	Planning Year			
	2012	2016	2021	2031
Based Aircraft	0	300	900	1200
Transient Aircraft Space	850	1,050	1,300	1,700
Total Space Required	850	1,350	2,200	2,900
Existing Space	1,200	1,200	1,200	1,200
Surplus (Deficit)	350	(150)	(1,000)	(1,700)

Hangar Requirements

The base year data indicates that there are 10 aircraft parked in hangars, or 100% of the current based aircraft fleet. As discussed in the previous section (Aprons & Tiedowns), the assumption is that the number of based aircraft in hangars will remain quite high; however, some owners will opt for open tiedown space. For planning purposes the assumption is that apron space will account for 25% of based aircraft. Using this theory, **Table 4-8** presents the estimate for hangar space through the planning period. This data indicates the airport would need approximately five additional hangars in the next 20 years. It is recommended however, that the airport plan for much more by reserving space to accommodate hangar development as demand dictates, keeping in mind that hangar land leases are the primary source of revenue for general aviation airports.

Table 4-8. Hangar Space Requirements

Parameter	Planning Year			
	2012	2016	2021	2031
Based Aircraft	8	10	12	16
Based Aircraft Hangar Needs	8	9	10	12
Itinerant Hangar Needs	1	1	2	3
Total Requirement	9	10	12	15
Existing Hangar Space	10	10	10	10
Surplus (Deficit)	1	0	(2)	(5)

AUTOMOBILE PARKING REQUIREMENTS

Automobile parking space is based on the peak-hour (PH) pilot/passenger demand based on an industry rule-of-thumb of 1.3 parking spaces per PH passenger/pilot, plus space for employees. The airport currently has approximately 15 parking spaces (see Figure 2-9, page 19). Based on the forecasted demand addressed in Section 3 (see *Peak-Hour Forecasts*, Section 3, page 51), the airport has and will continue to have ample automobile parking space for visitors. The parking area will, however, require resurfacing soon (see **Figure 4-1**).

Figure 4-1. Auto Parking Area

MISCELLANEOUS FACILITY REQUIREMENTS

This section addresses other future needs of the airport.

INSTRUMENT APPROACH PROCEDURES

There are two instrument approach procedures into Rangeley and no instrument departure procedures (see Section 2, *Instrument Approach Procedures*, page 36). One is NDB and the other GPS based and both are classified as circling approaches (are not aligned to a runway end). In addition, both have fairly high minimums, with the GPS procedure offering the lowest minimums of the two.

The recommended coverage would be a straight in approach to either runway end; however, the reason for the existing circling procedures is high terrain off both runway ends. Existing technology will not permit development of a straight in procedure; however, changes are inevitable and at some point a curved approach into Rangeley will be possible. Given this, it's vitally important that the airport sponsor protect the airspace on and around the airport. This is accomplished by protecting the existing and planned Part 77 surfaces, which also includes protecting encroachment on the airport's BRL[5], as well as land use around the airport.

SNOW REMOVAL EQUIPMENT AND STORAGE

The existing airport SRE fleet consists of a standard Maine DOT mix of equipment purchased in 2004. All equipment is stored in the airport's new SRE building. The SRE fleet includes the following:

- John Deere Model TC62H Loader

[5] See BRL in *Inventory Summary*, Page 46.

- RPM Tech Model LM-220 Snow Blower
- Henke 14' plow
- Henke 4.0 cy snow bucket
- JRB TC62H 3.0 cy bucket
- 14' Snow Pusher

FUEL STORAGE AND SALES

Existing fuel storage and sales were discussed in Section 2 (see *Fueling and Sales*, page 20) and forecasted sales were addressed in Table 3-2 (page 51). Based on the current capacity and projected sales, no additional capacity is recommended. However, the town should consider installing a credit card terminal at some point and should also develop a fuel flowage fee agreement with the supplier/operator. It's understood that current sales are low and produce little revenue; however, if sales increase the airport sponsor (town of Rangeley) should look for ways to offset any expenses incurred from the system.

SUMMARY OF AIRPORT FACILITY REQUIREMENTS

Table 4-9 (next page) summarizes facility requirements from today through the end of the long-term planning period (2012-2031). Proposed changes do not have to be implemented in the period noted. If demand does not materialize or if financial obstructions prevent development, then that particular change should be rolled over until both conditions justify moving forward. Additionally, the 5-, 10-, and 20-year planning cycles addressed elsewhere in this AMPU are dynamic in nature, not fixed or rigid; projects can be moved freely from one period to the next, modified and adjusted as demand and resources permit, provided the ALP remains synchronized with plans for development.

Table 4-9. Summary of Recommended Changes

Objective	Current (2012)	Short-Term (2017)	Intermediate-Term (2022)	Long-Term (2032)
Runway Length & Width	3,200' x 75'	No change	No change	No change
Design Aircraft	Cessna 172	Cessna 172	Cessna 172 transitioning to Beech King Air 200	Beech King Air 200
ARC	A-I	A-I	A-I transitioning to B-II	B-II
RSA (width / length beyond runway end)	150' / 300'	No change	No change	No change
RPZ (inner width / outer width / length)	250' / 1,000' / 450'	No change	No change	No change
Runway OFA (width / length beyond runway end)	500' / 300'	No change	No change	No change
Runway OFZ (width / length beyond runway end)	300' / 200'	No change	No change	No change
Runway Lighting	MIRL	No change	No change	No change
Turn Around / Hold Areas	None	Turnaround Rwy 14 End	Turnaround Rwy 14 End	Turnaround Rwy 14 End
Parallel Taxiway	None	None	None	None
Taxiway Width / Taxiway RSA Width	35'/79'	35'/79'	35'/79'	35' / 79'
Taxiway to Runway Centerline Distance	Not applicable	Not applicable	Not applicable	Not applicable
Taxiway Lighting	MITL & Reflectors	MITL	MITL	MITL
REILS	Runway End 32 Only	Runway 14 & 32	Runway 14 & 32	Runway 14 & 32
VLGS	None	PAPI Runway 32	PAPI Runway 32	PAPI Runway 32
Apron Area (square yards)	1,200 S.Y.	1,350 S.Y.	2,200 S.Y.	2,900 S.Y.
Hangars (aircraft capacity)	10	10	12	15
Auto Parking Spaces	15 spaces	No change	No change	No change
FAR Part 77 Designation	Utility	No change	No change	No change
Approach Visibility Minimums	Not lower than ¾ mile	No change	No change	No change
IAPs (Runway 14)	Circling Only	Straight in as technology permits	Straight in as technology permits	Straight in as technology permits
IAPs (Runway 32)	Circling Only	Straight in as technology permits	Straight in as technology permits	Straight in as technology permits
SRE Fleet	Full Fleet	No change	No change	No change
SRE Building	2,400 S.F. facility	No change	No change	No change
Fuel Availability (Capacity in gallons)	100LL (6,000) Jet A (10,000)	No change	No change	No change

SECTION 5 – ALTERNATIVES

INTRODUCTION

This section uses conclusions and findings of previous sections of the Master Planning process for Rangeley to identify and evaluate various alternatives for both the airside and landside components of the airport. The underlying objective is to meet the identified needs for both capacity and safety requirements for the entire airfield operation and infrastructure. The key elements of this process are the identification of ways to address previously identified facility requirements; an evaluation of the alternatives such that stakeholders gain a thorough understanding of the strengths, weaknesses, and other implications of each; and selection of the preferred alternative.

ASSUMPTIONS

It is important to address several key assumptions and project needs that were developed in earlier parts of this study before any alternatives can be analyzed. These assumptions are part of the foundation upon which the alternatives are built. Without a broad understanding and acceptance of these "building blocks," subsequent discussion of airport alternatives is unlikely.

- The airport will remain a general aviation airport during the entire 20 year planning period.
- The existing types of aircraft using the airport are not expected to change significantly throughout the planning period and the existing mix of operations is forecasted to remain primarily single engine aircraft. However, increasing use of the airport by slightly larger business class turboprop and turbofan aircraft is inevitable if development and tourism in the airport service area remains strong.
- Available runway length meets the needs of a majority of the current fleet and existing critical aircraft.
- The current B-II ARC will drop to A-I, but will return to B-II within the next 10-15 years.
- There is ample room for landside hangar and apron development to meet existing and future demand well beyond the 20 year planning period.
- The portion of the existing aircraft apron located inside the Runway Object Free Area will be removed; regardless of which alternative is selected.
- A proposed snow removal equipment building will be constructed in the area noted on the existing ALP before this AMPU is finished.

FACILITY REQUIREMENTS

Only those facilities identified as requiring capacity and/or safety improvements are evaluated in this section. The evaluation includes development of alternatives as well as an operational performance assessment, and best planning tenets based on FAA airport planning and design guidelines. In addition, environmental factors that may influence these proposed changes, and a financial assessment are included. The proposed requirements are summarized below and addressed in detail in subsequent paragraphs.

AIRSIDE

- Develop aircraft turnaround on one or both runway ends.
- Upgrade lighting and marking systems as necessary.

LANDSIDE

- Expand aircraft parking aprons.
- Expand aircraft hangar availability.
- Upgrade automobile parking.
- Install fencing and gate.

ALTERNATIVES ANALYSIS - AIRSIDE

Each recommended improvement/upgrade is addressed in the subsequent sections, followed by an assessment of each concerning several factors, including operational performance, environmental issues, cost, etc.

DEVELOP AIRCRAFT TURNAROUND

Rangeley has two stub taxiways connecting the landside to the runway, no place for aircraft to hold on either runway end, clear of the runway and outside of the Runway Object Free Area (ROFA). Development of a turnaround/run up area must conform to FAA design standards, which means the width of the pavement should be to Aircraft Design Group II standards (the ultimate standard for the airport), and the location and design must allow aircraft to exit the runway, turn around, and hold clear of the ROFA.

With a single runway, there are only two possible areas where a turnaround can be constructed; one on either end of the runway, which would be the normal design. However, given the short distance of the Runway 32 threshold to the nearest stub taxiway (790 feet), the cost versus the low activity at the airport does not justify one at this end. On the other hand, the Runway 14 threshold is 1,870 feet from the nearest stub taxiway, which does justify the need for a turnaround/hold area.

Figure 5-1 shows the proposed Runway 14 turnaround/hold area. As shown, the pavement perpendicular to the runway is 35 feet wide and the centerline of the area parallel to the runway has a centerline distance of 240 feet (taxiway to runway). This design allows for a possible future parallel taxiway set back at the current design standard. In addition, the pavement as shown is wide enough to allow for small aircraft to execute a 180 degree turn.

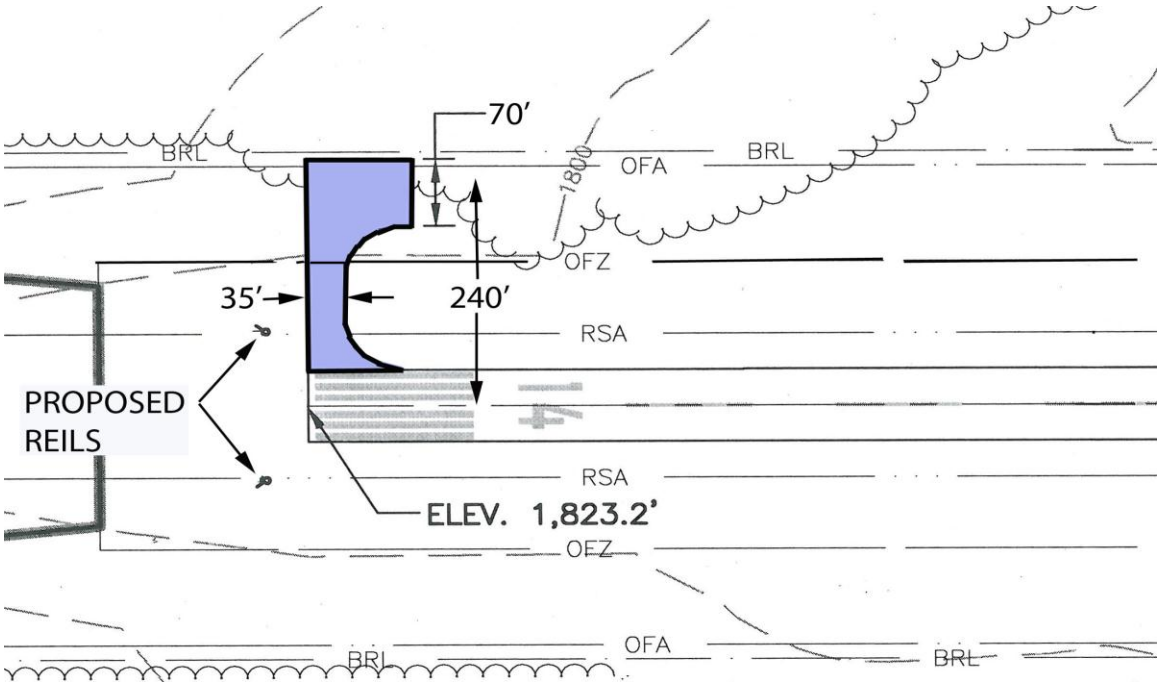


Figure 5-1. Proposed Runway 14 Turnaround/ Hold Area.

ALTERNATIVES ANALYSIS – LANDSIDE

This section analyzes landside alternatives, primarily options for adding additional apron areas and hangar development. Unlike the airside analysis, which has a finite number of options, developing the landside has countless options. The three options that follow are but a few of them. What is important to remember is that these are merely concepts that show what is possible, not what is probable. In the end, regardless of whether one of the three is adopted, the airport sponsor should plan ahead and ensure land for the airside is protected for future use, as demand dictates. It is also important to note that airside taxiway alternatives discussed earlier could impact future landside options. For instance, if Taxiway Alternative 1 or 2 is implemented, hangar and apron development must be adjusted accordingly to allow room for the TSA and TOFA. These will be addressed as appropriate in each of the three alternatives that follow.

LANDSIDE ALTERNATIVE 1

This alternative (**Figure 5-2**) continues the existing large hangar theme by adding hangars along the airport's north boundary, while also extending the pavement in front of each hangar and the service road behind them. In this concept, the sponsor would allocate hangar development lots for individual units, with the size varying according to individual needs. Theoretically, hangars could be developed along this row to any size needed. There's sufficient setback from the runway and existing BRL to allow practically any size hangar.

This alternative also expands the existing T-hangar by six additional units, providing a total of 16 units. This option would also expand the existing apron on both sides of the unit.

In addition to the taxilane system shown, this alternative also incorporates a large apron area by adding approximately 1,600 additional square yards, which when combined with the existing apron (1,200 square yards) provides space for approximately 20 aircraft, including several larger aircraft such as the Beech King Air 200. This area would serve Rangeley's long-term apron needs while adding space the town wants for larger aircraft.

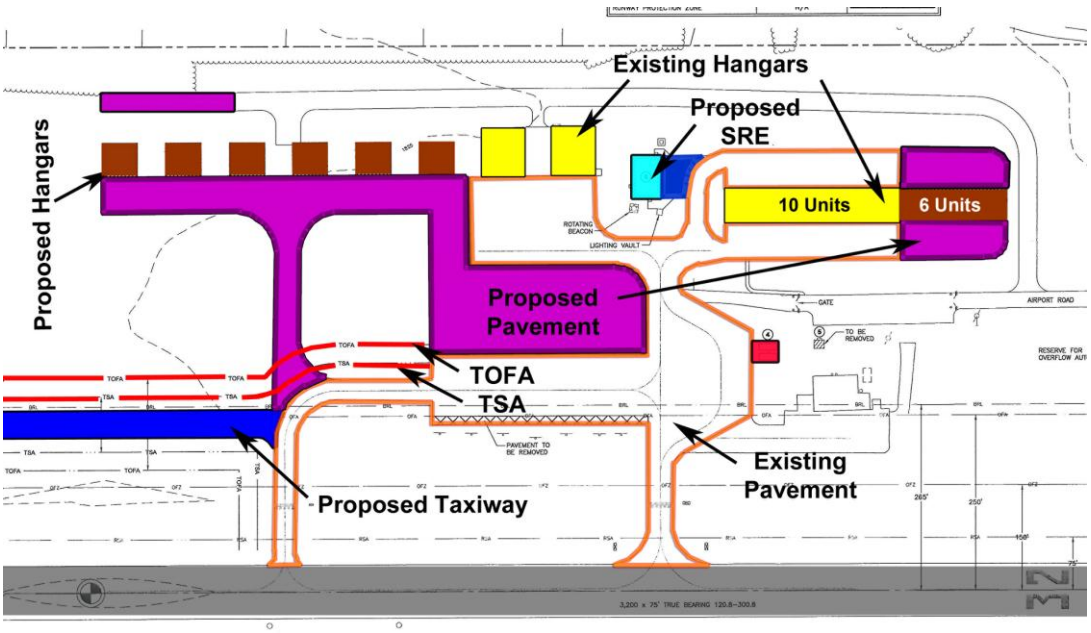


Figure 5-2. Landside Alternative 1

LANDSIDE ALTERNATIVE 2

This alternative (**Figure 5-3**) continues with the Landside Alternative 1 concept of additional individual conventional hangars along the airport's north side, as well as expanding the existing T-hangar and adding 1,600 square yards of apron. In addition, this model adds additional T-hangars to the mix, along with required apron space around and between each unit shown. The size of the

hangars, both conventional and T-units is immaterial. However, the drawback to this concept is the T-hangar orientation. The northwest-southeast alignment casts a continuous shadow over the north side of the units, which allows for snow and ice buildup.

LANDSIDE ALTERNATIVE 3

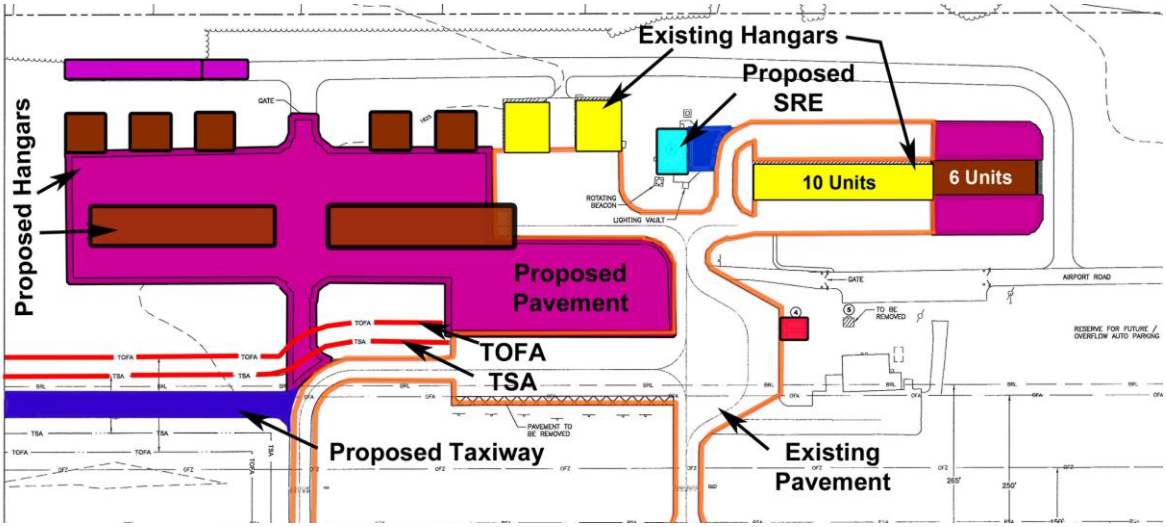


Figure 5-3. Landside Alternative 2

This alternative (**Figure 5-4,** page 66) also continues with the basic idea of Alternative 1, whereas the area along the airport's north side is reserved for conventional hangars; the existing T-hangar is expanded from 10 to 16 units; and 1,600 square yards of additional apron space is added to the existing apron. In addition, new T-hangars are incorporated, however, unlike Alternative 2; the T-hangars in this concept are oriented northeast and southwest, allowing sunlight to reach both sides of the buildings, minimizing ice and snow buildup.

The concept in **Figure 5-4** shows four possible T-hangar arrangements, which, like other hangars, would be constructed as demand requires. The four units shown vary in size from six to 10 aircraft units[1]; and could be either nested or stacked hangars in design; however, as addressed earlier, the plan shown in this figure must be carefully designed to avoid encroaching on potential future taxiway setback areas, specifically, the TSA and TOFA. Figure 5-4 shows the possible taxiway centerline, TSA, TOFA setback.

[1] The size varies by manufacturer and style, whether nested or stacked.

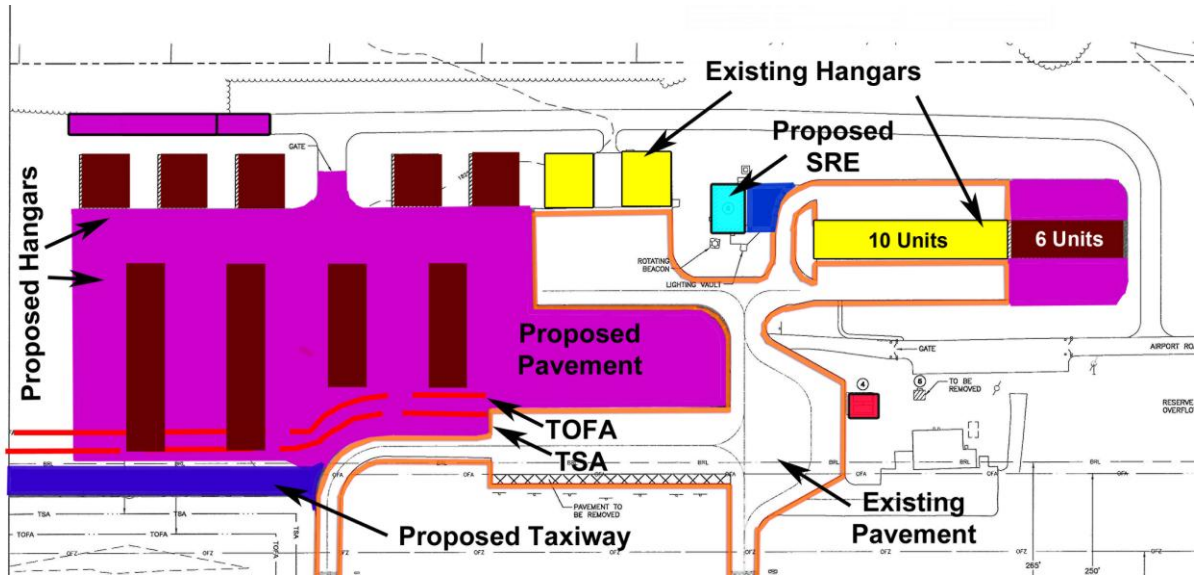


Figure 5-4. Landside Alternative 3

EVALUATION OF ALTERNATIVES

The following is an evaluation of the alternatives including a review of the environmental factors of each alternative along with an assessment and approximate cost of each.

ENVIRONMENTAL FACTORS

Each conceptual alternative was screened to determine its potential effect on existing environmental and community resources. The categories considered for this screening include those identified in FAA Order 5050.4B. These resources are listed in the left-hand column of **Table 5-1** and are defined in Appendix 1. The following rating scale and associated criteria were used to screen each conceptual alternative:

1. Benefits/Protects environmental and community resources.
2. No effects
3. Some negative effects that can be easily mitigated.
4. Negative effects that could potentially delay or compromise alternative implementation.
5. Significant impacts that cannot be mitigated.

Table 5-1. Environmental Factors of Alternatives Analyzed

Environmental Factors[2]	Aircraft Turnaround	Airport Lighting Upgrades	Landside Alternative 1	Landside Alternative 2	Landside Alternative 3
Air Quality	2	2	2	2	2
Coastal Barriers	2	2	2	2	2
Coastal Zone Management Program	2	2	2	2	2
Compatible Land Use	2	2	2 (1)	2 (1)	2 (1)
Construction Impacts	3	3	3	3	3
Aircraft Noise	2	2	2 (1)	2 (1)	2 (1)
Social Impacts	2	2	2	2	2
Water Quality	3	2	3 (2)	4 (2)	4 (2)
USDOT § 4(f)	2	2	2	2	2
Cultural Resources	2	2	2	2	2
Biotic Communities	2	2	2	2	2
Threatened and Endangered Species	2	2	2	2	2
Secondary and Cumulative Impacts	2	2	3/4 (2)	4/5 (2)	4/5 (2)
Light Emissions	2	2	2	2	2
Natural Resources and Energy Supply	2	2	2	2	2
Farmland	2	2	2	2	2
Induced Socioeconomic Impacts	1 (3)	1 (3)	1 (3)	1 (3)	1 (3)
Wetlands	2	2	2	2	2
Floodplains	2	2	2	2	2
Solid Waste	2	2	3 (4)	3 (4)	3 (4)
Wild & Scenic Rivers	2	2	2	2	2

Notes:

[2] Per FAA Order 1050E, *Environmental Impacts: Policies and Procedures* and Order 5050.B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects*

(1) Compatible Land Use and Aircraft Noise. The implementation of any alternative which results from an increase in air traffic at the airport or from a change in aircraft type usage has the potential to describe an increase in aircraft noise and therefore to herald potential conflicts with adjacent property owners. As described in the AMPU, a change in zoning in the vicinity of the airport which restricts residential development and certain types of other development such as schools, churches, or assisted living facilities and which places height restrictions on any development would help prevent the likelihood of land usage conflicts from occurring.

(2) Water Quality and Secondary and Cumulative Impacts. Water quality mitigation required by the Maine Department of Environmental Protection (MDEP) as a result of increases in impervious area at the airport is likely to be the most significant environmental issue associated with construction of one or more of the proposed alternatives. As in the paragraph above, these two categories are linked. A brief examination of stormwater mitigation possibilities has resulted in the assessment described earlier in Table 5-3 Environmental Factors of Alternatives Analyzed (page 67). It should be emphasized that this examination was preliminary and was conducted solely for the purposes of this assessment; greater or lesser limitations to development of approved stormwater mitigation measures may be revealed during the design phase of any of the proposed alternatives. The limitations are likely to revolve around difficulties in locating required stormwater mitigation structures due to topographical considerations, restrictions posed by FAA standards, and restrictions posed by the location of existing development, especially in the terminal area. Although none of the taxiway alternatives have been assessed as likely to lead to implementation delays or compromises, the probable stormwater mitigation measures which will be required for implementation of any of those three alternatives are likely to be significant and expensive construction efforts in themselves.

A simple summary could state that the greater the proposed impervious area increases, the more difficult meeting current MDEP standards for stormwater mitigation are likely to be, the longer it will take to get MDEP approval for construction of stormwater mitigation structures, and/or the more expensive this construction will be. It should be noted that, given the current and forecasted economic climate in Maine, MDEP standards may relax; however, it should also be noted that, historically, these standards have only resulted in greater mitigation requirements as development continues, not less.

(3) Induced Socioeconomic Impacts. Improvements at the airport, whether resulting from increased traffic, changes in aircraft usage, or from the meeting of FAA safety standards, will only benefit the airport. As the airport has the potential to be a significant economic driver for the area, benefits to the airport should be realized in the local community as well.

(4) Solid Waste. Waste disposal should only have minor negative impacts in the scenarios proposing increased hangar development, and then only if disposal at the transfer station becomes an issue for the town. The likelihood of this arising is slight.

PREFERRED ALTERNATIVES

The various alternatives addressed in the preceding section were presented to the sponsor's PAC on July 29, 2011. Following an examination of comments from this meeting and discussions internally with the sponsor and consultant, a preferred alternative concept emerged. The projects that follow are listed in the recommended order of development.

- **Landside** (see Terminal Plan, Appendix C)
  a. Install security fence (approximately 800 linear feet) and a single electronic gate to prevent unwarranted access to airport
  b. Expand aircraft parking apron to meet forecasted needs for the next 20 years (estimated 9,500 SY). This would include parking space for 10 small aircraft, such as the Cessna 172 (35' wingspan) or Maule (29' wingspan), including two spaces for larger aircraft, such as the Pilatus PC-12 or King Air 200 (52 – 54 foot wingspan). The proposed apron should be located.
  c. Expand T-hangar unit and parking area to allow for four additional units.
- **Airside** (see Ultimate Airport Layout Plan, Appendix C)
  a. Complete installation of PAPI on Runway 32 end. Light units were previously purchased and are available for installation.
  b. Install REILs on the Runway 14 end. Note: It's likely that wiring for these lights were laid when the runway lights were upgraded in 1998.
  c. Develop an aircraft turnaround on the Runway 14 end. This concept will permit aircraft to taxi on the runway, but exit and hold well short of the runway while performing engine checks and run-ups in a position well clear of the runway (outside the object free area). This concept will also permit easy tie-in should the airport decide to construct a parallel taxiway at some point in the future.
  d. Reconstruct runway (last completed in 1998)

Costs associated with these recommended changes are discussed starting on page 72. Environmental impacts of the preferred alternative will be addressed in the next section of this report.

PREFERRED ALTERNATIVE DISCUSSION & COSTS

Landside

a. Install Security Fence and Gates

- Discussion: Recent construction of a new Snow Removal Equipment Building highlighted the need for improved safety and control over vehicular traffic on the airport. While generally not a security issue, safety is a concern because the current manual gate system combined with an unattended airport creates an atmosphere ripe for an accident or incident. It is therefore highly recommended that the town install an electronic access control gate and enough fencing to deter unauthorized access to the airport.
- Cost: The estimated cost of a single electronic access gate and fencing is $40,000 ($30,000 in construction and an additional $10,000 in engineering/design).

b. Expand Aircraft Parking Apron

- Discussion: The proposed apron expansion resolves two problem areas. First, it allows the airport to remove parking and tiedowns in the runway object free area. Second, it adds two parking spots for larger aircraft with a wingspan in the 50-55 foot range, such as the King Air 200, Pilatus PC-12, and Cessna Caravan 208. In addition, this plan provides for 10 small aircraft parking spots and permits easy expansion of the apron to the west when demand requires more spaces.
- Cost: The estimated cost of the proposed 85,000 sf of apron, with tiedown anchors is $750,000 ($650,000 in construction plus an additional $100,000 in engineering). This cost includes earthwork, with excavation and a subbase of 70 inches, placement of tiedown anchors, and striping. It does not include necessary stormwater drainage or permitting.
- Note: This proposed new apron must be constructed to Airplane Group II standards and should allow for the possibility of a future parallel taxiway, meaning it should be established at the correct distance from the runway and any possible future taxiway.

c. Expand T-Hangar Unit

- Discussion: This proposed project takes advantage of an existing hangar unit and developable land adjacent to it. The existing hangar (building #1 on Figure 36) is a 10 unit "T" style hangar that could be expanded by 6 additional units, which would include an additional 12,000 sf of pavement.
- Cost: The estimated total cost is $360,000. This includes $45,000 per unit ($270,000 total) plus an additional $90,000 for pavement. It does not include engineering or permitting costs.

Airside

a. Complete Installation of PAPI

- Discussion: Precision Approach Path Indicator (PAPI) lights are a visual aid that provides guidance information to help a pilot acquire and maintain the correct approach (in the vertical plane) to an aerodrome or an airport. At present, Rangeley does not have this or any similar system in place. Like REILS (discussed in the previous section), PAPI provide an invaluable visual source of information to pilots at night and in inclement weather, and should be installed on at least one runway end.
- Cost: The light units were previously purchased by the town and are available for installation pending FAA approval. The estimated installation cost is $25,000.

b. Install REILs on Runway 14

- Discussion: Rangeley only has runway end identifier lights (REIL) on Runway 32 end only. However, because of the remote location of the airport and dark country/hillside surroundings, the need for REIL on both ends is paramount.
- Cost: The approximately cost of installing a REIL system on the Runway 14 end is approximately $75,000. This includes engineering/design and installation. This cost assumes that the existing runway light wiring system was designed to include a REIL system in the future, which would eliminate the cost of running new wiring.

c. Aircraft Turnaround

- Discussion: The single runway at Rangeley does not have a taxiway or turnaround serving either end of the runway. While the approach end of Runway 32 is fairly close to the parking apron, the Runway 14 end is almost 1,900 feet from the nearest access apron access point. This distance creates a slight, but at times, critical safety concern, particularly when the wind favors Runway 14. Short of constructing a parallel taxiway, constructing a turnaround on the west end of the runway is a viable alternative. The turnaround would be designed and built to Airplane Group II standards, meaning it would be 35 feet in width, room for aircraft to exit the runway and turnaround, and then hold short beyond the object free zone. The pavement would comprise about 11,000 sf of surface, constructed to a depth of 70 inches.
- Cost: The estimated total cost of this project is $110,000 ($85,000 in construction and $25,000 in engineering/design).

d. Reconstruct Runway

- Discussion: Runway 14-32 was last reconstructed in 1998 when it was extended to its present length. With an estimated life-span of 20 years, the runway, with proper care and maintenance, will probably require reconstruction around the year 2018.

- Cost: The estimated cost of both engineering/design and reconstruction is $895,000. This would include grinding up the existing pavement, replacing it with new asphalt, striping, and replacement of the runway edge lights and cabling. It does not include removal or repair of the runway subbase, or drainage system.

Environmental issues associated with landside and airside projects described in the previous sections are addressed in the next section. An implementation schedule and financial plan are addressed in Sections Seven and Eight respectively.

SECTION 6 – AIRPORT LAYOUT PLAN

INTRODUCTION

The Airport Layout Plan (ALP) is a graphic presentation to scale of both the current airport facilities and proposed airport development. The future development was proposed through the Planning Advisory Committee (PAC) meeting process and the analysis conducted to develop all the previous sections within this report. The ALP set consists of drawings that illustrate additional detail required by the FAA in Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, and AC 150/5300-13, *Airport Design*.

ALP SET

The ALP set include the following drawings:

Number	Sheet Title
1	Title Sheet
2	Existing Facilities
3	Airport Layout Plan (Proposed Facilities)
4	Terminal Plan
5	Runway 14-32 Plan and Profile
6	Federal Aviation Regulation Part 77 Airspace Surfaces
7	Land Use Plan

The airport plans provide the physical details of the 20-year development strategy. The primary drawing is the Ultimate ALP, which is the overall development plan for the airport showing both the existing and proposed facilities. The FAA, MaineDOT, the town of Rangeley, airport tenants, and the public refer to the ALP set as a guide for future development.

The ALP must be approved by the FAA before the town is eligible for Federal funding for airport development projects. Likewise, the plan must be approved by MaineDOT for the airport to receive state funding of eligible airport development projects.

Full size (24 inch x 36 inch) sheets of the ALP set are available in the Rangeley Town Office (as well as the FAA in the Airports Division in Burlington, MA, and MaineDOT in Augusta, ME). Reduced 11 by 17 inch sheets of the plans are included in Appendix 3. A brief description of each drawing is provided in the following sections.

COVER/TITLE SHEET

As the title implies, this sheet is the cover and lists the airport name and location within the state and town, and serves as the table of contents for the rest of the plan set.

EXISTING AIRPORT LAYOUT PLAN

The Existing ALP is provided as both a reference document to identify existing facilities (including the runway, taxiway, buildings, aprons, and other structures), and a presentation document to identify a beginning point to this study.

ULTIMATE AIRPORT LAYOUT PLAN

The Ultimate ALP is a graphic description of the existing facilities as well as the detail of the ultimate improvements for the 20-year development plan, as identified in Section 5, *Alternatives* and refined by the PAC meeting process. This allows the reader the opportunity to visually identify all future development relative to existing facilities.

TERMINAL PLAN

The Terminal Plan focuses on the aviation service facilities by simply providing a blow-up (smaller scale) of the administration/terminal area, including parking aprons.

RUNWAY PLAN AND PROFILE

The Runway Plan and Profile illustrates Runway 14-32 and the approach area immediately beyond the ends of the runway. The runway is shown in plan and profile with an exaggerated vertical scale to clearly depict any obstacles located within the existing and ultimate approach surfaces to the runway ends, and to depict runway elevation differences.

FAR PART 77 AIRSPACE SURFACES

The FAA describes imaginary surfaces on and around an airport in 14 CFR Part 77, Obstructions Affecting Navigable Airspace. These surfaces, when kept clear, protect aircraft from manmade and natural obstructions in the airspace around the airport. The surfaces at Steven A Bean Municipal Airfield are depicted on sheet 6 of 9.

Part 77 surfaces are utilized in zoning and planning adjacent to the airport to protect the navigable airspace from encroachment by hazards, such as development of buildings, antenna and towers, etc., that would potentially affect the safety of the airport and violate Federal grant assurances.

LAND USE PLAN

The Land Use Plan depicts existing on and off-airport land use. It is based on the latest information provided by the town of Rangeley. The land use boundaries on this plan were hand drawn and may not be accurate and should not be used for measurement purposes.

SECTION 7 – ENVIRONMENTAL ANALYSIS

INTRODUCTION

The inherent potential associated with the operation and development of an airport to adversely affect neighboring land-use and the natural and human environments is a fundamental concern of airport planners; therefore, it is imperative to identify constraints or potential impacts, of a proposed airport-related activity or development project that can affect land-use and the natural and human environments during the initial stages of planning, to allow planners to incorporate appropriate and adequate measures to avoid or minimize adverse impacts, following Federal, state, and local policies and subsequent rules and regulations.

GOVERNMENTAL POLICY

The National Environmental Policy Act (NEPA) of 1969 mandates that all Federal agencies that undertake, fund, or approve an action consider the potential of that action to affect the natural and human environments. The *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions (FAA Order 5050.4B)* has been implemented by the FAA to ensure compliance with NEPA through an environmental review process.

FAA Order 5050.4B, in conjunction with Order 1050.1E, *Environmental Impacts: Policies and Procedures /Policies and Procedures for Implementing NEPA*, provides guidance for reviewing and documenting potential environmental impacts of proposed airport development projects. These Orders identify specific environmental resource categories that must all be evaluated in relation to a proposed action to determine whether a significant impact will result from the proposed action. The orders also require an environmental review to include the appropriate measures to be taken to avoid or minimize significant environmental impacts associated with proposed actions.

Environmental resource categories that must be considered when assessing potential impacts associated with federally sponsored airport improvement projects include:

- Air Quality
- Coastal Resources
- Compatible Land Use
- Construction Impacts
- Department of Transportation Act: Section 4(f)
- Farmlands
- Fish, Wildlife, and Plants
- Floodplains
- Hazardous Materials, Pollutant Prevention, and Solid Waste
- Historical, Architectural, Archaeological, and Cultural Resources
- Light Emissions and Visual Impacts

- Natural Resources and Energy Supply
- Noise
- Secondary Impacts
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Water Quality
- Wetlands
- Wild and Scenic Rivers

Appendix A of order 1050.1E includes specific thresholds of significance for each of the impact categories.

NEPA provides three levels of review for evaluating an action's potential impacts to one or more of the resource categories listed above. NEPA review levels include categorical exclusions, environmental assessments (EA), and environmental impact statements (EIS).

CATEGORICAL EXCLUSIONS

Categorical exclusions include those actions that normally, when considered individually or cumulatively with past or other proposed actions, do not have significant adverse effects on human and natural environments *and* which have been determined by FAA to have no such effects. FAA must consider the potential for *extraordinary circumstances*. Extraordinary circumstances include potential effects to environmental resources and the potential for public controversy associated with those effect.

Within Order 5050.4B, FAA has categorically excluded two types of projects.

- *Actions unlikely to involve extraordinary circumstances* include those projects that are not expected to result in changes to land use or to cause environmental impacts (typically planning and administrative actions).
- *Actions that may involve extraordinary circumstances* include those actions may cause environmental impacts and involve extraordinary circumstances. These actions do not necessarily require the preparation of an EA or EIS. FAA may, however, determine that one of these levels of review is required based upon review of the extraordinary circumstances.

ENVIRONMENTAL ASSESSMENT

An EA (or environmental impact statement - EIS) is required when FAA determines extraordinary circumstances are present to the extent to which a project cannot be categorically excluded. The purpose of an EA is to determine if a proposed action or its alternatives have potentially significant environmental effects. Applicable Federal, State, and local agencies, applicants, and, to the extent practicable, the public all participate in EA preparation.

Through an evaluation of project alternatives, the EA identifies potential measures to modify the proposed action(s) in order to minimize environmental impacts to the greatest extent practicable. The EA also provides evidence and analysis for determining whether to prepare an EIS; aids agency compliance with NEPA when no EIS is necessary; and facilitates preparation of an EIS when one is necessary. Finally, the EA process concludes with either an FAA issuance of a Finding of No Significant Impact (FONSI) or a determination that an EIS is necessary to more fully analyze potential environmental impacts.

ENVIRONMENTAL IMPACT STATEMENT

The EIS is the most rigorous level of NEPA compliance. The EIS has more regulatory requirements than an EA and requires FAA to file a Notice of Intent in the Federal Register, informing the public of the upcoming environmental analysis and describing the public process for participating in EIS preparation.

During the scoping process of the EIS, the FAA identifies and encourages participation from interested parties, defines the role of involved agencies, and determines the environmental issues relevant to the EIS. The FAA is also responsible for identifying any existing and required studies or analyses to be used during EIS preparation.

Upon completion of the draft EIS, the document is published for public review and comment for a minimum of 45 days. Once the draft public comment period has ended, FAA considers all relevant comments, conducts further analysis if necessary, and prepares the final EIS. The document is then again published in the Federal Register initiating a 30-day (minimum) review and comment period. This review period must be completed before the agency makes a decision on the proposed action.

FAA ends the EIS process with the issuance of a Record of Decision (ROD). The ROD explains FAA's decision, describes the alternatives considered, and discusses the strategies to be implemented to mitigate potential environmental impacts.

NEPA REVIEW OF SHORT-TERM CIP PROJECTS

Based upon the initial review of the existing environmental conditions at the Steven A Bean Municipal Airfield and correspondence provided by regulatory review agencies consulted during this master planning process, it is anticipated that projects identified in this master plan update (see Section 5, Alternatives) as the preferred development alternatives for implementation during the airport's short-term CIP may be categorically excluded by FAA to satisfy NEPA review requirements.

This premise is based on the assumption that extraordinary circumstances relating to environmental resource impact categories established in Order 1050.1E are not associated with projects proposed for construction in the short term.

The projects as proposed will not conflict with adjacent land uses, will not adversely impact protected resources including wetlands, endangered or threatened species, or historic or archaeologically sensitive resources (including potentially significant tribal resources). Additionally, the preferred development alternatives are not expected to contribute to increased noise levels or degraded air quality at the airport as these projects will not alter the existing aircraft fleet mix nor will they result in increased operations. Finally, construction impacts resulting from the implementation of proposed actions are not expected to cause environmental effects beyond the short-term impacts including localized increases in noise levels and emissions from construction equipment typically associated with standard construction activities.

It should be noted, however, that additional site work may be required to confirm the absence of wetlands within proposed project locations. A formal vernal pool inventory will also be required to ensure the construction of proposed development projects do not encroach upon protected vernal pool resource area (vernal pools are regulated at the federal level by the U. S. Army Corps of Engineers and at the state level by the Maine Department of Environmental Protection). A preliminary vernal pool inventory conducted during the preparation of this master plan update did not identify the presence of any vernal pools on or immediately adjacent to airport property. Subsequent consultation with state and tribal historic preservation officers should also be conducted prior to constructing proposed improvement projects to ensure protected historic and culturally significant resources will not be impacted.

STATE REGULATORY REQUIREMENTS

Maine State law requires the review of all development projects that may have a substantial effect upon the environment. Projects are reviewed in accordance with the Maine Site Location of Development Law (38 M.R.S.A. §§ 481-490) administered by MDEP. It is likely the proposed aircraft apron expansion and the construction of the Runway 14 end aircraft turnaround will require an amendment to the airport's current Site Location of Development permit.

The amendment application will evaluate potential impacts to protected resources (wetlands, state-listed threatened and endangered species, etc.), provide erosion and sedimentation controls proposed during construction, and will include stormwater controls and best management practices designed to treat additional impervious surfaces proposed for construction.

LOCAL REVIEW

The construction of proposed development projects may be subject to review and approval of the Town of Rangeley Planning Board.

SECTION 8 – IMPLEMENTATION

INTRODUCTION

Phasing and financial plans are presented to describe the steps required to reach the development discussed in Section 5 – Alternative Development and illustrated in Section 6 - Airport Plans. The staging plan considers the demand-driven need for facilities according to Section 4 - Demand/Capacity & Facility Requirements, as well as the financial feasibility of construction as determined in this task, so that the capital improvement plan can be reasonably implemented. The financial plan evaluates the airport's resources and proposes financial actions and revenue improvements.

The following sections describe the proposed airport improvements for the three planning phases (see *Aviation Forecast Periods*, page 41). The short-term phase represents a more detailed plan as it is broken down by individual fiscal years. The intermediate- and long-term phases only include a prioritized list of project implementation. A more detailed breakout of organizational costs (town, state, FAA and private) is provided later in this section (see *Capital Improvement Plan*, page 85).

PHASING

It's important to note that Rangeley is a well maintained airport that does not have a single critical issue that needs attention. Other than the location of aircraft tiedowns in the runway object free area (see *Parking Aprons*, page 18), and the presence of a few small trees in the Runway 32 approach surface (see *Obstructions to Navigation*, page 34), there are no safety issues at the airport. The need for an aircraft turnaround on the Runway 14 end, as well as additional lighting systems (PAPI and REILS) are important, but not considered dire; hence, they can be phased in as funding permits. Essentially, the airport serves its role as a general aviation facility.

In terms of capacity, the airport does need to closely monitor and address aircraft parking issues, particularly given the need to remove nearly half of the existing tiedown spaces, as addressed earlier. The good news is, there is plenty of land available for an orderly expansion of both apron and hangars as demand dictates. The terrain west of the existing apron and hangar area is relatively flat and dry, and generally well-suited for this type of development.

The Master Plan does address the need for large aircraft parking space. As noted in Section 2 (see Parking Aprons, page 18) and Section 4 (see *Aprons & Tie Downs*, page 56), the airport has no room for parking larger aircraft, such as the Beech King Air, which frequents the airport on occasion. When one does land, its size blocks access for other aircraft on the facilities only access to/from the hangar area. Hence, in terms of capacity related projects, the need to expand the existing apron to both accommodate larger aircraft and replace tiedowns in the ROFA is a high priority project.

PROJECT PRIORITIES

As discussed in the Alternatives Section (see *Preferred Alternatives*, page 69), the airport has a short list of both landside and airside projects. The order in which these projects appear in the CIP is a matter of importance in terms of not only safety and capacity, but also the financial ability of the town to fund their share, as well as FAA and MaineDOT priorities. With the two agencies, safety always comes first, and then capacity issues are addressed, followed by all other projects. It's important to note that Rangeley is a general aviation airport that with some exceptions for safety and critical capacity projects, only receives its annual entitlement funds under the Airport Improvement Program (AIP)[1]. All other funding comes from the state (generally through a grant match as discussed in the previous section), local matching funds, and/or private contributions. Private funding is usually for projects not eligible for a federal or state grants or one of such low priority that private funding is needed to accelerate project development.

It's important to note that this list is dynamic in nature, meaning the order in which projects appear can (and often does) change for a number of reasons, including a change in airport demand, funding availability, political disposition, etc. In other words, the town should be prepared to make adjustments as necessary, provided they are feasible (for all the reasons address earlier, and more) and, most important, are part of an approved airport layout plan.[2] Given all of this, the list below represents the priority of projects at this time, broken out in the short-, intermediate-, and long-terms.

- **Short-Term (2012 – 2016)**

    1. **PAPI** – Complete installation on Runway 32 end. This project can and should be implemented as soon as possible. This is an easy project that does not require an environmental assessment (EA) or federal or state permitting.
    2. **REILS** – Install on Runway 14 end. This project should be implemented in the short-term, preferably in the next 2-3 years. Rangeley is a remote airport, surrounded with high terrain, with very little ambient light. REILS provide positive runway end identification and are an excellent low-cost alternative to an approach lighting system. This project, like the PAPI, is an easy project that does not require an EA or state or federal permitting. To control engineering and construction costs, this project should be combined with the PAPI project.
    3. **Update Site Location of Development (Site Plan)** – Maine State law[3] requires review of developments that may have a substantial effect upon the environment. These types of development have been identified by the Legislature, and include developments such

[1] Currently $150,000 per year.
[2] Development projects must be on the approved ALP.
[3] Title 38, Section 3, §§ 481-490.

as projects occupying more than 20 acres, metallic mineral and advanced exploration projects, large structures and subdivisions, and oil terminal facilities. A permit is issued if the project meets applicable standards addressing areas such as stormwater management, groundwater protection, infrastructure, wildlife and fisheries, noise, and unusual natural areas. While the Airport already has a Site Plan on file, an update may be required prior to expansion of the aircraft apron and construction of additional hangars.

4. **Security Gate/Fence** – Install a single security gate and limited fencing. This is a relatively low-cost solution to an issue many small general aviation airports face: The need to control access to aircraft operating areas. Because of the airports small size and short distance from the access road to aircraft parking aprons and the runway, an effective, yet easy to control gate system would provide security and control by keeping visitors off operating surfaces. This project should be programmed into the CIP in short-term. Again, an EA is not required, nor are there any state or federal permitting requirements.

- **Intermediate-Term (2017-2021)**

1. **Aircraft Apron** – Expand, with room for Group II aircraft. As discussed in Section 4 (see *Aprons & Tie Downs,* page 56), the airport needs additional parking space for several reasons. First, approximately half of the existing tiedowns are inside the Runway Object Free Area (ROFA). Second, the airport has an existing and forecasted shortfall of parking space, which is aggravated by the spaces inside the ROFA. Third, the airport does not have an apron large enough to park Group II aircraft, like the Beech King Air. The Town should monitor demand and be prepared to move this project forward earlier if demand increases. In addition, and it's important to note that because the ARC[4] was adjusted downward from B-II to A-I (see *Design Aircraft*, page 52) the tie downs inside the ROFA do not have to be removed before the apron is expanded. However, when the apron is expanded, it should be designed and constructed to Group II standards.
2. **Runway** – Reconstruct pavement and replace runway lights. The runway was last reconstructed in 1998 (see Table 2-5, page 11) and as noted in Section 2 the runway and edge lights are in excellent condition (see *Runway*, page 14). With a normal life-expectancy of 20 years, which is also the grant assurance performance period, the runway (and its lights) should not require any major work before 2018; certainly before the end of the long-term planning period in 2031. Hence, the Town should keep this in mind by monitoring the pavement, and being prepared to include this project in its local, state, and federal CIP well in advance of the project.

[4] See *Airport Reference Code* (pages 10, 52, and A-I).

3. **Aircraft Turnaround** – An aircraft turnaround (in lieu of a taxiway) provides an egress/holding area for aircraft well clear of the runway. The turnaround is used for aircraft to conduct engine and other pre-takeoff of checks, while remaining clear of the runway. The turnaround designed for this Master Plan (see Figure 5-1, page 63) is designed to ARC B-II standards, which will allow easy tie in with a future taxiway, should the airport elect to develop one. The best time for this project is during the runway reconstruction (previous page).

- **Long-Term (2022-2031).** None specifically planned at this time; however, projects not completed in the intermediate-term should roll over to this period.
- **On Demand (2012-2031)**

1. **Hangars.** As the primary source of airport revenue, expansion of hangars, the Town must be positioned to allow their construction on short-notice. The Town should be prepared to negotiate and sign land lease agreements when the opportunity presents itself. Most aircraft owners/developers are not interested in protracted delays because federal and state permits are not in place. The need to have a plan in place to develop hangars on demand is essential for any general aviation airport. The Master Plan addresses the need for various alternatives available to the Town to allow for quick private development of hangars on short-notice. As discussed in Sections 4 and 5 (see *Hangar Requirements*, page 57; *Alternatives Analysis – Landside*, page 63; and *Preferred Alternatives*, page 69), hangars, both conventional and T-units, can be constructed easily on airport property. The one caveat is to ensure federal and state requirements are met in advance of construction (stormwater, Site Location, etc.). These requirements are addressed in Section 7 (see *State Regulatory Requirements*, page 79).

CAPITAL IMPROVEMENT PLAN (CIP)

The CIP represents a schedule and cost estimate for implementing the airport improvements, which have been recommended as a result of the Airport Master Plan Update process. Scheduling of improvements has been divided into three phases: short-term (2012-2016); intermediate-term (2017 – 2021); and long-term (2022-2031). The CIP must be viewed as a constantly evolving document. Planning for Steven A Bean Municipal Airport should remain flexible and should incorporate annually updated estimates of costs and priorities.

The CIP is structured in a manner that presents a logical sequence of improvements, while attempting to reflect available funding from the State and Federal levels. Those airport improvements which are eligible for Airport Improvement Program (AIP) funding in the state of Maine, such as the construction of a snow/ice control equipment building, currently receive 95 percent of the funding from the FAA, 2.5 percent from MaineDOT and the remaining 2.5 percent is paid by the town of Rangeley. The state, airport and/or private developers must fund projects ineligible for AIP funding.

Table 8-1 (next page) lists each of the proposed projects in the recommended order. This table breaks out the cost of both construction and engineering (in 2011 dollars), and includes a contingency factor to allow for unknown costs. In addition, costs are allocated between the FAA, MaineDOT, and the Town based on current AIP funding statutes, and where possible, does not exceed the annual $150,000 entitlement under current federal statute.

It's also important to note that there is no guarantee that the projects will be funded by FAA or MaineDOT, or within the timeframe listed. For this reason, the Town must work proactively with both FAA and MaineDOT to keep this project list current, including the dollar amounts listed. In addition, the Town must keep the ALP current.

FINANCIAL PLAN

This section deals with the financial structure and management of Steven A Bean Municipal Airport. Although the airport is not currently a self-sustaining department with in the town, it is considered a valuable resource to the community. As with any airport, one of its goals is to generate sufficient revenue to offset expenses. Accordingly, a plan to maximize revenue should be set in place.

REVENUE

The town generates revenue from the airport through fees and taxes. These include land leases, tie down fees, excise taxes, and property taxes. Each is discussed the following paragraphs.

LAND LEASES

The town of Rangeley owns the airport land and with the exception of the new SRE Building and soon to be razed terminal building, all hangars are privately owned on land leased from the town. Hangar owners pay the town an annual lease payment and are assessed property taxes on the structures only. Under federal statute, land lease revenue must (and is) used to fund airport operating costs. The current land lease rate averages $0.34/square foot on the hangar footprint, plus an additional $0.05/square foot for additional apron frontage. This rate is considered fair and reasonable. At the period ending June 2010 the town earned $4,250 in land lease fees.

AIRCRAFT TIE DOWN FEES

The town charges a $300 annual fee for the use of its aircraft tie down spaces. While this rate is fair and reasonable, at best this is a difficult fee to collect because the airport is generally self-service (pilot's and aircraft are free to come and go as they please). Hence, this fee relies almost entirely on the honor system.

Table 8-1. Capital Improvement Program Timeline and Costs

Project	Federal Fiscal Year	Construction	Engineering & Contingency	Total Project Cost	FAA Funding (90%)	MaineDOT Funding (2.5%)	Local Funding (7.5%)
PAPI Install on RWY 32	2014	$20,000	$5,000	$25,000	$22,500	$625	$1,875
REILS Install on RWY 14	2014	$70,000	$15,000	$85,000	$76,500	$2,125	$6,375
Update Site Location Development Plan	2014	$0	$10,000	$10,000	$9,000	$250	$750
Security Gate and Fence	2015	$40,000	$10,000	$50,000	$45,000	$1,250	$3,750
Design Only: Aircraft Apron Runway Reconstruction Aircraft Turnaround	2015	$0	$150,000	$150,000	$135,000	$3,750	$11,250
Aircraft Apron; Construction Only	2016	$600,000	$50,000	$650,000	$585,000	$16,250	$48,750
Runway Reconstruction; Construction Only	2018	$750,000	$50,000	$800,000	$720,000	$20,000	$60,000
Aircraft Turnaround; Construction Only	2018	$85,000	$10,000	$95,000	$85,500	$2,375	$7,125
Totals		**$1,565,000**	**$300,000**	**$1,865,000**	**$1,678,500**	**$46,625**	**$139,875**

EXCISE TAXES

Aircraft based in the state of Maine are assessed an annual excise tax based on the aircraft valuation. With the exception of a small state processing fee, revenue collected is rebated back to the town, usually two to three times per year. In 2010 the town budgeted for $1,000, and received $731.

Table 8-2. Revenue Summary

Source	Amount
Hangar Land Leases	$4,250
Tie Down Fees	$300
Aircraft Excise Tax	$731
Fuel Flowage Fee	$0.00
Airport Revenue	$5,281
Property Taxes	$6,913
Total Revenue	$12,194

PROPERTY TAXES

While property taxes by state law are directed back into the town's general fund, the board of selectman can at their discretion use these funds to offset expenses above and beyond those raised through other forms of revenue. At the end of June 2010, the assessed value of the hangars at the airport was $826,400, resulting in an assessment of approximately $6,913.

REVENUE SUMMARY

Table 8-2 reflects the revenue generated during the period ending in 2010.

EXPENSES

The airport expenses for the towns' fiscal year 2009-2010 were budgeted at $49,230, with the largest covering grass mowing and snow plowing. In addition, the town's budget allocated $6,000 in contract services, which covers the town's local share for capital projects (including this master plan update). Table 8-3 reflects the 2010-2011 budget.

EXPENSE/REVENUE SUMMARY

As discussed in the previous sections, the Steven A Bean Municipal Airfield generates about $5,400 per year in airport derived revenue, plus an additional $4,300 in property taxes. In turn, the town spends about $49,000 per year operating the airport. The budget was $49,230 in 2009-2010 and $48,755 in 2010-2011.

In reviewing Table 8-1 (page 87), the town needs to raise $7,750 over the course of the next five years (or $1,550 per year) to cover capital projects. Pending any major changes to the town's finances, this amount seems within its financial reach. The town does have to monitor the CIP closely, particularly in the intermediate and long terms when the apron expansion and runway reconstruction projects get closer to reality. Both projects will require a large than normal local commitment.

Table 8-3. Expense Budget

Object Code	Description	Budget
01	Salary	$3,000
05	Fringe Benefits	230.00
10	Travel & Training	$600.00
15	Supplies	$5,400.00
20	Utilities	
20-01	Telephone	$2,000.00
20-02	Electricity	$4,300.00
25	Repairs & Maintenance	
25-00	General	$2,000.00
25-01	Buildings	$0.00
25-04	Equipment	$3,000.00
25-10	Beacons	$2,000.00
25-11	Runway	$3,000.00
25-12	Airport Lighting	$3,000.00
25-18	Mowing and Plowing	$12,000.00
30	Insurance	$2,200.00
35	Contract Services	$6,000.00
38	Permits	$75.00
	Total	**$48,455.00**

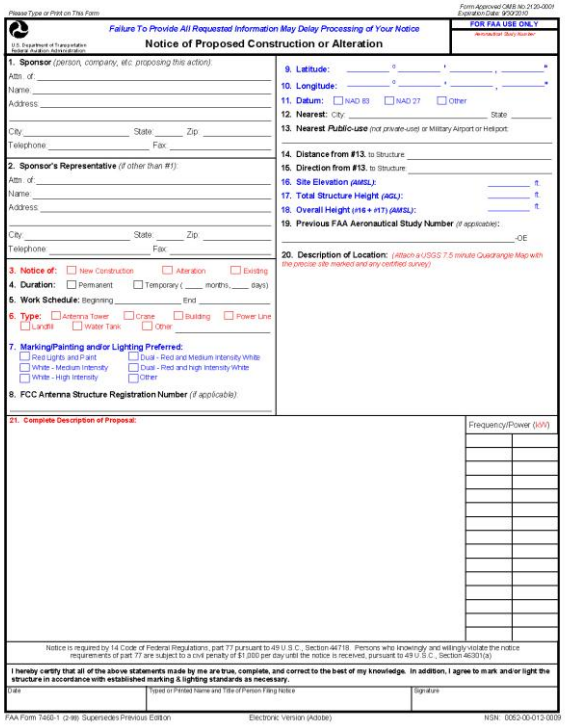
RECOMMENDATIONS

Given the type, size and location of the airport, the revenue and expenses are reasonable and consistent with similar airports (those with low aviation activity, located in remote areas with low year round and seasonal populations). Unfortunately, most small general aviation airports do not generate sufficient revenue to meet expenses. This is not to mean the airport should generate revenue. They are not commercial businesses, but rather municipal facilities, like roads, highways, schools, etc., that serve the public providing facilities and an infrastructure that promote education, commerce and the public good. However, because of their unique ability to bring in revenue, airports should contribute to the local tax base whenever possible through a revenue offset of its operating budget.

Findings in this Master Plan, in particular Section 5, Alternatives, provide opportunities for development of the airport in a controlled manor that will allow the town to expand the facility as demand dictates. Hangars and their associated land leases are the greatest source of revenue for the airport. Rangeley is a tourist destination and the airport offers opportunities for its residents, local businesses, as well as tourists, particularly those arriving by air. Hence, the town should ensure visitors to the region, particularly those arriving by air, are well aware of the development opportunities. There are several things the town can do to help promote the airport and increase revenue.

- The town should ensure land lease rates remain competitive, have an inflation escalator clause, and are consistent with FAA policies on their term lengths. This report indicates that airport will need at least five new hangars in the next 20 years, and this is a very conservative estimate made during one of our countries worst recessions in its history. The airport has ample room for 4 to 5 times that many more hangars, with each one have a lease and property tax potential of $4,165 each per year.[5] Hence, 5 additional hangars would have a revenue potential of $20,825.

- Another potential source of revenue is through fuel sales. The current agreement (see *Fueling Facilities and Sales*, page 20) does not net the town revenue through a fuel flowage fee. Given the small quantities sold (about 8,000 gallons), any resulting revenue would be minimal.[6] However, considering the current total revenue of $5,400, any additional income is a windfall. It is recommended that a fuel flowage fee of $0.05 - $0.10 per gallon be considered, possibly prorated over the next several years. It is <u>not recommended</u> that the town install any kind of credit card terminal/reader at this time. Their initial



Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY

1. Sponsor (person, company, etc. proposing this action):
Attn. of:
Name:
Address:
City: State: Zip:
Telephone: Fax:

2. Sponsor's Representative (if other than #1):
Attn. of:
Name:
Address:
City: State: Zip:
Telephone: Fax:

3. Notice of: New Construction Alteration Existing
4. Duration: Permanent Temporary (months, days)
5. Work Schedule: Beginning End
6. Type: Antenna Tower Crane Building Power Line Landfill Water Tank Other
7. Marking/Painting and/or Lighting Preferred:
Red Lights and Paint Dual - Red and Medium Intensity White
White - Medium Intensity Dual - Red and High Intensity White
White - High Intensity Other
8. FCC Antenna Structure Registration Number (if applicable):

9. Latitude: ° ' " N
10. Longitude: ° ' " W
11. Datum: NAD 83 NAD 27 Other
12. Nearest: City: State:
13. Nearest Public-use (not private-use) or Military Airport or Heliport:
14. Distance from #13. to Structure:
15. Direction from #13. to Structure:
16. Site Elevation (AMSL): ft.
17. Total Structure Height (AGL): ft.
18. Overall Height (#16 + #17) (AMSL): ft.
19. Previous FAA Aeronautical Study Number (if applicable): -OE
20. Description of Location: (Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey)

21. Complete Description of Proposal:

Frequency/Power (kW)

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a).

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

Date | Typed or Printed Name and Title of Person Filing Notice | Signature

FAA Form 7460-1 (2-99) Supersedes Previous Edition Electronic Version (Adobe) NSN: 0052-00-012-0009

Figure 8-1. Form 7460-1, Notice of Proposed Construction or Alternation.

[5] Based on a 40' x 40' (1,600 sf) hangar with a 40' x 20' apron frontage (800 sf), assessed at $300,000 raises $580 in land lease revenue and $3,585 in property taxes (at 11.95 mills).
[6] For example, Rangeley would realize $400 at $0.05 / gallon.

expense plus annual operating costs for telephone lines, maintenance, would take years to offset.

- Advertise hangar lot availability at key locations throughout the town, in particular at the airport. Install a bulletin board in the pilot arrivals building with lot plans and contact information.

- Ensure town planning and zoning issues take the airport into consideration. It's essential that all development on and around the airport (within 3-4 miles) comply with Federal statutes by requiring developers file Form 7460-1 - *Notice of Proposed Construction or Alteration*.[7] Figure 8-1 is paper version of the form. In addition, the town should consider placing avigation easements[8] over all new development lots in the vicinity of the airport. The placement of an avigation easement ensures that property owners fully understand the location of the airport and, while minor, inconveniences caused by aircraft noise and other related consequences of aircraft and airport operations. The Town should work closely with its aviation consultant on these matters. Aviation experts can quickly determine potential obstruction impacts and the need for easements.

MANAGEMENT

The town of Rangeley is the sponsor (owns) the Airport. There is no fixed based operator and no daily presence at the airport other than occasional local pilots and regular police patrols. Maintenance, including grass mowing and snow removal is the responsibility of the town's Public Works Department, which the airport falls under for financial accounting purposes.

Overall responsibility for airport operations and oversight is through the part-time airport manager, which is a town position, with consultation with the Airport Advisory Committee. The committee consists of seven members appointed by the Rangeley Board of Selectman. The Airport Manager serves on the committee in an advisory capacity. Given the level of activity at the airport there is no reason to change the current management and maintenance arrangement.

[7] The form can be filed in paper form (readily available at www.faa.gov) or electronically at https://oeaaa.faa.gov/oeaaa/external/portal.jsp

[8] An easement obtained by airport authorities, through purchase or condemnation, and used to provide clear access for low-flying aircraft on the glide path.

APPENDIX 1 – TERMS, ABBREVIATIONS & ACRONYMS

Term	**Definition**
100LL	Aviation Fuel
AGL	Above Ground Level
AIP	Airport Improvement Program
Air Traffic Control	Or ATC is service provided by ground-based controllers who direct aircraft on the ground and in the air. The primary purpose of ATC systems worldwide is to separate aircraft to prevent collisions, to organize and expedite the flow of traffic, and to provide information and other support for pilots when able.
Airport	An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.
Airport Improvement Program	The Airport Improvement Program is a United States federal grant program that provides funds to airports to help improve safety and efficiency. Improvement projects relate to runways, taxiways, ramps, lighting, signage, weather stations, navigation aids (NAVAIDs), land acquisition, and some areas of planning. The money is raised through taxes on airplane tickets sold to the public and a tax on aviation fuel
Airport Layout Plan	Or ALP is a scaled drawing of existing and proposed land and facilities necessary for the operation and development of the airport.
Airport Reference Code	Or 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. a. Coding System. The airport reference code 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 characteristic). The second component, depicted by a Roman numeral, is the airplane design group and relates to airplane wingspan or tail height (physical characteristics), whichever is the most restrictive. Generally, runways standards are related to aircraft approach speed, airplane wingspan, and designated or planned approach visibility minimums. Taxiway and taxilane standards are related to airplane design group.
Airside	That portion of an airport where aircraft operate, such as runways, taxiways, parking aprons.

Airway	An airway is a designated route in the air. Airways are laid out between navigational aids such as VORs, NDBs and Intersections
ALP	Airport Layout Plan
AMPU	Airport Master Plan Update
Apron	A prepared surface for parking aircraft. Also referred to as a ramp.
ARC	Airport Reference Code
ASOS	Automatic Surface Observation System.
ATC	Air Traffic Control. A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.
Automatic Surface Observation System	The Automated Surface Observing System (ASOS) units are operated and controlled cooperatively in the United States by the NWS, FAA and DOD. After many years of research and development, the deployment of ASOS units began in 1991 and was completed in 2004. These systems generally report at hourly intervals, but also report special observations if weather conditions change rapidly and cross aviation operation thresholds. They generally report all the parameters of the AWOS-III, while also having the additional capabilities of reporting temperature and dewpoint in degrees Fahrenheit, present weather, icing, lightning, sea level pressure and precipitation accumulation. Besides serving aviation needs, ASOS serves as a primary climatological observing network in the United States, making up the first-order network of climate stations.
Automatic Weather Observation System	The Automated Weather Observing System (AWOS) units are operated and controlled by the Federal Aviation Administration (FAA) in the United States, as well as by state and local governments and some private agencies; the American National Weather Service (NWS) and Department of Defense (DOD) play no role in their operation or deployment. These systems are among the oldest automated weather stations and predate ASOS. They generally report at 20-minute intervals and do not report special observations for rapidly changing weather conditions. There are several varieties of AWOS depending upon the sensor systems which are installed; the most common type is the AWOS-III, which observes temperature and dew point in degrees Celsius, wind speed and direction in knots, visibility, cloud coverage and ceiling up to twelve thousand feet, and altimeter setting.

	Recently, additional sensors which have become available for AWOS systems include present weather, freezing rain, and thunderstorm (lightning).
Avigation Easement	An easement obtained by airport authorities, through purchase or condemnation, and used to provide clear access for low-flying aircraft on the glide path.
AWOS	Automatic Weather Observation System.
Based Aircraft	A based aircraft is an aircraft that is "operational & air worthy", which is typically based at a particular for a majority of the year.
BRL	Building Restriction Line
Building Restriction Line	Or BRL is an imaginary line that identifies the nearest location buildings can be located in relation to the runway. The BRL is identified with a height, whereas taller building must be located further away and shorter buildings can be located closer to the runway.
Capital Improvement Plan	Or CIP is a short-range plan (usually four to ten years) comprehensive and strategic plan, which identifies capital projects and equipment purchases, provides a planning schedule and identifies options for financing the plan. Essentially, the plan provides a link between an airport sponsor the state and FAA.
CFR	Code of Federal Regulations
CIP	Capital Improvement Plan.
Class A Airspace	Generally, that airspace from 18,000 feet mean seal level (MSL) up to and including FL 600, including the airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska; and designated international airspace beyond 12 nautical miles of the coast of the 48 contiguous States and Alaska within areas of domestic radio navigational signal or air traffic control (ATC) radar coverage, and within which domestic procedures are applied.
Class B Airspace	Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of IFR operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspace areas resemble upside-down wedding cakes), and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation

	services within the airspace. The cloud clearance requirement for visual flight rules (VFR) operations is "clear of clouds."
Class C Airspace	That airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Although the configuration of each Class C airspace area is individually tailored, the airspace usually consists of a 5 NM radius core surface area that extends from the surface up to 4,000 feet above the airport elevation, and a 10 NM radius shelf area that extends no lower than 1,200 feet up to 4,000 feet above the airport elevation.
Class D Airspace	Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures.
Class E Airspace	Generally, if the airspace is not Class A, Class B, Class C, or Class D, and it is controlled airspace, it is Class E airspace. There are two types of Class E Airspace; the type overlying Rangeley is referred to as a surface area designated for an airport (see Figure 2.X presented on previous page). When designated as a surface area for an airport, the airspace will be configured to contain all instrument procedures.
Class G Airspace	Class G airspace is uncontrolled, and is that portion of airspace that has not been designated as Class A, Class B, Class C, Class D, or Class E airspace.
Construction Impacts[i]	Airport construction may cause various environmental effects primarily due to dust, aircraft and heavy equipment emissions, storm water runoff containing sediment and/or spilled or leaking petroleum products and noise. In most cases, these effects are subject to Federal, State, or local ordinances or regulations. While the long-term impacts of the proposed action are usually greater than construction impacts, sometimes construction may also cause significant short-term impacts. Descriptions of the many construction impacts associated with airport actions are often covered in the descriptions of other environmental impact categories.
Controlled Airspace	Airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance

	with the airspace classification.
Decision Height	Or DH is a specified height above the ground in an instrument approach procedure at which the pilot must decide whether to initiate an immediate missed approach if the pilot does not see the required visual reference, or to continue the approach. Decision height is expressed in feet above ground level.
DH	Decision Height
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
Federal Aviation Administration	The Federal Aviation Administration (FAA) is an agency of the United States Department of Transportation with authority to regulate and oversee all aspects of civil aviation in the U.S. (National Airworthiness Authority). The Federal Aviation Act of 1958 created the group under the name "Federal Aviation Agency", and adopted its current name in 1967 when it became a part of the United States Department of Transportation.
Federal Aviation Regulations	The Code of Federal Regulations (CFR) is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the Federal Register by the executive departments and agencies of the Federal Government of the United States.
Flight Level	A level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury. Each is stated in three digits that represent hundreds of feet. For example, flight level 250 represents a barometric altimeter indication of 25,000 feet; flight level 255, an indication of 25,500 feet.
Flight Visibility	Flight visibility is the average forward horizontal distance, from the cockpit of an aircraft in flight, at which prominent unlighted objects may be seen and identified by day and prominent lighted objects may be seen and identified by night.
Floodplains[1]	To meet Executive Order 11988, Floodplains, and the U.S. Department of Transportation (DOT) Order 5650.2, Floodplain Management and Protection, all airport development actions must avoid the floodplain, if a practicable alternative exists. If no practicable alternative exists, actions in a floodplain must be designed to minimize adverse impact to the floodplain's natural and beneficial values. The design must also minimize the potential risks for flood-related property loss and impacts on human safety, health, and welfare.

GA	General Aviation
General Aviation	General aviation (GA) is one of the two categories of civil aviation. It refers to all flights other than military and scheduled airline and regular cargo flights, both private and commercial. General aviation flights range from gliders and powered parachutes to large, non-scheduled cargo jet flights. The majority of the world's air traffic falls into this category, and most of the world's airports serve general aviation exclusively.
IAP	Instrument Approach Procedure a series of predetermined maneuvers by reference to flight instruments with specified protection from obstacles and assurance of navigation signal reception capability. It begins from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed; or if a landing is not completed, to a position at which holding or en route obstacle clearance criteria apply.
IFR	Instrument Flight Rules
IFR Conditions	IFR Conditions means weather conditions below the minimum for flight under visual flight rules.
IMC	Instrument Meteorological Conditions
Induced Socioeconomic Impacts[1]	Induced socio-economic impacts are those typically associated with large airport developments that cause secondary impacts to surrounding communities. Such impacts include shifts in patterns of population movement and growth, increases in public-service demands, and changes in business and economic activity to the extent influenced by airport development and operation.
Instrument Approach Procedure	A type of air navigation that allows pilots to land an aircraft in reduced visibility (known as instrument meteorological conditions or IMC), or to reach visual conditions permitting a visual landing.
Instrument Flight Rules	A set of rules governing the conduct of flight under instrument meteorological conditions (IMC)
Instrument Meteorological Conditions	Meteorological conditions expressed in terms of visibility, distance from clouds, and ceiling less than minima specific for visual meteorological conditions.
IR	Instrument Route
Itinerant Operation	An aircraft operation involving flight away from an airport.

Jet A	Aviation Jet Fuel
Landside	Non operating parts of an airport; areas where passengers access airport facilities. Typically includes terminal and other buildings, vehicular parking and access routes, etc.
Large Aircraft	Large aircraft means aircraft of more than 12,500 pounds, maximum certificated takeoff weight.
Light Emissions[1].	Airport-related lighting facilities and activities could visually affect surrounding residents and other nearby light-sensitive areas such as homes, parks or recreational areas.
Light Sport Aircraft	An aircraft, other than a helicopter or powered-lift that, since its original certification, has continued to meet the following: (1) A maximum takeoff weight of not more than 1,320 pounds for aircraft not intended for operation on water; or 1,430 pounds for an aircraft intended for operation on water; (2) A maximum airspeed in level flight with maximum continuous power (VH) of not more than 120 knots CAS under standard atmospheric conditions at sea level, plus other conditions as detailed in 14 CFR Part 1.
Local Operation	An aircraft takeoff or landing where the aircraft remains within 20 miles of the airport and does not land at another airport.
LSA	Light Sport Aircraft
MaineDOT	Maine Department of Transportation
MDA	Minimum Decent Altitude is the lowest altitude specified in an instrument approach procedure, expressed in feet above mean sea level, to which descent is authorized on final approach or during circle-to-land maneuvering until the pilot sees the required visual references for the heliport or runway of intended landing.
MHz	Megahertz
Military Operations Area	Airspace established outside Class A airspace to separate or segregate certain nonhazardous military activities from IFR Traffic and to identify for VFR traffic where these activities are conducted.
Military Training Route	Aerial corridors across the United States in which military aircraft can operate below 10,000 feet faster than the maximum safe speed of 250 knots that all other aircraft are restricted to while operating below 10,000 feet. The routes are the result of a joint venture between the Federal Aviation Administration and the Department of Defense to provide for high-speed, low-level military activities.

Minimum Decent Altitude	The lowest altitude (in feet MSL) to which descent is authorized on final approach, or during circle-to-land maneuvering in execution of a non-precision approach
MIRL	Medium Intensity Runway Light
MITL	Medium Intensity Taxiway Light
MOA	Military Operations Area
MOA	Military Operations Area
MSAPU	Maine Aviation Systems Plan Update
MSL	Mean Sea Level
MTR	Military Training Route
Natural Resources and Energy Supply[1]	Airport development actions have the potential to change energy requirements or use consumable natural resources. To comply with the Council on Environmental Quality (CEQ) regulations mentioned in Section 2 of this chapter, Federal Aviation Administration (FAA) environmental documents must evaluate potential impacts on supplies of energy and natural resources needed to build and maintain airports.
NAVAID	Navigation Aid
NDB	Non-directional Radio Beacon
Non-Directional Beacon	Non-directional Beacon. An NDB is a radio transmitter at a known location, used as an aviation (or marine) navigational aid. As the name implies, the signal transmitted does not include inherent directional information, in contrast to other navigational aids such as low frequency radio range and VHF omnidirectional range (VOR. NDB signals follow the curvature of the earth, so they can be received at much greater distances at lower altitudes, a major advantage over VOR. However, NDB signals are also affected more by atmospheric conditions, mountainous terrain, coastal refraction and electrical storms, particularly at long range.
Non-Towered Airport	A non-towered airport, sometimes referred to as an uncontrolled airport, is an airport with no operating tower, or air traffic control unit. The vast majority of the world's airports are non-towered, and even airports with control towers may operate as untowered during off-hours.
NPIAS	National Plan of Integrated Airport Systems
NWS	National Weather Service

Operation	An aircraft movement with the intent of flight.
OPT	Office of Passenger Transportation. A division within the Maine Department of Transportation
Part 77	U.S. Code of Federal Regulations, Title 14, Part 77 Obstructions to Air Navigation
Peak Month	The busiest month of the year.
Peak-Hour	The busiest hour of the busiest month of the year
Peak-Month Average Day	Refers to the busiest day of the peak month
PH	Peak-Hour
PM	Peak Month
PMAD	Peak-Month Average Day
Ramp	See Apron
RASP	Runway Approach Survey Program.
REIL	Runway End Identifier Light
Runway	A prepared surface for aircraft landings and takeoffs
Runway Approach Survey Program	Or RASP is a Stantec proprietary spreadsheet program that analyzes obstructions to Part 77 surfaces.
Secondary and Cumulative Impacts[1]	Impacts the proposed action would have on a particular resource when added to impacts on that resource due to past, present, and reasonably foreseeable actions within a defined time and geographical area.
Service Area	Service area reflects local ground access by based-aircraft users from their home or work locations to their preferred airport.
Small Aircraft	Small aircraft means aircraft of 12,500 pounds or less, maximum certificated takeoff weight.
Social Impacts[1]	Social impacts are those associated with the relocation of any business or residence, alter surface-transportation patterns, divide or disrupt established communities, disrupt orderly planned development, or create an appreciable change in employment.
Solid Waste[1]	Construction, renovation, or demolition of most airside projects produces debris (e.g., dirt, concrete, asphalt) that must be properly disposed. In addition, new or renovated terminal, cargo, or maintenance facilities may involve construction, renovation, or demolition that produces other types of solid waste (bricks, steel, wood, gypsum, glass). Therefore, airport sponsors should follow

	Federal, state, or local regulations that address solid waste. Doing so reduces the environmental effects of airport-related construction or operation.
TAF	Terminal Area Forecasts
Taxilane	The portion of the aircraft parking area used for access between taxiways and aircraft parking positions
Taxiway	Any surface area of an airport used for taxiing airplanes to and from a runway, parking apron, terminal, etc.
Terminal Area Forecasts	Or TAF system is the official forecast of aviation activity at FAA facilities. These forecasts are prepared to meet the budget and planning needs of FAA and provide information for use by state and local authorities, the aviation industry, and the public. The TAF includes forecasts for active airports in the National Plan of Integrated Airport System (NPIAS).
Threatened and Endangered Species[1].	To satisfy the Endangered Species Act of 1973, the Federal Aviation Administration (FAA) must determine if a proposed action under its purview would affect a Federally-listed species or habitat critical to that species (critical habitat). For purposes of this Chapter, the following definitions apply: Major construction activity; Endangered species; Threatened species; Candidate species; and, Critical habitat.
Title 14 of the Code of Federal Regulations (14 CFR)	The federal aviation regulations governing the operation of aircraft, airways, and airmen.
Towered Airport	An airport with an operating control tower whereas air traffic control services are provided.
Turbojet Aircraft	An aircraft having a jet engine in which the energy of the jet operates a turbine that in turn operates an air compressor
Turboprop Aircraft	An aircraft having a jet engine in which the energy of the jet operates a turbine which drives the propeller.
USDOT § 4(f)[1]	Section 4(f) of the Department of Transportation Act requires the Secretary of Transportation investigate all alternatives before impacting any publicly owned lands designated as public parks, recreation areas, wildlife or waterfowl refuges of national, state, or local significance, or land having national, state, or local historical significance.
Very high frequency omnirange	A ground-based electronic navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the National

	Airspace System.
VFR	Visual Flight Rules
Visual Flight Rules	Rules that govern the procedures for conducting flight under visual meteorological conditions (VMC).
Visual Meteorological Conditions	Meteorological conditions expressed in terms of visibility, distance from clouds, and ceiling greater than minima specific for instrument meteorological conditions.
VMC	Visual Meteorological Conditions
VOR	Very high frequency omnirange station
VR	Visual Route
Water Quality[1]	Construction often causes sediment-laden runoff to enter waterways. Biological and chemical breakdown of deicing chemicals in airport runoff can cause severe dissolved oxygen demands on receiving waters. Operations or maintenance are other activities that may affect water quality. Airport-related water quality impacts can occur from both point and non-point sources at airports. If not properly controlled, the resultant water quality impacts may adversely affect animal, plant, or human populations.
Wetlands	Executive Order 11990, Protection of Wetlands, sets the standard for a Federal agency action involving any wetland. The U.S. Department of Transportation (DOT) developed and issued DOT Order 5660.1A, Preservation of the Nation's Wetlands to provide more guidance to DOT agencies regarding their actions in wetlands. The DOT Order governs the Federal Aviation Administration's (FAA's) actions.
Wild & Scenic Rivers[1]	Those rivers having remarkable scenic, recreational, geologic, fish, wildlife, historic, or cultural values. Federal land management agencies in the Departments of the Interior and Agriculture manage the Wild and Scenic Rivers Act (Act).

[i] An environmental impact category listed in FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.*

APPENDIX 2 – ENVIRONMENTAL CORRESPONDENCE

This appendix contains correspondence from various state and federal agencies in response to the town's notice that it was proceeding with this project. The following letters are contained within:

- **Town of Rangeley letter to State Planning Office, Augusta, ME**
  - Notification in accordance with Executive Order 12372, Interagency Review
  - Date: February 1, 2010
- **State of Maine, Department of Conservation**
  - Reference: Rare and exemplary botanical features in proximity to Rangeley, Maine
  - Date: October 15, 2010
- **State of Maine, Department of Inland Fisheries & Wildlife**
  - Reference: Significant and Essential Wildlife Habitat information for the property in Rangeley, Maine
  - Date: October 20, 2010
- **United States Department of Interior, Fish and Wildlife Service**
  - Reference: Service's response pursuant to Section 7 of the Endangered Species Act, the Balk and Golden Eagle Protection Act, and the Fish and Wildlife Coordination Act
  - Date: October 25, 2010

Office of:
Selectmen
Town Manager
Code Enforcement Officer
Parks & Recreation

Telephone (207) 864-3326
Fax (207) 864-3578

Office of:
Tax Collector
Town Treasurer
Town Clerk
Assessor

Town Office
15 School Street
Rangeley, Maine 04970-1070

February 1, 2010

Mr. Thomas Merrill
State Planning Office
184 State Street
38 State House Station
Augusta, Maine 04333-0038

Re: Executive Order 12372, Intergovernmental Review

Dear Mr. Merrill,

The Town of Rangeley is starting the process of updating our Airport Master Plan. We are in the early stages of scoping this non-construction project and hope to submit a Federal grant application in the next 30-45 days. Consequently, we determined that this application is subject to review by State Executive Order 12372 process. Therefore, we are forwarding a copy of the Federal grant application form SF-424 for your review and approval.

Please contact me or Ervin Deck with Stantec Consulting Services if you have any questions or need additional information. Mr. Deck can be contacted at (207) 775-3211 or ervin.deck@stantec.com.

Sincerely,

Perry A. Ellsworth,
Town Manager

APPLICATION FOR FEDERAL ASSISTANCE

Version 7/03

		2. DATE SUBMITTED January 29, 2010	Applicant Identifier
1. TYPE OF SUBMISSION: Application ☐ Pre-application ☐ Construction ☐ Construction ☐ Non-Construction ☑ Non-Construction		3. DATE RECEIVED BY STATE	State Application Identifier
		4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier 3-23-0041-XX-2010

5. APPLICANT INFORMATION

Legal Name: Town of Rangeley	**Organizational Unit:** Department:
Organizational DUNS: 041935800	Division:
Address: Street: 15 School Street	**Name and telephone number of person to be contacted on matters involving this application (give area code)** Prefix: Mr. / First Name: Ervin
City: Rangeley	Middle Name C
County: Franklin	Last Name Deck
State: Maine / Zip Code 04970	Suffix:
Country: United States	Email: ervin.deck@stantec.com
6. EMPLOYER IDENTIFICATION NUMBER *(EIN)*: 01-6003411	Phone Number (give area code) (207) 775-3211 / Fax Number (give area code) (207) 775-6434
8. TYPE OF APPLICATION: ☑ New ☐ Continuation ☐ Revision If Revision, enter appropriate letter(s) in box(es) (See back of form for description of letters.) Other (specify)	**7. TYPE OF APPLICANT:** (See back of form for Application Types) Municipal Other (specify) **9. NAME OF FEDERAL AGENCY:** Federal Aviation Administration
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 20-106 TITLE (Name of Program): Airport Improvement Program	**11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:** Airport Master Plan Update
12. AREAS AFFECTED BY PROJECT *(Cities, Counties, States, etc.)*: Town of Rangeley, Franklin County, State of Maine	
13. PROPOSED PROJECT Start Date: March 2010 / Ending Date: December 2010	**14. CONGRESSIONAL DISTRICTS OF:** a. Applicant Second / b. Project Second

15. ESTIMATED FUNDING:		**16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?**
a. Federal	$ 150,000.00	a. Yes. ☑ THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON DATE: January 29, 2010
b. Applicant	$ 3,000.00	
c. State	$ 3,000.00	b. No. ☐ PROGRAM IS NOT COVERED BY E. O. 12372
d. Local	$ .00	☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW
e. Other	$ .00	
f. Program Income	$ .00	**17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?**
g. TOTAL	$ 156,000.00	☐ Yes If "Yes" attach an explanation. ☑ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.

a. Authorized Representative

Prefix Mr.	First Name Perry	Middle Name A.
Last Name Ellsworth		Suffix
b. Title Town Manager		c. Telephone Number (give area code) (207)
d. Signature of Authorized Representative Perry A Ellsworth		e. Date Signed January 29, 2010

INSTRUCTIONS FOR THE SF-424

Public reporting burden for this collection of information is estimated to average 45 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0043), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

This is a standard form used by applicants as a required face sheet for pre-applications and applications submitted for Federal assistance. It will be used by Federal agencies to obtain applicant certification that States which have established a review and comment procedure in response to Executive Order 12372 and have selected the program to be included in their process, have been given an opportunity to review the applicant's submission.

Item:	Entry:	Item:	Entry:
1.	Select Type of Submission.	11.	Enter a brief descriptive title of the project. If more than one program is involved, you should append an explanation on a separate sheet. If appropriate (e.g., construction or real property projects), attach a map showing project location. For preapplications, use a separate sheet to provide a summary description of this project.
2.	Date application submitted to Federal agency (or State if applicable) and applicant's control number (if applicable).	12.	List only the largest political entities affected (e.g., State, counties, cities).
3.	State use only (if applicable).	13	Enter the proposed start date and end date of the project.
4.	Enter Date Received by Federal Agency Federal identifier number: If this application is a continuation or revision to an existing award, enter the present Federal Identifier number. If for a new project, leave blank.	14.	List the applicant's Congressional District and any District(s) affected by the program or project
5.	Enter legal name of applicant, name of primary organizational unit (including division, if applicable), which will undertake the assistance activity, enter the organization's DUNS number (received from Dun and Bradstreet), enter the complete address of the applicant (including country), and name, telephone number, e-mail and fax of the person to contact on matters related to this application.	15	Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in kind contributions should be included on appropriate lines as applicable. If the action will result in a dollar change to an existing award, indicate only the amount of the change. For decreases, enclose the amounts in parentheses. If both basic and supplemental amounts are included, show breakdown on an attached sheet. For multiple program funding, use totals and show breakdown using same categories as item 15.
6.	Enter Employer Identification Number (EIN) as assigned by the Internal Revenue Service.	16.	Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the State intergovernmental review process.
7.	Select the appropriate letter in the space provided. A. State B. County C. Municipal D. Township E. Interstate F. Intermunicipal G. Special District H. Independent School District I. State Controlled Institution of Higher Learning J. Private University K. Indian Tribe L. Individual M. Profit Organization N. Other (Specify) O. Not for Profit Organization	17.	This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes.
8.	Select the type from the following list: • "New" means a new assistance award. • "Continuation" means an extension for an additional funding/budget period for a project with a projected completion date. • "Revision" means any change in the Federal Government's financial obligation or contingent liability from an existing obligation. If a revision enter the appropriate letter: A. Increase Award B. Decrease Award C. Increase Duration D. Decrease Duration	18	To be signed by the authorized representative of the applicant. A copy of the governing body's authorization for you to sign this application as official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.)
9.	Name of Federal agency from which assistance is being requested with this application.		
10.	Use the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested.		

Office of:
Selectmen
Town Manager
Code Enforcement Officer
Parks & Recreation

Telephone (207) 864-3326
Fax (207) 864-3578

Office of:
Tax Collector
Town Treasurer
Town Clerk
Assessor

Town Office
15 School Street
Rangeley, Maine 04970-1070

February 1, 2010

Mr. Thomas Merrill
State Planning Office
184 State Street
38 State House Station
Augusta, Maine 04333-0038

Re: Executive Order 12372, Intergovernmental Review

Dear Mr. Merrill,

The Town of Rangeley is starting the process of updating our Airport Master Plan. We are in the early stages of scoping this non-construction project and hope to submit a Federal grant application in the next 30-45 days. Consequently, we determined that this application is subject to review by State Executive Order 12372 process. Therefore, we are forwarding a copy of the Federal grant application form SF-424 for your review and approval.

Please contact me or Ervin Deck with Stantec Consulting Services if you have any questions or need additional information. Mr. Deck can be contacted at (207) 775-3211 or ervin.deck@stantec.com.

Sincerely,

Perry A. Ellsworth,
Town Manager

APPLICATION FOR FEDERAL ASSISTANCE

Version 7/03

		2. DATE SUBMITTED January 29, 2010	Applicant Identifier
1. TYPE OF SUBMISSION: Application ☐ Pre-application ☐ Construction ☐ Construction ☐ Non-Construction ☑ Non-Construction		3. DATE RECEIVED BY STATE	State Application Identifier
		4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier 3-23-0041-XX-2010

5. APPLICANT INFORMATION

Legal Name: Town of Rangeley	**Organizational Unit:** Department:
Organizational DUNS: 041935800	Division:
Address: Street: 15 School Street	**Name and telephone number of person to be contacted on matters involving this application (give area code)** Prefix: Mr. / First Name: Ervin
City: Rangeley	Middle Name C
County: Franklin	Last Name Deck
State: Maine / Zip Code 04970	Suffix:
Country: United States	Email: ervin.deck@stantec.com
6. EMPLOYER IDENTIFICATION NUMBER *(EIN)*: 01-6003411	Phone Number (give area code) (207) 775-3211 / Fax Number (give area code) (207) 775-6434
8. TYPE OF APPLICATION: ☑ New ☐ Continuation ☐ Revision If Revision, enter appropriate letter(s) in box(es) (See back of form for description of letters.) Other (specify)	**7. TYPE OF APPLICANT:** (See back of form for Application Types) Municipal Other (specify) **9. NAME OF FEDERAL AGENCY:** Federal Aviation Administration
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 20-106 TITLE (Name of Program): Airport Improvement Program	**11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:** Airport Master Plan Update
12. AREAS AFFECTED BY PROJECT *(Cities, Counties, States, etc.)*: Town of Rangeley, Franklin County, State of Maine	
13. PROPOSED PROJECT Start Date: March 2010 / Ending Date: December 2010	**14. CONGRESSIONAL DISTRICTS OF:** a. Applicant Second / b. Project Second

15. ESTIMATED FUNDING:		**16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?**
a. Federal	$ 150,000.00	a. Yes. ☑ THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON DATE: January 29, 2010
b. Applicant	$ 3,000.00	
c. State	$ 3,000.00	b. No. ☐ PROGRAM IS NOT COVERED BY E. O. 12372
d. Local	$ .00	☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW
e. Other	$ .00	
f. Program Income	$ .00	**17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?**
g. TOTAL	$ 156,000.00	☐ Yes If "Yes" attach an explanation. ☑ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.

a. Authorized Representative

Prefix Mr.	First Name Perry	Middle Name A.
Last Name Ellsworth		Suffix
b. Title Town Manager		c. Telephone Number (give area code) (207)
d. Signature of Authorized Representative Perry A Ellsworth		e. Date Signed January 29, 2010

JOHN ELIAS BALDACCI
GOVERNOR

STATE OF MAINE
DEPARTMENT OF INLAND FISHERIES & WILDLIFE

WILDLIFE DIVISION
Region D
689 Farmington Road
Strong, Maine 04983

Phone (207) 778-3324 FAX (207) 778-3323

ROLAND D. MARTIN
COMMISSIONER

October 20, 2010

Julie Daigle
Stantec Consulting
154 Development Drive, Suite C
Limestone, ME 04750

Dear Ms. Daigle:

I received your 4 October 2010 letter requesting Significant and Essential Wildlife Habitat information for the property in Rangeley. Enclosed are the results of my review.

Essential Habitats:

Essential Habitats are defined as "areas currently or historically providing physical or biological features essential to the conservation of an endangered or threatened species in Maine and which may require special management considerations". Essential Habitat protection in Maine currently applies to bald eagle, roseate and least tern, and piping plover nest sites, but additional listed species may receive attention in the future.

According to MDIFW records, there are no Essential Habitats known to be associated with this property.

Significant Wildlife Habitats:

The Natural Resources Protection Act, administered by the Maine Department of Environmental Protection, provides protection to certain natural resources including Significant Wildlife Habitats. Significant Wildlife Habitats are defined by the NRPA as:

- Habitat for state and federally listed endangered and threatened species.
- High and moderate value deer wintering areas (DWAs) and travel corridors.
- High and moderate value waterfowl and wading bird habitats (WWHs), including nesting and feeding areas.
- Shorebird nesting feeding and staging areas.
- Seabird nesting islands.
- Significant Vernal Pools.

Deer Wintering Areas (DWAs)

According to MDIFW records this parcel is associated with DWA# 060078 and 060076. See attached map(s).

- If your project is in an organized town and comes under ***DEP Site Location***, you should contact this office for additional input and recommendations before proceeding further.

- If the above applies and you are considering conducting forestry operations, we would appreciate the opportunity to offer recommendations to:1) accommodate the need to manage for timber production and 2) ensure the continued availability of critical conifer shelter for wintering deer. We can provide time-tested guidelines to satisfy both needs.

Waterfowl and Wading Bird Habitat (WWH) and Vernal Pools:

Regional Wildlife Staff no longer provide maps and associated information regarding these Significant Wildlife Habitats. You should contact the Maine Department of Environmental Protection (DEP) for information regarding WWH and wetlands. The DEP is the official state agency with jurisdiction over these habitats and will now be the source of consultation regarding these habitats. I have included contact information for each of the DEP Regional Offices:

Augusta:	17 State House Station, Augusta, Maine 04333-0017 – 1-800-452-1942
Bangor:	106 Hogan Road, Bangor, Maine 04401 – 1-888-769-1137
Portland:	312 Canco Road Portland, Maine 04103 – 1-888-769-1036
Presque Isle:	1235 Central Drive, Skyway Park, Presque Isle, Maine 04769 – 1-888-769-1053

Threatened, Endangered or Special Concern Species

Finally, the department maintains a statewide database of Threatened and Endangered wildlife species and habitats, or Species of Special Concern. In general, these records are not the product of recent or intensive surveys for T/E species. Review of department records show no such habitats associated with your project area.

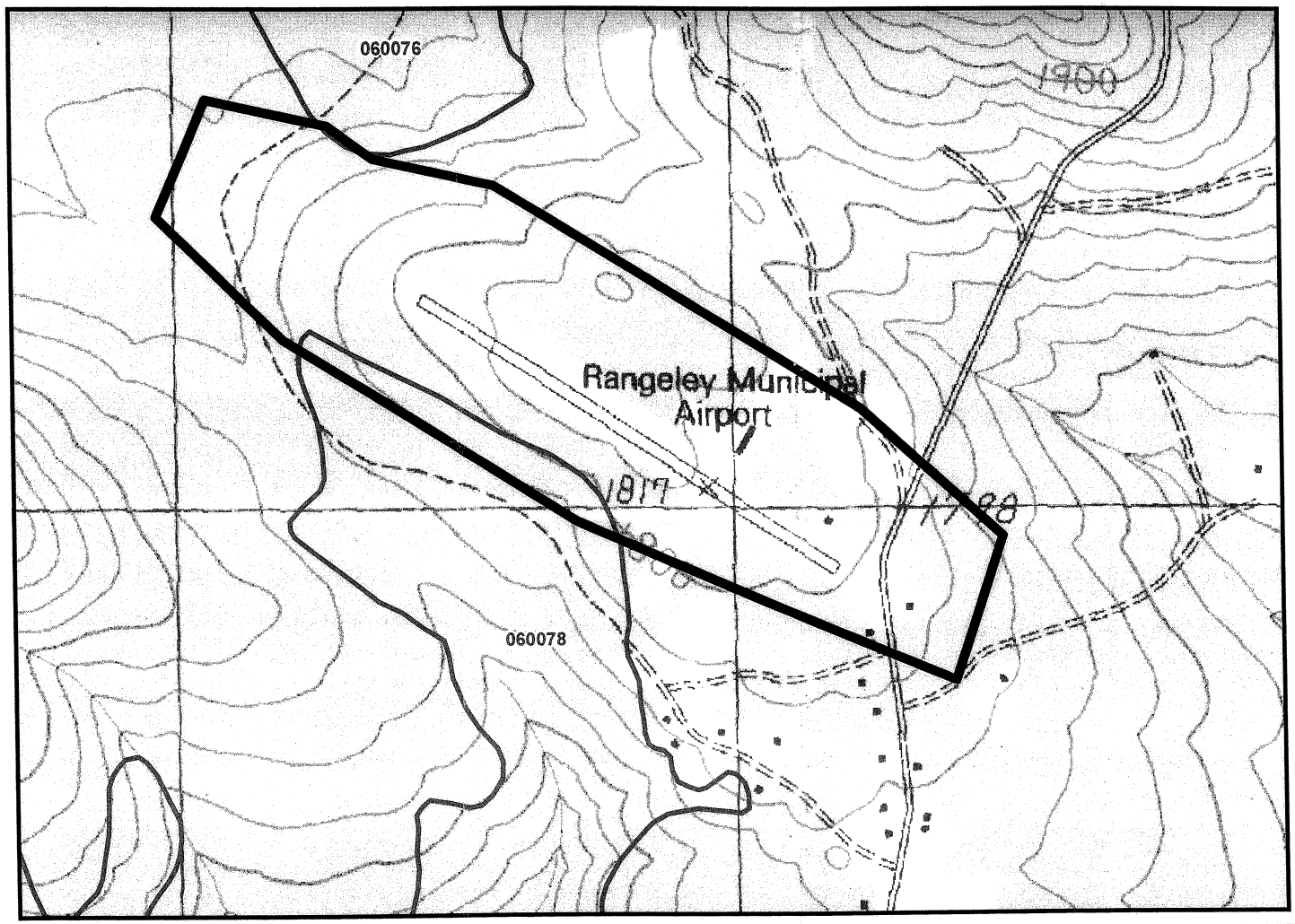
If you have any questions or would like further assistance please feel free to contact this office, we would be glad to help.

Yours truly,

Robert C. Cordes

Robert C. Cordes
Asst. Regional Wildlife Biologist

Search for Wildlife Observations & Habitat



- Piping Plover / Least Tern Nesting, Feeding, & Brood-rearing Area
- Roseate Tern Nesting Area
- Deer Winter Area
- Inland Waterfowl / Wading Bird Habitat
- Tidal Waterfowl / Wading Bird Habitat
- Seabird Nesting Island
- Shorebird Area
- Significant Vernal Pool
- Endangered, Threatened, & Special Concern Species Habitat
- Township Boundary
- County

0 0.1 0.2 0.3 0.4 Miles

1 = 11,669

UTM Projection, Zone 19N, NAD83

N

689 Farmington Road
Strong, ME 04983-9419
Voice: (207) 778-3324
Fax: (207) 778-3323
October 20, 2010

STATE OF MAINE
DEPARTMENT OF CONSERVATION
93 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0093

JOHN ELIAS BALDACCI
GOVERNOR

ELIZA TOWNSEND
COMMISSIONER

October 15, 2010

Julie Daigle
Stantec Consulting Services, Inc.
154 Development Drive Suite C
Limestone, ME 04750

Re: Rare and exemplary botanical features in proximity to: Project 195210445, Airport Master Plan Update, Rangeley, Maine

Dear Ms. Daigle:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of October 08, 2010 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in Rangeley, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MAINE NATURAL AREAS PROGRAM
MOLLY DOCHERTY, DIRECTOR

PHONE: (207) 287-8044
FAX: (207) 287-8040
TTY: (207) 287-2213

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $75.00 for our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire
Information Manager
Maine Natural Areas Program
207-287-8046
Lisa.St.Hilaire@maine.gov

Enclosures

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the Stephen A. Bean Municipal Airport, Plan Update Project # 195210445, Rangeley, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
Juncus vaseyi	G5?	S1	E	2	1882	Open wetland, not coastal nor rivershore (non-forested, wetland)
Trillium grandiflorum	G5	SH	PE	2	1894-08-27	Hardwood to mixed forest (forest, upland)

STATE RARITY RANKS

S1	Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
S2	Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
S3	Rare in Maine (20-100 occurrences).
S4	Apparently secure in Maine.
S5	Demonstrably secure in Maine.
SU	Under consideration for assigning rarity status; more information needed on threats or distribution.
SNR	Not yet ranked.
SNA	Rank not applicable.
S#?	Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

G1	Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
G2	Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
G3	Globally rare (20-100 occurrences).
G4	Apparently secure globally.
G5	Demonstrably secure globally.
GNR	Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

E	ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
T	THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

SC	SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
PE	Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

Visit our website for more information on rare, threatened, and endangered species!
http://www.maine.gov/doc/nrimc/mnap

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
http://www.maine.gov/doc/nrimc/mnap

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Maine Field Office – Ecological Services
17 Godfrey Drive, Suite #2
Orono, ME 04473
(207) 866-3344 Fax: (207) 866-3351

FWS/Region 5/ES/MEFO

October 25, 2010

Julie Daigle
Stantec Consulting Services, Inc.
154 Development Drive, Suite C
Limestone, ME 04750

Dear Ms. Daigle:

Thank you for your letter dated October 8, 2010, requesting information or recommendations from the U.S. Fish and Wildlife Service (Service). This letter provides the Service's response pursuant to Section 7 of the Endangered Species Act (ESA), as amended (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250), and the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667d).

Project Name/Location: Rangeley Airport Master Plan

Log Number: 53411-2011-SL-0016

Federally Listed Species

Canada lynx

This project occurs within the range of the Canada lynx (*Lynx canadensis*) in Maine, a federally-threatened species under the jurisdiction of the Service. The project is not within the designated critical habitat for the Canada lynx. This designation under the ESA becomes effective on March 27, 2009 (74 FR 8616: February 25, 2009).

Canada lynx occur throughout northern Maine and could occur within your project area. Canada lynx in Maine prefer to use regenerating spruce-fir habitats having high stem densities. These regenerating stands support high populations of snowshoe hare (*Lepus americanus*), the primary food of the Canada lynx. Highest hare densities are generally present about 12 to 30 years after clearcutting or heavy partial harvesting. Forest practices that diminish habitat quality for snowshoe hares may have an adverse affect on Canada lynx. We have developed *Canada lynx habitat management guidelines for Maine.* Please email (mark_mccollough@fws.gov) or call (207 866-3344 x115) if you are interested in obtaining a copy.

Based on the information currently available to us, no other federally-listed species under the jurisdiction of the Service are known to occur in the project area.

Please note that under Section 7 of the ESA, it is the federal action agency's responsibility to determine if a project may affect a federally listed species. For example, if the project receives federal funding or needs a federal permit, those actions may provide a "nexus" for Section 7 consultation under the ESA[1]. If the federal action agency determines that a project would have "no effect" on a listed species or critical habitat, they do not need to seek the concurrence of the Service and there is no need for Section 7 consultation. If the federal agency determines that a project "may affect" a listed species or its critical habitat, then consultation pursuant to Section 7 of the ESA should be initiated.

Other Protected Species

Occasional, transient bald eagles may occur in the general project area. The bald eagle was removed from the federal threatened list on August 9, 2007 and is now protected from take under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. "Take" means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. The term "disturb" under the Bald and Golden Eagle Protection Act was recently defined within a final rule published in the Federal Register on June 5, 2007 (72 FR 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.

Further information on bald eagle delisting and their protection can be found at http://www.fws.gov/migratorybirds/baldeagle.htm.

Please consult with our new national bald eagle guidelines, which can found at http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf. These Guidelines are voluntary and were prepared to help landowners, land managers and others meet the intent of the Eagle Act and avoid disturbing bald eagles. If you believe this project will result in taking or disturbing bald or golden eagles, please contact our office for further guidance. We encourage early and frequent consultations to avoid take of eagles.

We have not reviewed this project for state-threatened and endangered wildlife, wildlife species of special concern, and significant wildlife habitats protected under the Maine Natural Resources Protection Act. We recommend that you contact the Maine Department of Inland Fisheries and Wildlife:

[1] Section 7 consultation, however, is only necessary when a federal agency takes a *discretionary* action (e.g., an agency has a choice of whether or not to fund or permit a particular project).

Steve Timpano
Maine Department of Inland Fisheries and Wildlife
284 State St.
State House Station 41
Augusta, ME 04333-0041
Phone: 207 287-5258

We also recommend that you contact the Maine Natural Areas Program for additional information on state-threatened and endangered plant species, plant species of special concern, and rare natural communities:

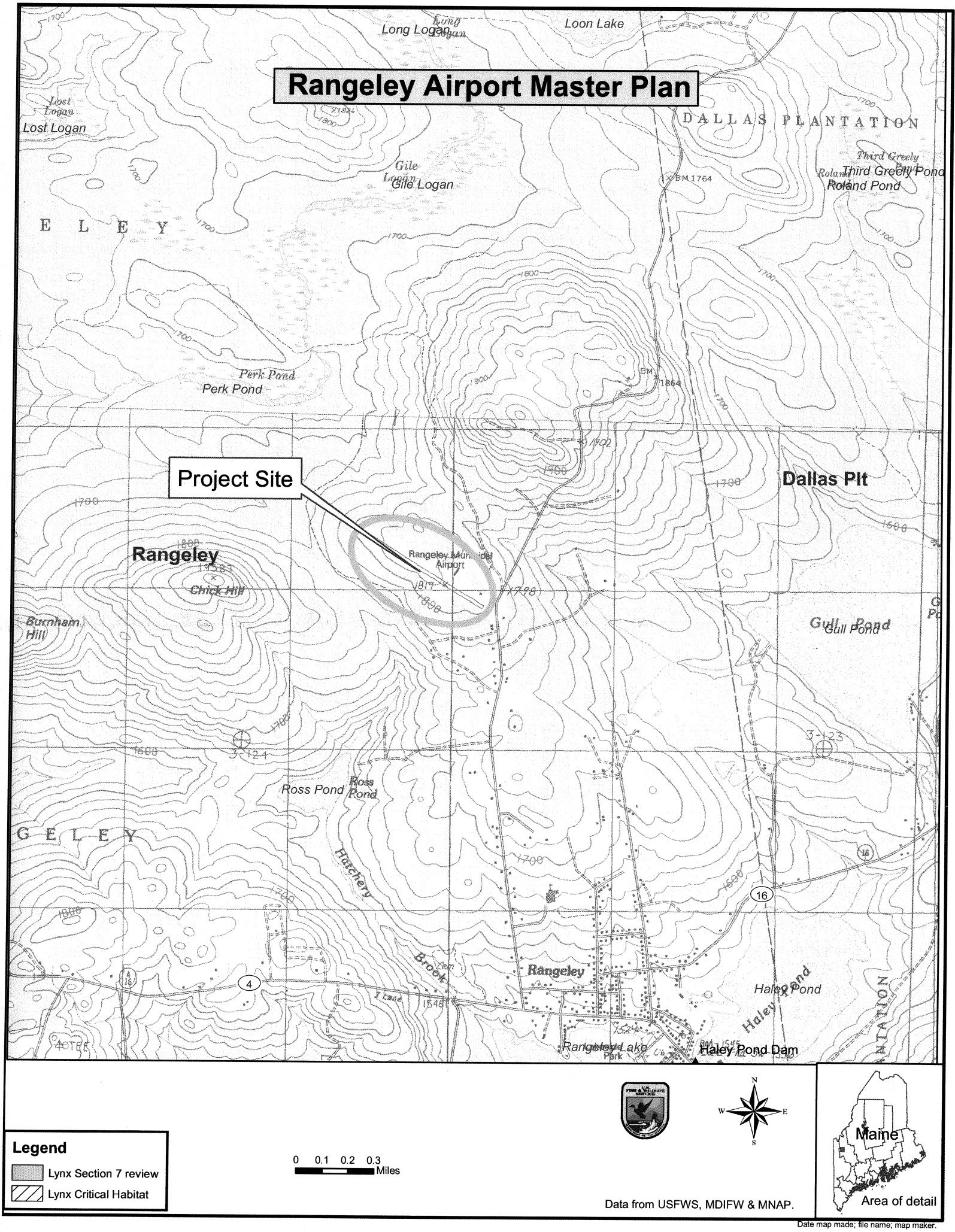
Lisa St. Hilaire
Maine Natural Areas Program
Department of Conservation
93 State House Station
Augusta, ME 04333
Phone: 207 287-8046

If you have any questions please call Mark McCollough, endangered species biologist, at (207) 866-3344 x115.

Sincerely,

Mark McCollough, Acting Field Supervisor
Maine Field Office

Enclosure


Rangeley Airport Master Plan
Project Site
Rangeley
Dallas Plt
DALLAS PLANTATION
ELEY
GELEY
Long Logan
Loon Lake
Lost Logan
Gile Logan
Third Greely Pond
Roland Pond
Perk Pond
Chick Hill
Burnham Hill
Gull Pond
Ross Pond
Hatchery Brook
Haley Pond
Haley Pond Dam
Rangeley Lake
Rangeley Municipal Airport
BM 1764
BM 1864
Legend
Lynx Section 7 review
Lynx Critical Habitat
0 0.1 0.2 0.3
Miles
Data from USFWS, MDIFW & MNAP.
Maine
Area of detail
Date map made; file name; map maker.

APPENDIX 3 – AIRPORT LAYOUT PLAN

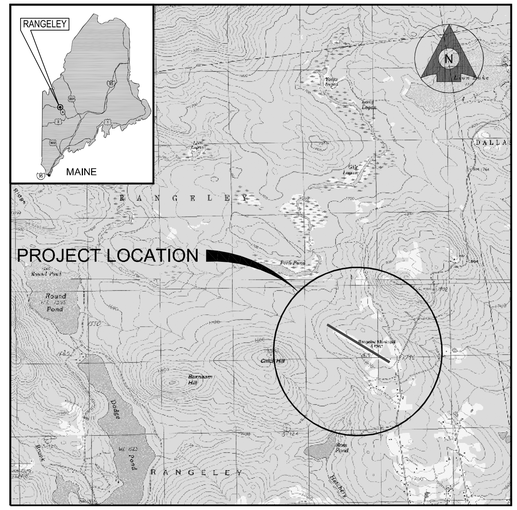
This appendix contains a reduce size version of the Airport Layout Plan. A detailed discussion of the sheets that follow can be found in Chapter 6, Airport Layout Plan, starting on page 75.

Stantec

STEVEN A. BEAN MUNICIPAL AIRFIELD
RANGELEY, MAINE

AIRPORT MASTER PLAN UPDATE

APRIL 2012
A.I.P PROJECT NO. 3-23-0049-11-2011



VICINITY MAP
NOT TO SCALE

INDEX OF SHEETS

SHEET NO.	TITLE
1.	TITLE SHEET
2.	EXISTING AIRPORT LAYOUT PLAN
3.	ULTIMATE AIRPORT LAYOUT PLAN
4.	TERMINAL AREA PLAN
5.	RUNWAY 14-32 APPROACH PLAN AND PROFILE
6.	FAR PART 77 IMAGINARY SURFACES PLAN
7.	LAND USE PLAN

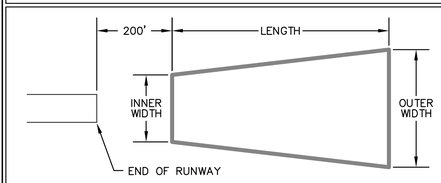
RUNWAY DATA	EXISTING	
	RUNWAY 14	RUNWAY 32
RUNWAY LENGTH	3,200'	
RUNWAY WIDTH	75'	
USABLE RUNWAY LENGTH	3,200'	
PAVEMENT SURFACE TYPE	ASPHALT	
PAVEMENT STRENGTH	12.5 SW	
APPROACH SURFACES	20:1 VISUAL	20:1 VISUAL
FAR PART 77 CATEGORY	UTILITY	UTILITY
APPROACH MINIMUMS	600–1	600–1
VISUAL APPROACH AIDS	NONE	REIL
INSTRUMENT APPROACH AIDS	NDB, GPS	NDB, GPS
RUNWAY MARKINGS	NON–PRECISION	NON–PRECISION
RUNWAY LIGHTING	MIRL	
AMBER LENSES LAST HARF	Y	N
EFFECTIVE GRADIENT	0.18%	
MAX. GRADE CHANGE	0.49%	
WIND COVERAGE (%)	98.3%	
RUNWAY SAFETY AREA	120' WIDE x 300' BEYOND RUNWAY ENDS	
RUNWAY OBJECT–FREE AREA	250' WIDE x 300' BEYOND RUNWAY ENDS	
RUNWAY OBJECT–FREE ZONE	250' WIDE x 200' BEYOND RUNWAY ENDS	
MAX. ELEV	1,825.3	
RUNWAY–END ELEVATIONS	1,823.2' MSL	1,817.5' MSL
RUNWAY–END COORDINATES	LAT. 44° 59' 38.9"N LONG. 70° 40' 11.78"W	LAT. 44° 59' 22.74"N LONG. 70° 39' 33.52"W

AIRPORT DATA	EXISTING
AIRPORT ELEVATION	1825.3' MSL
AIRPORT REFERENCE POINT (ARP)	LAT. 44° 59' 30.82" N LONG. 70° 39' 52.65" W
MEAN MAX. TEMP. (HOTTEST MO.)	80° F
AIRPORT & TERMINAL AREA NAVAIDS	REIL, NDB, BEACON
MAGNETIC VARIATION	16.2W 9/21/2010
NPIAS SERVICE LEVEL	GENERAL AVIATION
STATE SERVICE LEVEL	GENERAL AVIATION
AIRPORT REFERENCE CODE (ARC)	A–I
DESIGN AIRCRAFT	CESSNA 172
TAXIWAY LIGHTING	NONE
TAXIWAY MARKING	CENTERLINE

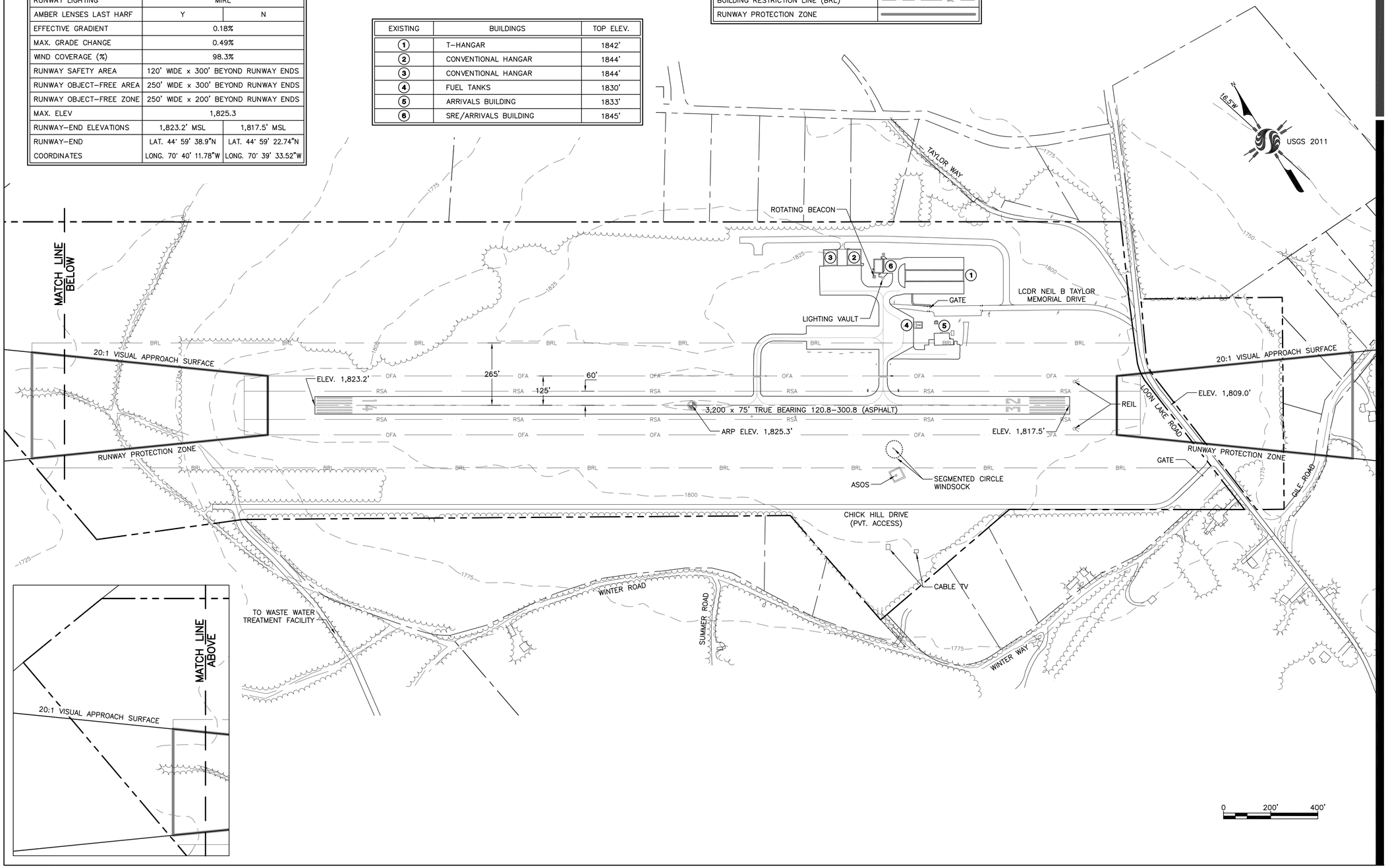
EXISTING	BUILDINGS	TOP ELEV.
1	T–HANGAR	1842'
2	CONVENTIONAL HANGAR	1844'
3	CONVENTIONAL HANGAR	1844'
4	FUEL TANKS	1830'
5	ARRIVALS BUILDING	1833'
6	SRE/ARRIVALS BUILDING	1845'

LEGEND	EXISTING
AIRPORT PROPERTY LINE	
ABUTTERS' PROPERTY LINE	
AIRPORT PAVEMENT	
BUILDINGS	
25' CONTOUR	1825
ROADS	
TREELINE	
AIRPORT REFERENCE POINT	
RUNWAY SAFETY AREA (RSA)	RSA
RUNWAY OBSTACLE FREE ZONE (OFZ)	OFZ
RUNWAY OBJECT FREE AREA (ROFA)	ROFA
BUILDING RESTRICTION LINE (BRL)	BRL
RUNWAY PROTECTION ZONE	

RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS



RUNWAY	INNER WIDTH	OUTER WIDTH	LENGTH	ACRES
14	250'	450'	1,000'	8.035
32	250'	450'	1,000'	8.035



Stantec Consulting Services Inc.
22 Free Street, Suite 205
Portland ME U.S.A.
04101–3900
Tel. 207.775.3211
Fax. 207.775.6434
www.stantec.com

Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name: Sht_02_ALP.dwg	LRK	ECD	ECD	10.10.01
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

STEVEN A. BEAN MUNICIPAL AIRFIELD
A.I.P 3-23-0049-11-2011

AIRPORT MASTER PLAN UPDATE

RANGELEY, MAINE

Title

EXISTING AIRPORT LAYOUT PLAN

Project No.	Scale	
195210450	1" = 200'	
Drawing No.	Sheet	Revision
	2 of 7	0

V:\195\2\active\195\2_ALPs_Exhibit_AirBangeley_ME\sheet_files\Sht_02_ALP.dwg, Layout1, 4/12/2012 2:02:15 PM, bking, pc_02_dwg01.pc3

ORIGINAL SHEET – ARCH D

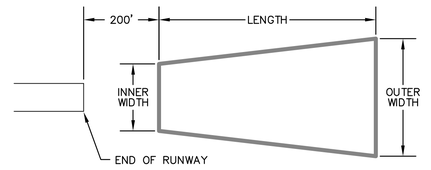
RUNWAY DATA	EXISTING / PROPOSED	
	RUNWAY 14	RUNWAY 32
RUNWAY LENGTH	3,200'	
RUNWAY WIDTH	75'	
USABLE RUNWAY LENGTH	3,200'	
PAVEMENT SURFACE TYPE	ASPHALT	
PAVEMENT STRENGTH	12.5 SW	
APPROACH SURFACES	20:1 VISUAL	20:1 VISUAL
FAR PART 77 CATEGORY	UTILITY	UTILITY
APPROACH MINIMUMS	600–1	600–1
VISUAL APPROACH AIDS	REIL	REIL/PAPI
INSTRUMENT APPROACH AIDS	NDB, GPS	NDB, GPS
RUNWAY MARKINGS	NON–PRECISION	NON–PRECISION
RUNWAY LIGHTING	MIRL	
AMBER LENSES LAST HARF	Y	N
EFFECTIVE GRADIENT	0.18%	
MAX. GRADE CHANGE	0.49%	
WIND COVERAGE (%)	98.3%	
RUNWAY SAFETY AREA	150' WIDE x 300' BEYOND RUNWAY ENDS	
RUNWAY OBJECT–FREE AREA	500' WIDE x 300' BEYOND RUNWAY ENDS	
RUNWAY OBJECT–FREE ZONE	300' WIDE x 200' BEYOND RUNWAY ENDS	
MAX. ELEV	1,825.3	
RUNWAY–END ELEVATIONS	1,823.2' MSL	1,817.5' MSL
RUNWAY–END COORDINATES	LAT. 44° 59' 38.9"N LONG. 70° 40' 11.78"W	LAT. 44° 59' 22.74"N LONG. 70° 39' 33.52"W

AIRPORT DATA	EXISTING	PROPOSED
AIRPORT ELEVATION	1825.3' MSL	SAME
AIRPORT REFERENCE POINT (ARP)	LAT. 44° 59' 30.82" N	SAME
	LONG. 70° 39' 52.65" W	SAME
MEAN MAX. TEMP. (HOTTEST MO.)	80° F	SAME
AIRPORT & TERMINAL AREA NAVAIDS	REIL, NDB, BEACON	SAME
NPIAS SERVICE LEVEL	GENERAL AVIATION	SAME
STATE SERVICE LEVEL	GENERAL AVIATION	SAME
AIRPORT REFERENCE CODE (ARC)	A–I	B–II
DESIGN AIRCRAFT	CESSNA 172	BEECH 200
TAXIWAY LIGHTING	NONE	SAME
TAXIWAY MARKING	CENTERLINE	SAME

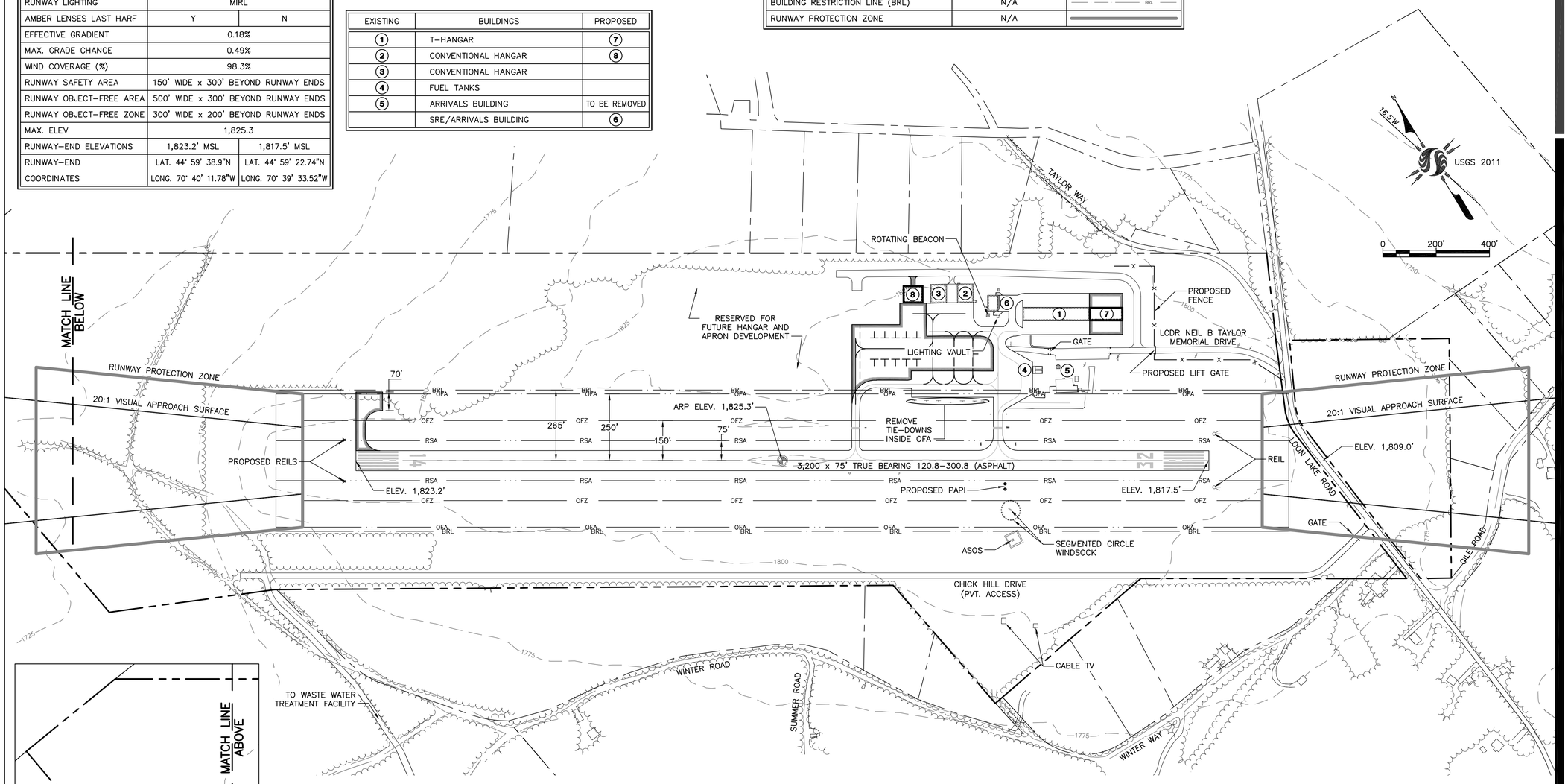
EXISTING	BUILDINGS	PROPOSED
1	T–HANGAR	7
2	CONVENTIONAL HANGAR	8
3	CONVENTIONAL HANGAR	
4	FUEL TANKS	
5	ARRIVALS BUILDING	TO BE REMOVED
	SRE/ARRIVALS BUILDING	6

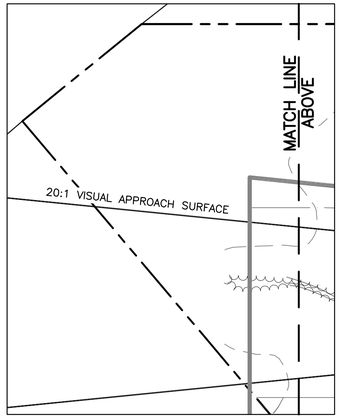
LEGEND	EXISTING	PROPOSED
AIRPORT PROPERTY LINE		N/A
ABUTTERS' PROPERTY LINE		N/A
AIRPORT PAVEMENT		
BUILDINGS		
25' CONTOUR	1825	N/A
ROADS		N/A
TREELINE		N/A
AIRPORT REFERENCE POINT	N/A	
RUNWAY SAFETY AREA (RSA)	N/A	RSA
RUNWAY OBSTACLE FREE ZONE (OFZ)	N/A	OFZ
RUNWAY OBJECT FREE AREA (ROFA)	N/A	ROFA
BUILDING RESTRICTION LINE (BRL)	N/A	BRL
RUNWAY PROTECTION ZONE	N/A	

RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS



RUNWAY	INNER WIDTH	OUTER WIDTH	LENGTH	ACRES
14	500'	700'	1,000'	13.77
32	500'	700'	1,000'	13.77





FEDERAL AVIATION ADMINISTRATION

APPROVED_____
MANAGER, AIRPORTS PLANNING BRANCH

DATE_____

MAINE DEPARTMENT OF TRANSPORTATION

APPROVED_____
DIRECTOR, OFFICE OF PASSENGER TRANSPORTATION

DATE_____

RANGELEY, MAINE

APPROVED_____
TOWN MANAGER

DATE_____

Stantec Consulting Services Inc.
22 Free Street, Suite 205
Portland ME U.S.A.
04101–3900
Tel. 207.775.3211
Fax. 207.775.6434
www.stantec.com

Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name: Sht_03_UALP.dwg	LRK	ECD	ECD	10.10.01
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

STEVEN A. BEAN MUNICIPAL AIRFIELD
A.I.P 3-23-0049-11-2011

AIRPORT MASTER PLAN UPDATE

RANGELEY, MAINE

Title

ULTIMATE AIRPORT LAYOUT PLAN

Project No.	Scale	
195210450	1" = 200'	
Drawing No.	Sheet	Revision
	3 of 7	0

V:\1952\cadd\win\1952_ALPs_Exhibit_Air\Rangeley, ME\sheet_files\Sht_03_UALP.dwg, Layout1, 4/12/2012 2:02:18 PM, lelking, pu_l2_rev01.pc3

ORGINAL SHEET – ARCH D

LEGEND	EXISTING	PROPOSED
AIRPORT PROPERTY LINE		N/A
ABUTTERS' PROPERTY LINE		N/A
AIRPORT PAVEMENT		
BUILDINGS		
25' CONTOUR	1825	N/A
ROADS		N/A
TREELINE		N/A
AIRPORT REFERENCE POINT	N/A	
RUNWAY SAFETY AREA (RSA)	N/A	RSA
RUNWAY OBSTACLE FREE ZONE (OFZ)	N/A	OFZ
RUNWAY OBJECT FREE AREA (ROFA)	N/A	ROFA
BUILDING RESTRICTION LINE (BRL)	N/A	BRL
RUNWAY PROTECTION ZONE	N/A	

EXISTING	BUILDINGS	PROPOSED
1	T-HANGAR	7
2	CONVENTIONAL HANGAR	8
3	CONVENTIONAL HANGAR	
4	FUEL TANKS	
5	ARRIVALS BUILDING	TO BE REMOVED
	SRE/ARRIVALS BUILDING	6

16.5°W

USGS 2011

RESERVED FOR FUTURE HANGAR AND APRON DEVELOPMENT

ROTATING BEACON

LIGHTING VAULT

SMALL AIRCRAFT

LARGE AIRCRAFT

GATE

PROPOSED FENCE

LCDR NEIL B TAYLOR MEMORIAL DRIVE

PROPOSED LIFT GATE

TO BE REMOVED

REMOVE TIE-DOWNS INSIDE OFA

HOLD SHORT LINES AND SIGNAGE MUST BE LOCATED AT OFZ

HOLD SHORT LINES AND SIGNAGE MUST BE LOCATED AT OFZ

265'

250'

150'

75'

ELEV. 1,817.5'

3,200 x 75' TRUE BEARING 120.8-300.8 (ASPHALT)

PROPOSED PAPI

SEGMENTED CIRCLE WINDSOCK

0 60' 120'

Stantec Consulting Services Inc.
22 Free Street, Suite 205
Portland ME U.S.A.
04101-3900
Tel. 207.775.3211
Fax. 207.775.6434
www.stantec.com

Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name: Sht_04_terminal_pln.dwg	LRK	ECD	ECD	10.10.01
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

STEVEN A. BEAN MUNICIPAL AIRFIELD
A.I.P 3-23-0049-11-2011

AIRPORT MASTER PLAN UPDATE

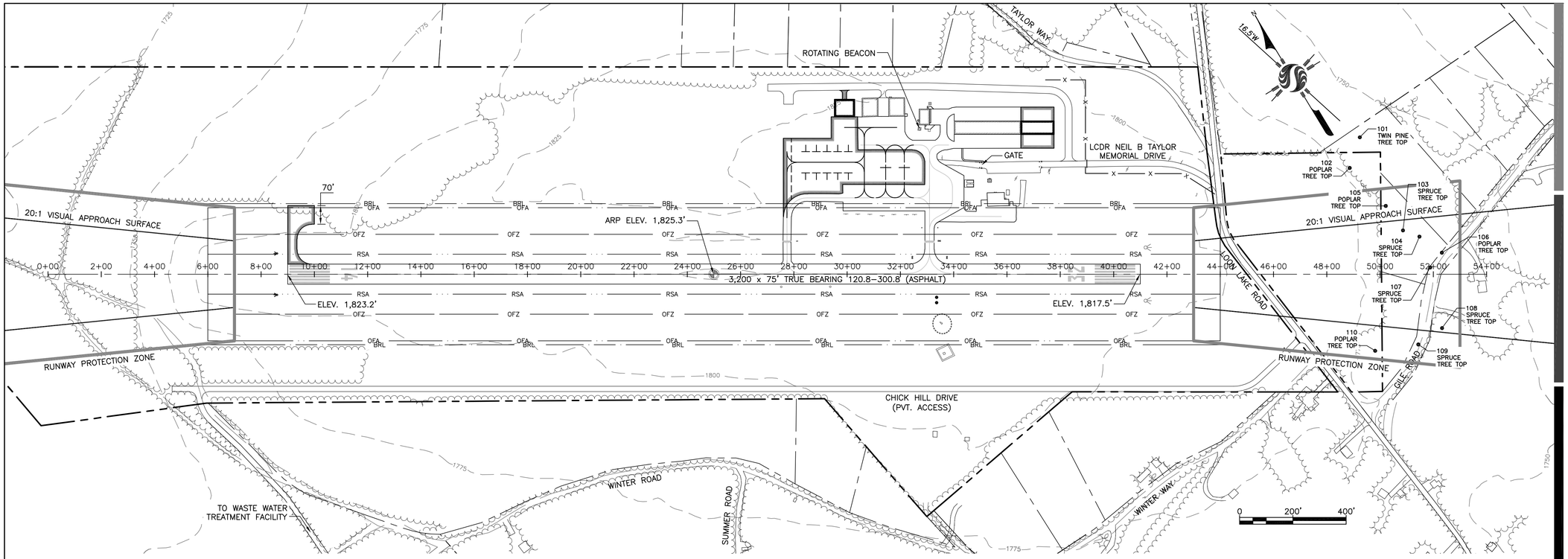
RANGELEY, MAINE

Title

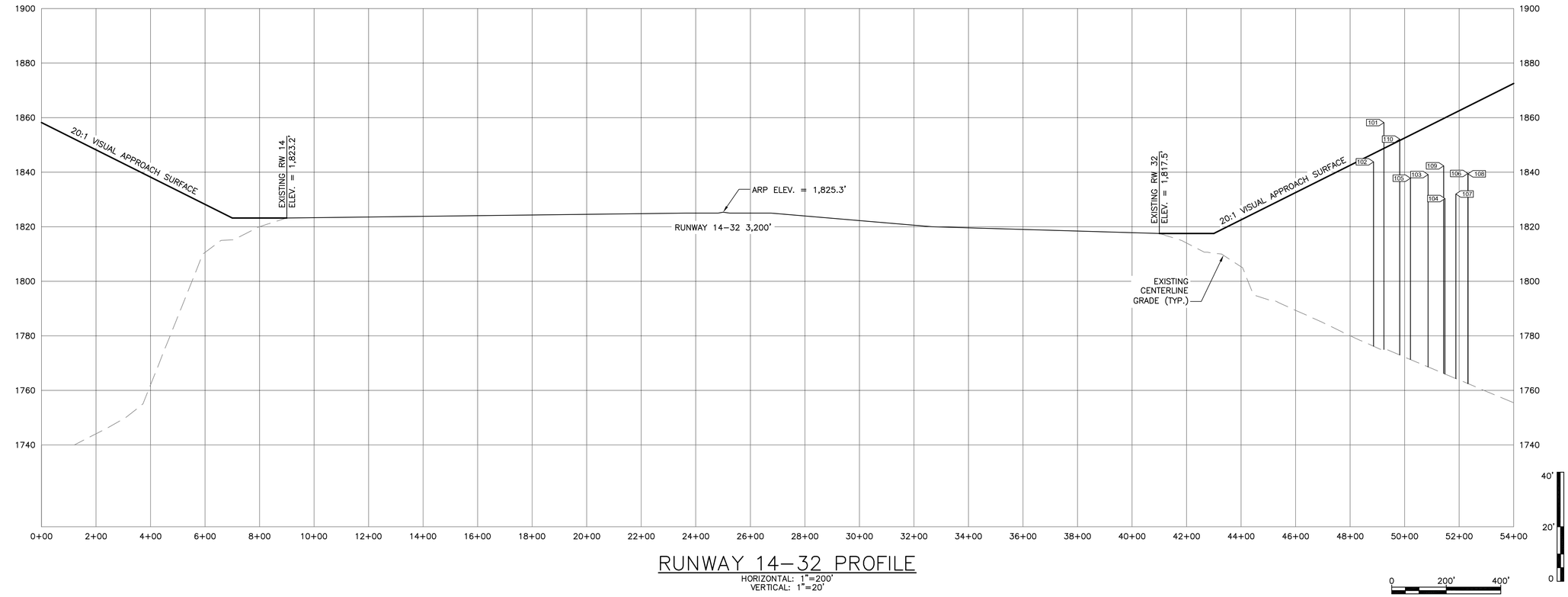
TERMINAL AREA PLAN

Project No.	Scale	
195210450	1" = 60'	
Drawing No.	Sheet	Revision
	4 of 7	0

ORIGINAL SHEET - ARCH D



RUNWAY 14–32 PLAN
1"=200'



RUNWAY 14–32 PROFILE
HORIZONTAL: 1"=200'
VERTICAL: 1"=20'

Stantec Consulting Services Inc.
22 Free Street, Suite 205
Portland ME U.S.A.
04101–3900
Tel. 207.775.3211
Fax. 207.775.6434
www.stantec.com

Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name: Sht_05_pln_n_profile.dwg	LRK	ECD	ECD	10.10.01
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
STEVEN A. BEAN MUNICIPAL AIRFIELD
A.I.P 3-23-0049-11-2011

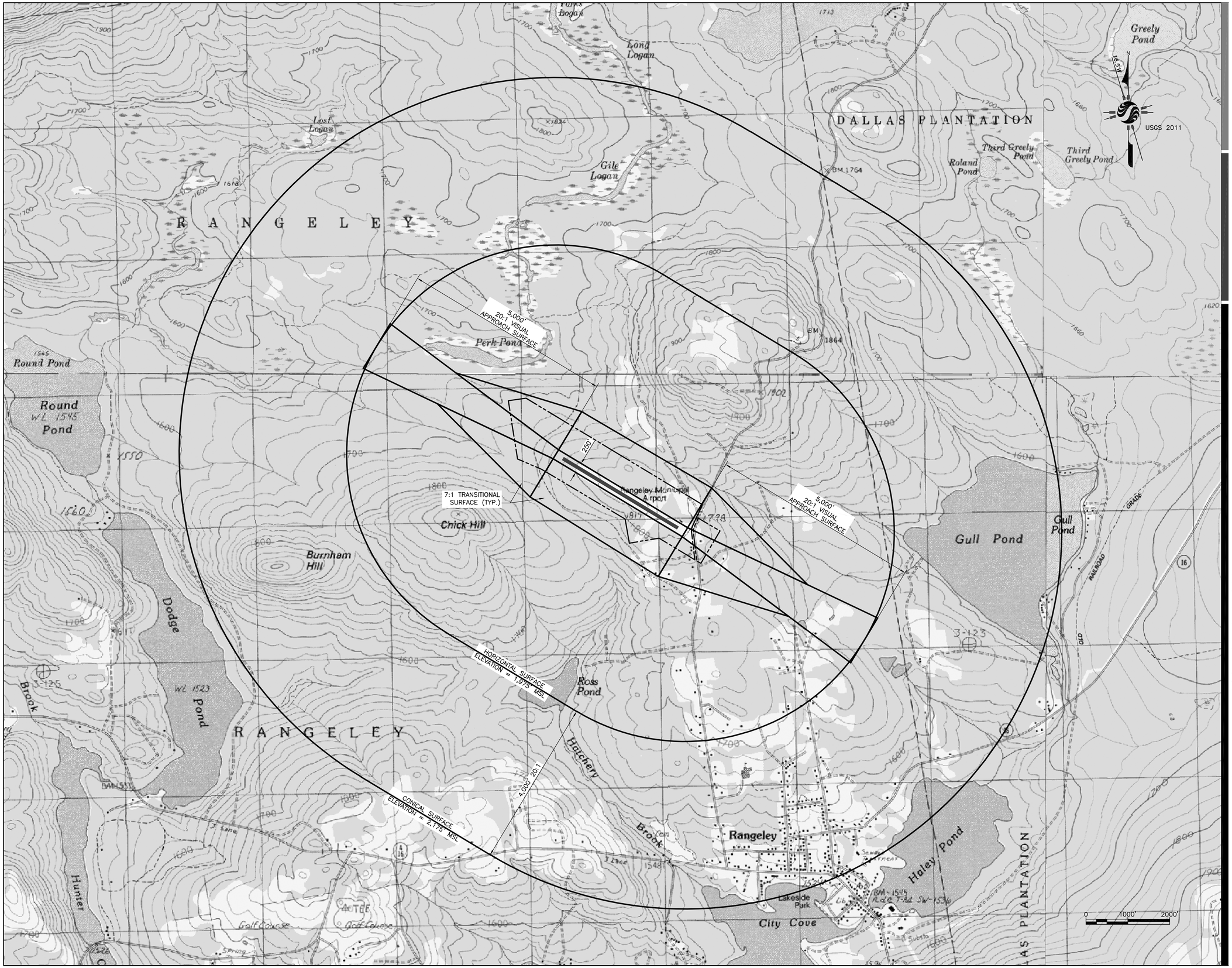
AIRPORT MASTER PLAN UPDATE

RANGELEY, MAINE

Title
RUNWAY 14-32 APPROACH PLAN AND PROFILE

Project No.	Scale	
195210450	AS SHOWN	
Drawing No.	Sheet	Revision
	5 of 7	0

ORGINAL SHEET – ARCH D



Stantec Consulting Services Inc.
22 Free Street, Suite 205
Portland ME U.S.A.
04101–3900
Tel. 207.775.3211
Fax. 207.775.6434
www.stantec.com

Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name: Sht_06_FP77_pln.dwg	LRK	ECD	ECD	10.10.01
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
STEVEN A. BEAN MUNICIPAL AIRFIELD
A.I.P 3-23-0049-11-2011

AIRPORT MASTER PLAN UPDATE

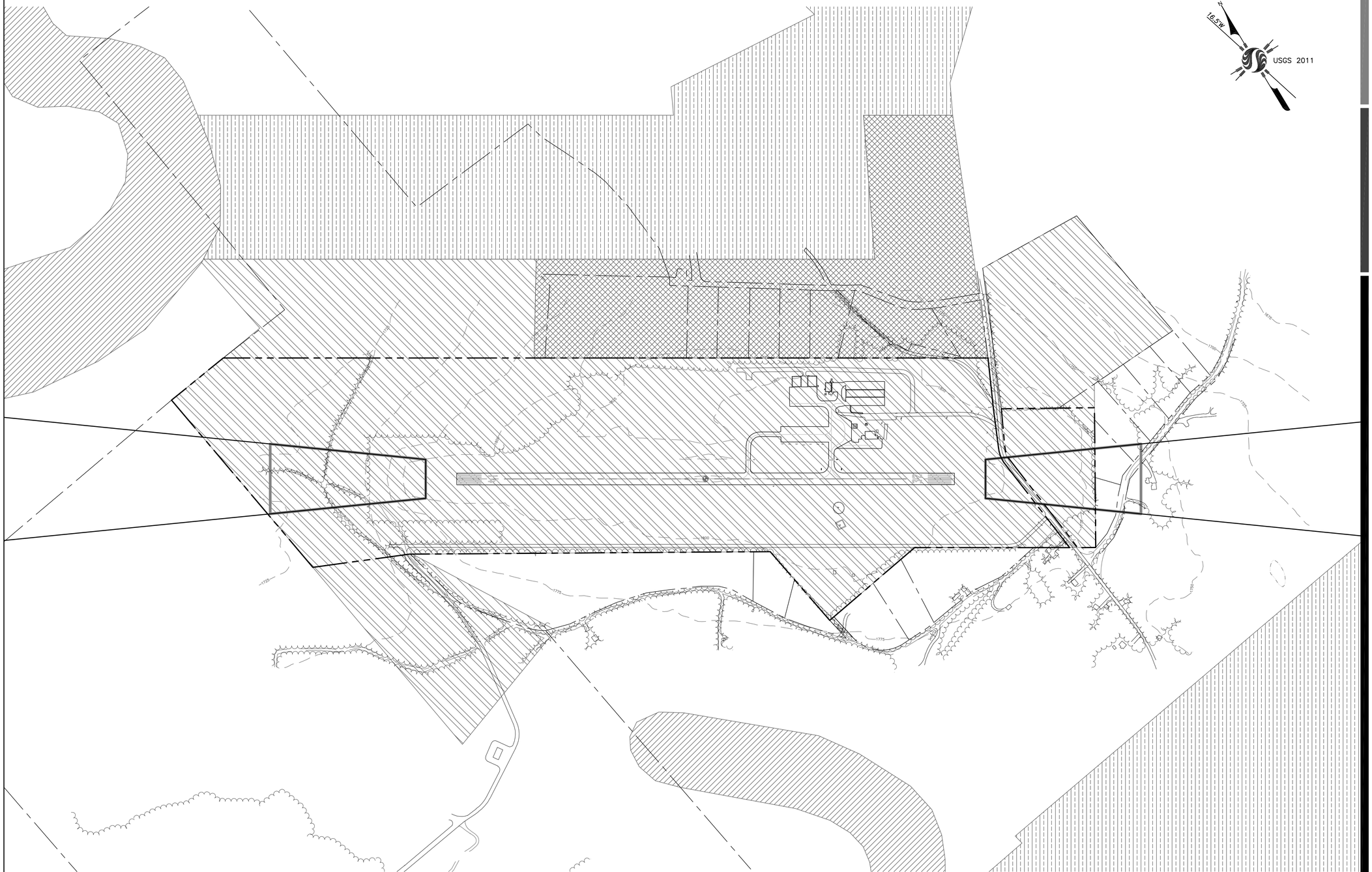
RANGELEY, MAINE

Title
FAR PART 77 IMAGINARY SURFACES PLAN

Project No.	Scale	
195210450	1" = 1000'	
Drawing No.	Sheet	Revision
	6 of 7	0

V:\1952\active\1952_ALPs_Exhibit_Ast\Rangeley_MEsheet_files\Sht_06_FP77_pln.dwg, Layout1, 4/12/2012 2:02:31 PM, lhling, ps_j2_inv01.pc3

ORIGINAL SHEET – ARCH D



Stantec Consulting Services Inc.
22 Free Street, Suite 205
Portland ME U.S.A.
04101–3900
Tel. 207.775.3211
Fax. 207.775.6434
www.stantec.com

Consultants

Legend

- RESIDENTIAL ZONING
- SHORELAND ZONING
- INDUSTRIAL ZONING
- COMMERCIAL ZONING
- WOODLAND ZONING

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name: Sht_07_Ind_use_pln.dwg	LRK	ECD	ECD	10.10.01
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

STEVEN A. BEAN MUNICIPAL AIRFIELD
A.I.P 3-23-0049-11-2011

AIRPORT MASTER PLAN UPDATE

RANGELEY, MAINE

Title

LAND USE PLAN

Project No.	Scale	
195210450	1" = 300'	
Drawing No.	Sheet	Revision
	7 of 7	0

V:\1952\active\1952_ALPs_Exhibit_Air\Rangeley, ME\sheet_files\Sht_07_Ind_use_pln.dwg, Layout1, 4/12/2012 2:02:24 PM, ikking, ps_l2_mv01.pc3

ORIGINAL SHEET – ARCH D